

# ALCOHOL ABUSE IN THE WORKPLACE

*by*

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## ABSTRACT

This study examines the problems relating to alcohol abuse in the workplace. The factors investigated include workplace safety, absenteeism and tardiness, productivity, and job satisfaction. Questions were also included to ascertain the individual's alcohol consumption patterns, both current (past 30 days) and over the past year. Finally, questions pertaining to the organisations' rules and policies on alcohol consumption were asked.

The survey was undertaken in three organisations, two of which were private, and the third was a government department. The research sample of 280 subjects was drawn using the cluster sampling method. The data obtained from the sample was quantitatively analysed, by making use of various descriptive and inferential statistics. Qualitative data analysis was also conducted.

Results indicated that a mere 2.5% of the subjects were notified by their organisations about the problems of alcohol abuse in the workplace. It is essential that organisations provide adequate information to their employees, both on the organisations' rules and policies on alcohol consumption, and on the workplace consequences of excessive alcohol consumption. Furthermore, a recommendation which follows from the results is that the organisations should implement an alcohol and drug abuse programme, which would ideally consist of a written policy on alcohol consumption at work, and the establishment of an Employment Assistance Programme (EAP), in addition to testing for alcohol levels at work.

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# **CHAPTER ONE**

## **INTRODUCTION**

### **1.1 INTRODUCTION**

Alcohol prevails as one of the most addictive chemicals available. An immoderate use of alcohol may impair or diminish an individual's social, physical, emotional or occupational functioning, resulting in negative consequences for the individual, the employer, family and friends. It is capable of causing extreme damage to the central nervous system, the circulatory system, as well as to the kidneys, liver, vision and breathing. Pregnant women who consume alcohol risk having babies with Fetal Alcohol Syndrome, resulting in a life long disability.

Alcohol abuse has become an epidemic in our society and it should be treated as an illness or disorder. The use and abuse of alcohol and other substances in the workplace represents an urgent societal crisis, due to the fact that it has serious repercussions for employers in terms of loss of productivity, elevated absenteeism rates, higher rates of personnel turnover, increased workplace accidents and lower worker morale and job satisfaction, ultimately resulting in additional training costs.

Industry must shoulder some responsibility for the problems created by alcohol and substance abuse. Employers should therefore, assess ways to both detect and prevent these problems in the workplace. They should strive to provide and sustain a safe and healthy workplace for their staff, and should have, at a minimum level, comprehensive policies and procedures for dealing with alcohol and other substance abuse, as well as the appropriate resources or programmes to assist employees in need.



The United States Department of Labour (1998b) firmly believes that *“workplace substance abuse is a problem for which a solution exists”*.

## **1.2 MOTIVATION FOR THE STUDY**

Alcohol and other substance use among employees have been associated with a multitude of economic, social and public health problems, costing the South African industry over 2 billion Rands per year in related expenses.

The response to the problem of alcohol abuse in the workplace has not always been fair and realistic. In the past, organisations adopted punitive disciplinary methods, believing that by finding and dismissing the abuser, the issue of alcohol problems in their organisations would be eradicated. However, this has exacerbated the problem and has impeded the timeous identification of alcohol and other substance related issues in the workplace.

A thorough literature review revealed there are numerous work-related factors which are affected by excessive alcohol consumption and other substance abuse. These factors comprise workplace safety, absenteeism and tardiness, productivity, job satisfaction, and personnel turnover.

A proper appraisal is needed of the true extent of alcohol and drug use in the workplace, which can then be used to guide the responses necessary to deal with the real dimensions of the problem. Insufficient appropriate data exists for assessing the magnitude, range, patterns and predictors of alcohol and drug use in the workplace.

An important step in understanding the battery of problems associated with alcohol abuse among employees is to comprehend, firstly, the prevalence of alcohol use among employees, secondly, the impact and extent of alcohol abuse on the work-related factors of workplace safety, absenteeism and tardiness, productivity, and job satisfaction, and finally, the presence and effectiveness of workplace policies and programmes which address alcohol and drug abuse.

Based on the recommendations made from this study, management may have to amend their rules and policies on alcohol consumption at work, and to implement drug testing programmes, in order to ensure a safer and healthier alcohol and drug-free workplace. In accordance with the amended Labour Relations Act (No. 66 of 1995), employers have a mandatory responsibility to identify and help those in their employ who abuse alcohol and other substances.

### **1.3 AIMS AND OBJECTIVES**

The core objectives of this research include:-

- (i) To compare and contrast the extent of alcohol consumption on workplace safety, absenteeism and tardiness, productivity, and job satisfaction.
- (ii) To correlate each of the biographical variables (age, gender, marital status, number of children, highest educational qualification, occupation, tenure, income, organisation and location) with workplace safety, absenteeism and tardiness, productivity, and job satisfaction, respectively.

- (iii) To determine whether a significant difference exists between alcohol consumption and the different categories of each of the biographical variables (age, gender, marital status, number of children, highest educational qualification, occupation, tenure, income, organisation and location) respectively.
- (iv) To recommend prevention policies and programmes for addressing and managing the problems resulting from alcohol abuse in the workplace.

#### **1.4 HYPOTHESES**

- (i) There is a significant relationship between alcohol consumption levels and each of the biographical variables (age, gender, marital status, number of children, highest educational qualification, occupation, tenure, income, organisation and location) respectively.
- (ii) There is a significant relationship between the number of times the subject has consumed alcohol and his or her consumption over the past 30 days.
- (iii) There is a significant relationship between the amount of alcohol consumed at work during a typical week and each of the biographical variables (age, gender, marital status, number of children, highest educational level, occupation, tenure, income, organisation and location) respectively.
- (iv) There is a significant relationship between how often the effects of alcohol is felt at work and each of the biographical variables (age, gender, marital status, number of children, highest educational level, occupation, tenure, income, organisation and location) respectively.

- (v) There is a significant relationship between the amount of alcohol consumed at work during a week and the frequency of alcohol consumption, the effects of alcohol as experienced at work and work-related alcohol consumption issues (how often work is incomplete due to alcohol consumption, how the subject feels about the present work situation, whether problems are experienced with the people at work and whether the subject dislikes going to work) respectively.
- (vi) There is a significant relationship between the importance of safety in the job and each of the biographical variables (age, gender, marital status, number of children, highest educational level, occupation, tenure, income, organisation and location) respectively.
- (vii) There is a significant relationship between the frequency at which safety at work is put at risk due to the employees' drinking and each of the biographical variables (age, gender, marital status, number of children, highest educational level, occupation, tenure, income, organisation and location) respectively.
- (viii) There is a significant relationship between absenteeism from work in various forms over the past 12 months (due to illness, due to alcohol consumption, due to late arrival at work and early departure and due to longer breaks) and each of the biographical variables (age, gender, marital status, number of children, highest educational level, occupation, tenure, income, organisation and location) respectively.
- (ix) There is a significant relationship between the number of days absent in past 12 months due to illness and the number of these days absenteeism was

due to other reasons (due to alcohol consumption and a dislike for attending work) respectively.

- (x) There is a significant relationship between alcohol consumption at work in the past year and absenteeism and tardiness related issues (the number of times the subject came in late or left early, the number of times the subject was absent due to alcohol consumption, and the number of times the subject took longer lunch breaks due to the effects of alcohol consumption) respectively.
- (xi) There is a significant relationship between each of the biographical variables (age, gender, marital status, number of children, highest educational level, occupation, tenure, income, organisation and location) and the issues relating to productivity and alcohol consumption in the past year (the number of times the work has not been done efficiently, the quality of work which is not good and how often work is incomplete) respectively.
- (xii) There is a significant relationship between subject's work efficiency and absenteeism and tardiness related factors (absenteeism due to alcohol consumption, the frequency of coming in late or leaving early and the number of times in the past year the subject took longer breaks due to the effects of alcohol consumption) respectively.
- (xiii) There is a significant relationship between each of the biographical variables (age, gender, marital status, number of children, highest educational level, occupation, tenure, income, organisation and location) and issues relating to job satisfaction (employees' perceptions of the present

work situation and whether problems were experienced with the people at work) respectively.

- (xiv) There is a significant relationship between the dislike of going to work and each of the biographical variables (age, gender, marital status, number of children, highest educational level, occupation, tenure, income, organisation and location) respectively.
- (xv) There is a significant relationship between the subjects' perception of the present work situation and the number of days absent in the past 12 months due to various reasons.
- (xvi) There is a significant relationship between whether subjects were alerted to the problems of alcohol abuse in the workplace and each of the biographical variables (age, gender, marital status, number of children, highest educational level, occupation, tenure, income, organisation and location) respectively.
- (xvii) There is a significant difference in the perception of employees differing in each of the respective biographical variables (age, marital status, number of children, highest educational qualification, occupation, tenure, income, organisation and location) regarding the organisations' rules and policies on alcohol consumption.

## **1.5 LIMITATIONS OF THE STUDY**

Time constraints, a limited sampling frame and the collection of subjective data in certain circumstances were a few limitations of the study.

### **1.5.1 TIME**

Apart from alcohol being a major problem in the workplace, other substances such as drugs (for example, cocaine, marijuana, ecstasy and heroin), inhalants (for example, glues, aerosols, butane, ether and solvents) and smoking also contribute to a reduction in work performance. Additional research should be conducted on these substances, as well as the relationship between alcohol and smoking, alcohol and other drugs and the consequences on work performance.

### **1.5.2 SAMPLING**

The research was based in only two of the nine provinces in South Africa, that is, Gauteng (Pretoria) and Kwa-Zulu Natal (Durban). This was due to time and financial constraints. However, further research should ensure that all provinces are surveyed, and that there is a representative sample from each province. Due to the sensitive nature of the study, management were excluded from the sample. The researcher, however, intends to conduct a similar survey in the future, based on a sample of managers.

### **1.5.3 SOURCES OF DATA**

Due to the illicit nature of recreational alcohol and other substance use, many substance-use trends remain hidden. The data collected in the study is also self-reported, for example, whether or not the subject has consumed alcohol, and the frequency of the consumption. These estimations may be inaccurate or biased. The data also does not contain information on where the alcohol use took place – whether it was on-the-job or off-the-job.

With regard to the availability of information on the rules and policies on alcohol consumption in the workplace, the data is based on the employees' own awareness of the existence of these rules and policies, and not on the actual existence of such guidelines. Future studies should endeavour to investigate the impact and effectiveness of specific workplace policies and programmes on alcohol abuse, for example, Employee Assistance Programmes.

#### **1.5.4 MEASURING INSTRUMENT**

Since a mixture of scales was used in the questionnaire, there was a low measure of internal consistency or reliability of the scale for the work-related factors of workplace safety, and absenteeism and tardiness. Future questionnaires measuring such factors should be able to account for a high reliability.

#### **1.6 STRUCTURE OF THE STUDY**

Chapter 1 presents a condensed outline of the study, its objectives, hypotheses and limitations. Chapter 2 is the first literature review chapter, focusing on an introduction to alcohol, its history, alcohol-related theories and the pharmacological reactions on the human body. The second part to the literature review, Chapter 3, is devoted to the use and abuse of alcohol in the workplace. It focuses on the relationship between alcohol consumption and the work-related factors of workplace safety, absenteeism and tardiness, productivity and job satisfaction. The costs resulting from alcohol abuse is further highlighted. Finally, it investigates alcohol programmes and policies to aid with the problems created by alcohol abuse in the workplace.



Chapter 4 is the research design chapter, placing emphasis on the sampling technique adopted, the measuring instrument, as well as the quantitative analysis of data using descriptive and inferential statistics. The results of the analyses are subsequently presented and interpreted in Chapter 5, using graphical and tabular representations. Chapter 6 presents a discussion of the results obtained from the preceding chapter. The results are compared to and supported by past and present findings from additional research in the field of alcohol abuse in the workplace.

Chapter 7 emphasises the recommendations which were generated for assessing and managing the effects of alcohol abuse in the workplace, through the employment of appropriate policies and programmes.

## **1.7 CONCLUSION**

The principal objectives of the research, the motivation for the current research, as well as the hypotheses generated for the purpose of answering the research questions being investigated are discussed. The limitations of the study are delineated to show which areas need to be improved on, in order to enhance the scientific quality of the research.

## CHAPTER TWO

### ALCOHOL CONSUMPTION

#### 2.1 INTRODUCTION

Historical evidence suggests that for thousands of years people have attempted to find ways to alter their normal state of consciousness. This was previously accomplished by ingesting naturally occurring hallucinogenics, employing techniques to induce oxygen deprivation and consuming alcohol.

Society has now been forced to develop rules which govern the time and manner in which its members can use mood-altering substances. The rules evolving from different societies vary significantly. For example, in the Middle East, hashish use is tolerated, but strong religious sanctions exist against the use of alcohol, whilst in the United States the reverse is true (Doweiko:1996).

Alcohol is not often thought of as a drug, since it can be legally purchased in most countries, and it is commonly used for both religious and social purposes in most parts of the world. It is a drug, however, and compulsive drinking has become one of modern society's most serious problems (Addiction Research Foundation:1991).

The National Household Survey on Drug Abuse report that in 1998, 113 million Americans aged 12 years and older reported the current use of alcohol, meaning they consumed alcohol at least once during the 30 days prior to the interview. Approximately 33 million of this group engaged in binge drinking, meaning they drank

5 or more drinks on one occasion during that 30 day period. Heavy drinkers (consumed 5 or more drinks on one occasion on 5 or more days during the past 30 days) constituted 12 million of this group. The percentages of the population falling into these different groups have not changed since 1988 (SAMHSA:1998).

## **2.2 DESCRIPTION OF ALCOHOL-RELATED TERMINOLOGY**

### **2.2.1 ALCOHOL**

The International Labour Organisation (1994) defines the term alcohol as “a primary and continuous depressant of the central nervous system whose effect is analogous to a general anaesthetic; absolute alcohol is a pure amount of alcohol, free from water and other substances, in beverages such as beer, wine and distilled spirits”.

Campbell & Langford (1995) explain alcohol to be “any of a family of organic compounds possessing a hydroxyl group attached to a carbon atom. Ethyl alcohol (ethanol) is one of these compounds which is most commonly used”.

### **2.2.2 ALCOHOLIC**

An alcoholic is a person who cannot drink in moderation consistently, and whose pattern of drinking is uncontrollable and usually compulsive. He or she may develop physical dependence and require hospital care to safely quit drinking (Tommasello, Tschirgi, Clinton & Wood:1991).

### 2.2.3 ALCOHOLISM

Alcohol dependence or alcoholism is a chronic, progressive disease characterised by significant impairment that is directly associated with persistent and excessive alcohol consumption. Impairment may involve physiological, psychological or social dysfunction (Milhorn:1988).

Similarly, Morse & Flavin (1992:1013) explain the concept of alcoholism to be a primary, chronic disease with genetic, psychosocial and environmental factors which influence its development and manifestations. The disease is often progressive and fatal. It is characterised by impaired control over drinking, preoccupation with drug abuse and the use of alcohol despite adverse consequences and distortions in thinking.

Alcoholism is characterised by the following elements, as defined by the National Institute on Alcohol Abuse and Addiction (NIAAA) (1996):-

- Craving: A strong need, or compulsion, to drink.
- Loss of control: The frequent inability to stop drinking once a person has begun.
- Physical dependence: The occurrence of withdrawal symptoms, such as nausea, sweating, shakiness and anxiety, when alcohol use is stopped after a period of heavy drinking.
- Tolerance: The need for increasing amounts of alcohol in order to get “high”.

There are two types of alcoholism. “Type I” alcoholism is noticed in both sexes and is associated with recurrent mild alcohol abuse. “Type II” alcoholism is seen predominantly among males, has an early onset and is frequently associated with

violent and antisocial behaviour. In addition, it may cause an individual to over-react to a wide range of stimuli, resulting in a cluster of behavioural problems (Tommasello et.al:1991).

#### **2.2.4 TOLERANCE**

The World Health Organisation (1993) explains tolerance to be a reduction in the sensitivity to a drug following its repeated administration, in which decreased doses are required to produce the same magnitude of effect previously produced by smaller doses.

People who consume alcohol on a regular basis become tolerant to many of the unpleasant effects of it and thus are able to drink more before suffering these effects. However, even with increased consumption, many such drinkers do not appear intoxicated. Since they continue to work and socialise reasonably well, their deteriorating physical condition may go unrecognised by others until severe damage develops, or until they are hospitalised for other reasons and suddenly experience alcohol withdrawal symptoms (Addiction Research Foundation:1991; Ritchie:1985).

#### **2.2.5 THE ALCOHOL WITHDRAWAL SYNDROME**

The alcohol withdrawal syndrome is a combination of various symptoms observed in persons who stop drinking alcohol following continuous and heavy consumption. If used for a long enough period of time, each drug of abuse will bring about a characteristic withdrawal syndrome. The nature of that withdrawal syndrome will

depend on factors such as the class of the substance, the period of time it has been used and the individual's state of health (Doweiko:1996).

Seizures and hallucinations are milder forms of the syndrome, which typically occur within 60-48 hours after the last drink. Delirium tremens (DTs) is a more serious syndrome which occurs between 48 and 96 hours after the last drink. This involves confusion, hallucinations and severe autonomic nervous overactivity (Victor:1983).

### **2.2.6 ALCOHOL ABUSE**

Alcohol abuse is “repeated or episodic self-administration of alcohol to the extent of experiencing harm from its effects, or from the social or economic consequences of its use” (The International Labour Organisation:1994).

Albertyn & McCann (1993) define alcohol abuse as the “consumption of alcohol by employees which interfere with their work, or which detrimentally affects their performance or ability to do the work and their relationships at work, and it includes intoxication at work”.

The American Psychiatric Association (1980) and the National Institute of Alcohol Abuse and Alcoholism (1996) declare the following criteria for alcohol abuse:-

- Pattern of pathological alcohol use.
- Impairment in social or occupational functioning due to alcohol use.
- Drinking in situations which are physically dangerous, such as while driving a car or operating machinery.

- Recurring alcohol-related legal problems, such as being arrested for driving under the influence of alcohol or for physically hurting someone while drunk.
- Continued drinking despite having ongoing relationship problems which are caused or worsened by the effects of alcohol.

Should there also be either tolerance or withdrawal symptoms, alcohol dependence is diagnosed.

### **2.2.7 SUBSTANCE ABUSE**

Substance abuse is the abuse of both alcohol and illegal drugs (Bruce:1990). Any individual who is using a drug when there is no legitimate medical need to do so, or who is drinking in excess of accepted social standards is said to be abusing that drug or chemical (Schuckit:1989).

### **2.2.8 ALCOHOL DEPENDENCE**

Alcohol dependence is “the habitual reliance upon or addiction to the consumption of excessive quantities of alcohol, or an inability to limit alcohol consumption to within reasonable limits” (Albertyn & McCann:1993).

The International Labour Organisation (1994) defines alcohol dependence as “a general term, the state of needing or depending on something or someone for support or to function or survive; as applied to alcohol, needing repeated doses to feel good or to avoid feeling bad”.

### **2.2.8.1 COMPONENTS OF ALCOHOL DEPENDENCE**

The World Health Organisation (1993) distinguish between three components of alcohol dependence:-

- **Physical:** The user's body has become so accustomed to the presence of alcohol, that when it is no longer used, withdrawal symptoms occur. Such symptoms may be mild, such as sneezing, to very severe, such as potentially fatal convulsions. The severity of withdrawal increases with the amount of alcohol consumed and the duration of abuse. Physical dependence tends to occur more consistently in heavy drinkers.
- **Psychological:** This may occur with regular use of even relatively moderate daily amounts of alcohol. It may also occur in people who consume alcohol only under certain conditions, such as before and during social occasions. This form of dependence refers to a craving for alcohol's psychological effects, although not necessarily in amounts that produce serious intoxication. The users may not experience withdrawal symptoms upon cessation of alcohol use, but they believe they cannot function without it, and tend to get anxious (Addiction Research Foundation:1991).
- **Addiction:** Addiction has been synonymous with physical dependence and withdrawal symptoms, and is also widely known as "dependency".



### **2.2.8.2 SYMPTOMS OF ALCOHOL DEPENDENCE**

The American Psychiatric Association (1994) identifies the following symptoms of alcohol and substance dependence:-

- Tolerance, as defined by either of the following:-
  - A need for markedly increased amounts of the substance to achieve intoxication or a desired effect.
  - A markedly diminished effect with continued use of the same amount of the substance.
- Withdrawal, as manifested by either of the following:-
  - The characteristic withdrawal syndrome for the substance.
  - The same or closely related substance is taken to relieve or avoid withdrawal symptoms.
- The substance is often taken in larger amounts or over a longer period than it was intended.
- There are persistent desires or unsuccessful efforts to cut down or control the use of the substance.
- A great deal of time is spent in activities necessary to obtain the substance (for example, visiting multiple doctors or driving long distances).
- Important social, occupational or recreational activities are given up or reduced because of the substance use.
- The substance use is continued despite knowledge of having a persistent physical or psychological problem that is likely to have been caused by the substance.

### **2.2.9 EXCESSIVE DRINKING**

Wilcocks (1987) describes excessive drinking as “any drinking which impairs social, physical, emotional or occupational functioning or which results in negative consequences for the individual, for his employer, or for those close to him”.

### **2.2.10 ALCOHOL PROBLEMS**

The International Labour Organisations (1994) explains alcohol problems to be “any of the whole range of adverse consequences of drinking; the term including both abuse and dependence, but also covering other negative consequences that do not necessarily amount to abuse or dependence”.

The excessive use of alcohol has serious repercussions on an individual’s lifestyle, as well as his mental and physical health. As most, people who suffer from alcohol dependence and alcohol-related problems are employed, the illness of alcohol dependence is responsible for incurring significant costs and loss of productivity in industrial and commercial organisations (Wilcocks:1986).

## **2.3 HISTORY OF ALCOHOL**

The word alcohol is derived from an Arabic word, “al Kuhul”. Alcoholic beverages have been used by man since the dawn of history. Breweries can be traced back about 6000 years to ancient Egypt and Babylonia. The oldest alcoholic drinks were fermented beers and wines of relatively low alcohol content. The Arabs introduced distillation into Europe in the Middle Ages to increase alcohol content in beverages. In Africa the milk from cattle or other animals have been fermented under certain

conditions to produce a beer. Alcohol was believed to be a remedy for practically all diseases, as indicated by the Gaelic term “whiskey”, which means “water of life” (Campbell & Langford:1995; Ritchie:1985).

Alcohol has long been associated with many customs and rituals. Historic sketches suggest that Neolithic people knew how to make alcoholic drinks through the fermentation of cereals. In ancient Persia, the King and his advisors would discuss important issues when drunk and later review the decisions when sober. If during both conferences the same decisions were made, the King would act on these decisions. There are also cases of animals experiencing alcohol intoxication, such as the East African elephants who would seek and eat fermenting mangoes and become drunk and boisterous (Warner:1992).

Alcohol has played a significant role in religious ceremonies. In the New Testament, Christ is recorded as referring to wine as his blood. Wine is consumed in many Christian communities as a symbolic representation of the blood of Christ.

The consumption of alcohol also varies widely between cultures. For example, the Islamic faith forbids the use of alcohol, and the majority of Muslims tend to abide by that prohibition. On the other hand in some societies heavy drinking has been built into religious ceremonies. The Aztecs, for example, used to get drunk at all major religious ceremonies so as not to offend their gods (Alcohol and Other Drugs Programme: 1996).

However, the use of alcohol has been treated as a form of insanity, where the individual was needed to be locked up to protect society. It was also seen as a moralistic problem where the individual was seen as lacking will power and needing to be punished (Myers:1985).

Early American colonists commonly drank beer and wine with meals. At that time, people consumed 95% of beverage alcohol in the form of beer (90%) or wine (5%). They did not tolerate drunkenness. However, a dramatic shift occurred after 1725, when people increasingly drank distilled beverages, to the point where such beverages were the major form of alcohol consumed (Royce:1981).

The history of alcohol in South Africa is an integral part of the history of segregation and apartheid. Alcohol was alternatively made available, and prohibited, as a means of economic and social control. Legislation was promulgated to prohibit Blacks from producing and obtaining alcohol. Only in 1962 was it made legal for black people to purchase from white liquor outlets, and then under strict conditions (Department of Trade and Industry:1997).

Alcohol was traditionally used as a means of labour mobilisation and control. Employers in the emerging diamond and gold industries used alcohol as a means of attracting workers from the rural areas and keeping them on the mines.

The demand for Black labour led to the emergence and intensified use of the Tote (wine-for-work) system on the wine farms of the Western Cape, where employers

provided wine rations to farm workers at various times of the working day as a repressive and debilitating method of labour control. Tokens which were redeemed at compound stores and beer halls were used as a form of payment. Urban employers used sorghum beer as a form of payment (Department of Trade and Industry:1997).

## **2.4 BACKGROUND ON ALCOHOLISM**

The period of understanding alcoholism has a short duration with a major turning point coming in 1935, with the establishment of Alcoholics Anonymous (AA). Myers (1985) & Royce (1981) outline the background on the recognition of alcoholism as a disease or an illness.

- In 1935, Dr. Bob Smith and Bill Wilson, two hopeless alcoholics, discovered they could stay sober by helping each other and founded Alcoholics Anonymous.
- In 1945, Mrs. Marty Mann founded the National Council on Alcoholism (NCA), a volunteer group dedicated to eradicating the stigma of alcoholism and educating the general public about treatment and prevention.
- The World Health Organisation acknowledged alcoholism to be a medical problem in 1951.
- In 1956 the American Medical Association declared alcoholism to be an illness.
- In 1957 the American Hospital Association accepted it as an illness treatable in general hospitals.
- E.M. Jellinek published his landmark book “The Disease Concept of Alcoholism” in 1960. He identified 44 consistent and progressive disease symptoms taken from histories of male alcoholics.

- The American Psychiatric Association recognised alcoholism as a disease in 1965.

## **2.5 PRODUCTION OF ALCOHOLIC BEVERAGES**

Alcohol can be produced from many plants, such as maize, wheat, grapes and potatoes, resulting from fermentation of carbohydrates contained in the plant to produce ethyl alcohol (ethanol) by the action of yeasts and bacteria. Beers and wines may be produced through fermenting the organism, but stronger drinks require distillation in order to increase the alcohol content, since the fermentation organisms may be killed by too high a concentration of the alcohol (Ritchie:1995).

Campbell & Langford (1995) & Schonberg (1988) explain the production and content of alcoholic beverages.

### **2.5.1 FERMENTATION**

Certain micro organisms act on natural vegetable sugars, and enzymes produced by the yeasts provide them energy, breaking down the sugars and producing a waste product called ethanol. This process is called “fermentation”. A variety of alcoholic beverages are produced in this way, depending on the original sugar base: wine from fruit juices, beer from malted grains and mead from honey. The yeast action is inhibited when the increasing concentration reaches about 14%.

### **2.5.2 DISTILLATION**

Alcoholic beverages with a concentration higher than 14% are the result of “distillation”. The fermented liquid is heated and, since alcohol boils at a lower

temperature than water, it is evaporated off. It is then condensed in a coil and collected. Different distillates result from the fermented product used. Brandy is distilled wine, and whiskey is distilled from malted grains.

### **2.5.3 ALCOHOL CONTENT**

The concentration of alcohol in beverages varies greatly. In most cases, beer is fermented to contain about 5% alcohol by volume (or 3.5% in the case of light beer). Most wine is fermented to have between 10% and 14% alcohol content. Fortified wines such as sherry and port, contain between 14% and 20%. Distilled spirits (whiskey, vodka, rum and gin) are first fermented, and thereafter distilled to raise the alcohol content to about 40% or more.

Table 2.1 outlines the alcohol content of various beverages. The effects of alcohol consumption depends on the amount of alcohol consumed on a specific occasion, rather than the type of alcoholic beverage.

**TABLE 2.1:**  
**ALCOHOL CONTENT OF VARIOUS BEVERAGES**

<b>BEVERAGE</b>	<b>% ALCOHOL BY VOLUME</b>	<b>SIZE OF DRINK (ML)</b>	<b>GRAMS OF ALCOHOL</b>
Beer (bottle)	5	340	13.4
Beer (can)	5	355	14.0
Light beer (bottle)	3.5	340	9.4
Light beer (can)	3.5	355	9.8
Wine	12	170	16.1
Fortified wine	20	57	8.9
Spirits	40	29	8.9
Spirits	40	43	13.4

*Source: Addiction Research Foundation. 1991. Facts About Alcohol. 2<sup>nd</sup> Ed. Toronto: Alcoholism and Drug Addiction Foundation.*

## **2.6 HOW ALCOHOL WORKS**

Alcohol is a drug that produces a dual effect on the body: a primary depressant effect that lasts a relatively short time and a weaker agitation of the central nervous system that persists about six times as long as the depressant effect. The degree of excitability of the central nervous system at the time of consumption of the alcohol will determine the awareness of these two effects. This will also depend on the environmental setting of the alcohol use and on the personality of the user.



In a quiet non-social environment, the excitatory influence may be impaired and the sedation and drowsiness produced by the drugs are then readily perceived as depression of the central nervous system. In a social setting, where there is a great deal of sensory input, the effects of low doses of alcohol may be perceived as stimulation, and the drinker may demonstrate excitement (Missouri Department of Health:1997).

Ethanol is a colourless liquid which mixes in all proportions of water. It is found in beers, wines, ales, and liquors such as gin, vodka, rum, rye and scotch. It consists of small, water-soluble molecules that are absorbed rapidly and completely from the stomach (20%) and small intestines (80%). After a person ingests alcohol on an empty stomach, it reaches its peak blood level within 40 minutes, since food in the gut delays alcohol's absorption. Distribution is rapid, with tissue levels rapidly approximating the blood concentration. The volume of distribution is about 50 litres in a 70 kg person (Campbell & Langford:1995; Lee & Becker:1987).

Since alcohol cannot be stored in the body and very little (about 10%) can be excreted by the lungs or kidneys, it remains in the bloodstream unchanged until metabolized by the liver (the remaining 90%). If an individual consumes alcohol at a faster rate than it can be metabolized, the blood concentration will rise (Schonberg:1988).

## **2.7 LEVELS OF ALCOHOL USE**

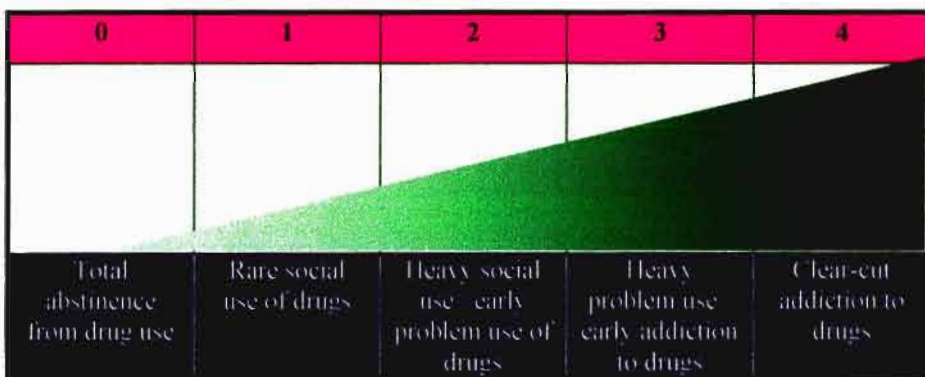
MacDonald & Peterson (1991) distinguish between three levels of alcohol and other substance use by alcoholics and other substance abusers.

- Experimental: The person has used alcohol between 1-6 times, and returns to alcohol out of preference. Illegal substances are not used again.
- Recreational or social: Consumption occurs during the evening and over weekends with friends, as a social or peer group activity.
- Chronic: Alcohol and other substance abuse occurs daily or more than once a day. It is often used in isolation from others. With certain types of substances, this level of use will lead to both physical and psychological dependence, and will also be seen as a solution to the fundamental problems the user has.

Doweiko (1996) established a more in-depth continuum along which the severity of an individual's substance abuse level can be viewed (Figure 2.1). The continuum ranges from total abstinence from all substance use, through rare or social use, to heavy use and ultimately to addiction to substances.

**FIGURE 2.1:**

**THE CONTINUUM OF CHEMICAL USE**



*Source: Doweiko, H.E. 1996. Concepts of Chemical Dependency. 3<sup>rd</sup> ed. Pacific Grove: Brooks/Cole Publishing Company. 473p.*

Doweiko (1996) explains the different levels of substance use on the continuum of chemical use:-

Level 0 - Total abstinence: At this level, the individual abstains from all recreational alcohol or other substance use.

Level 1 - Rare social use: The individual rarely uses alcohol or other substances for recreational purposes, but is able to drink or use substances without social, financial, interpersonal or legal problems associated with more serious levels of alcohol or drug use.

Level 2 - Heavy social use / early problem drug use: A person at this level in the continuum uses substances in a manner that is clearly above the norm for his or her social group. Such an individual may attempt to hide or deny the problems which arise from his or her substance use, but will learn from their experience and alter their substance use so that they are unlikely to encounter future problems.

Level 3 - Heavy problem use / early addiction: This person's alcohol or drug use has reached a point where there is clearly a problem. The individual demonstrates withdrawal symptoms when unable to continue the use of drugs or alcohol.

Level 4 - Clear-cut addiction to drugs: The individual demonstrates the classic addiction syndrome in combination with multiple social, legal, financial, occupational

and personal problems. He or she demonstrates various medical complications associated with substance abuse and may be near death as a result of chronic addiction.

## **2.8 TYPES OF ALCOHOLISM**

Jellinek (1960) identified five categories of alcoholism, which he referred to as Alpha, Beta, Delta, Gamma and Epsilon.

### **2.8.1 ALPHA ALCOHOLISM**

This type represents a psychological dependence on alcohol to relieve emotional or bodily pain. It is sometimes known as problem drinking. It can progress but often continues in the same way for years. Loss of control and withdrawal symptoms do not occur.

### **2.8.2 BETA ALCOHOLISM**

The person who suffers from this type of alcoholism, for some unknown reason, eventually develops medical complications such as cirrhosis or peripheral neuropathy. Beta alcoholism is not associated with dependence; it can progress.

### **2.8.3 GAMMA ALCOHOLISM**

This is the dominant type of alcoholism seen in the United States and is the type recognized by Alcoholics Anonymous. It is characterised by loss of control and physical dependence.

#### **2.8.4 DELTA ALCOHOLISM**

This is the predominant type of alcoholism in France and other countries where significant wine consumption occurs. People gradually develop tolerance and can control the level of their drinking but cannot stop.

#### **2.8.5 EPSILON ALCOHOLISM**

This term refers to periodic alcoholism. Less is known about it than other types.

Later studies showed that Gamma alcoholism could be divided into two types. Type I individuals develop alcoholism after age 25. They frequently seek alcohol and are able to abstain. They do not fight or get arrested when drinking. They frequently lose control and suffer from guilt and fear about alcohol dependence. They seldom seek novelty, tend to avoid situations that could result in harm, and respond positively to rewards.

In contrast, Type II alcoholism usually begins before age 25. These alcoholics commonly seek alcohol spontaneously and are unable to abstain from it. They frequently fight and get arrested when drinking but lose control infrequently. They seldom feel guilt or fear about their alcohol dependence, often seek novelty, do not avoid harm, and respond poorly to rewards. Women tend to develop Type I alcoholism; men on the other hand develop both types (Cloninger:1987).

## **2.9 APPROACHES TO ALCOHOLISM**

Denenberg & Denenberg (1991) distinguish between two approaches to alcoholism, namely the physical and the psychological.

### **2.9.1 THE PHYSICAL VIEW/APPROACH**

This view was originally formulated by Dr. E.M. Jellinek, which he referred to as the "Disease Concept of Alcoholism". It explains that people that become alcoholics are born with a specific physical vulnerability to the physiological effects of alcohol. Due to this vulnerability, their reaction to alcohol is therefore more intense than that of others and they develop a much greater need for alcohol than others. This need becomes an obsession and eventually an addiction.

### **2.9.2 THE PSYCHOLOGICAL VIEW/APPROACH**

This view states people who become alcoholics are alcoholism-prone. This is not due to a physical disability, but rather to psychological disabilities. Such people went through disturbing emotional experiences such as rejection by parents, parental cruelty, inability to make friends, lack of success in schools, constant parental conflict, alcoholism in the family, a broken home and other such difficulties in their childhood. Therefore these children developed feelings of anxiety, insecurity, depression, loneliness, repressed anger and low self-esteem. Hence they carry these feelings into their adolescence and adult life.

Denenberg & Denenberg (1991) further explain that such individuals have an urgent need for relief from emotional stress, an instant, easy source of pleasure, gratification

and self-esteem, and a way to deal with a reality they cannot handle. Alcohol provides all of these. It anaesthetizes emotional pain, produces euphoria, inflates the deflated ego and modifies reality so the drinker does not have to deal with it.

## **2.10 THEORIES OF ALCOHOLISM & ALCOHOL DEPENDENCE**

No single theory has been found to define alcoholism or problem drinking. It is not a disease state such as diabetes, which has a clear diagnosis. Hore (1990) states, “alcoholism is best regarded as more than a uni-dimensional illness involving more than a single factor”. The American Institute of Medicines Committee for the Study of Alcoholism and Alcohol Abuse (1991) states “there is no likelihood that a single cause will be identified for all instances of alcohol problems”.

Criteria which can promote the onset of alcohol problems include the following:-

- The quantity of alcohol consumed
- The frequency of consumption and the drinking pattern
- The social, psychological and physical damage
- Dependence in its psychological and physical forms.

There are many theories which attempt to explain alcohol dependence and related problems. The most prominent theories focus on socio-cultural factors, psychological characteristics, behavioural indicators, physiological criteria and genetic and innate personality factors. In addition, ethnic and cultural factors must be considered. What are regarded as alcohol abusers and problem drinking in one ethnic or cultural group might not be considered as such in another (Albertyn & McCann:1993).

Albertyn & McCann (1993) further discuss the most prevalent theories relating to alcohol dependence.

### **2.10.1 THE MORAL THEORY**

Historically, the moral theory has been the most dominant. In eighteenth-century Britain, an Act for repressing “the odious and loathsome sin of drunkenness” was passed. Hogarth depicted this moralistic view in his cartoon "Gin Lane", which shows all the ramifications of alcohol excess, and includes drunkenness, child neglect, starvation, emaciation and suicide.

The moral theory still exerts a powerful influence on contemporary attitudes toward alcohol problems. Even though alcohol abuse is labeled today as an “illness”, many who value self-control, self-restraint and respectability believe, at root, that it stems from a moral failing.

### **2.10.2 THE MEDICAL THEORY**

The medical or disease theory, based on the concept of an illness or disease, gradually succeeded the original moral theory. It originated and gained acceptance in the USA, owing its origin largely to the development of the Alcoholics Anonymous (AA) movement and then the research of Dr. E.M. Jellinek.

Dr. Jellinek is perhaps the most quoted scientist who has researched alcohol problems and it is due to his work that both the medical profession in the United States and the World Health Organisation (WHO) came to accept alcoholism as a disease. Too often



Jellinek's work has been oversimplified in interpretation. He attempted to give an unbiased and factual description of a subject which had been treated subjectively. He was able to dissociate himself from an American cultural bias and to look at the problem from the viewpoint of other cultures and ethnic groups in the world. He did not intend to produce a rigid narrow model or theory (Pattison, Sobell & Sobell:1991).

In this theory, the perception is that the individual suffering from alcohol dependence has an incurable disease and that his only salvation is to abstain from alcohol. The classical AA approach states that he is suffering from an "allergy to alcohol", that he is and always will be an alcoholic and must seek the intercession of a spiritual or divine power. The classical theory was defined in terms of tolerance to alcohol, withdrawal symptoms, craving, loss of control and inability to abstain (Glatt:1991).

It is argued that the term "alcoholic" is outdated and imprecise, yet it is still likely to be used by the general public for some time. When Jellinek used the term, however, it was to describe the five different types of "alcoholics"; alpha, beta, gamma, delta and epsilon.

A heavy or excessive drinker (or inappropriate drinker) need not be a dependent drinker, but he could still be affected by the impact of alcohol abuse as regards alcohol-related diseases, social problems, poor productivity and accidents.

The distinction between an alcohol abuser or problem drinker and dependent drinker is important as regards handling the individual in the occupational setting, though

management tends to be primarily concerned with alcohol abuse (Albertyn & McCann:1993).

However, in recent years there has been a backlash against the concept of alcoholism as a disease and against the medical theory. Critics state the disease concept implies the affected individual is the helpless victim of biographical predestination and is powerless to correct his or her behaviour. This leads to an unnecessary erosion of personal responsibility (Denenberg & Denenberg:1991).

### **2.10.3 THE BEHAVIOURAL THEORY**

The behavioural theory offers an alternative view to the medical theory, stressing as it does that drinking is a learned behaviour and that problematic or inappropriate behaviour coupled with external influences is the prime consideration in developing an abnormal drinking state. Alcohol abuse is considered a reflection of an individual's poorly developed ego. According to the theory, if the behaviour problem can be solved, or empowerment developed, then the individual can be cured. Changing the environment and the behaviour of the problem drinker is regarded as significant in altering his drinking pattern (Albertyn & McCann:1993).

### **2.10.4 THE GENETIC THEORY**

The genetic theory contends that certain individuals are either born with a susceptibility to alcohol dependence or, due to a possible lack of certain as yet unknown metabolic factors, are inevitably alcohol dependent. This theory goes hand-in-hand with the medical theory propounded by Alcoholics Anonymous.

### **2.10.5 THE ALCOHOL DEPENDENCE SYNDROME THEORY**

The alcohol dependence syndrome proposed by Edwards & Gross (1976) should actually fall under the heading of the medical theory. It describes a syndrome and therefore a disease or state of illness, but Edwards argues against placing drinking problems into pigeon-holes. He feels to do so is to over-simplify a complex and varied problem. The task is to identify each individual's drinking pattern as it exists and only then to try to identify the influences which shape this pattern.

The World Health Organisation (WHO) distinguishes between problem drinking and dependency. It associates itself with the definition of the alcohol dependency syndrome described by Edwards and Gross (1976). It has recently updated the definition of alcohol dependency in the International Classification of Diseases (WHO ICD-10: 1987). It no longer uses the term "alcoholic", preferring the term "alcohol dependent" or person suffering from the alcohol dependency syndrome instead.

The alcohol dependency syndrome is defined by seven criteria:-

- A narrowing of the dependant's repertoire in type of drink, timing and frequency of drinking. There is a tendency to drink at set times of the week or weekends, irrespective of a change in social restraints.
- Drinking alcohol becomes of prime importance to the individual, who begins to neglect other interests.
- Tolerance to alcohol increases, so that sufferers can consume excessive amounts of alcohol without showing signs of intoxication; later, when liver failure ensues, this tolerance is lost.

- Repeated withdrawal symptoms occur, causing tremor, nausea, sweating and disturbances of mood.
- Withdrawals are avoided or relieved by continued drinking or “topping up”, not necessarily in the morning before work, but throughout the day.
- The sufferer knows he is unable to stop drinking once he has started. This loss of control is variable and not necessarily consistent.
- Dependent drinking is easily reinstated after periods of abstinence which suggests a long-lasting change in the dependant's body (World Health Organisation:1987).

In its ICD-10, the World Health Organisation has added the following two criteria to the existing list:-

- Persistence with alcohol abuse even though overt signs of harm have been identified.
- A strong desire or compulsion to drink and a craving for alcohol, particularly in familiar situations.

## **2.11 PHARMACOLOGICAL ACTIONS**

The recommended alcohol limits are 21 units per week for men and 14 units per week for women. However, sustained drinking in excess can increase the drinkers chance of damaging his or her health. This can lead to problems with the central nervous system and the circulatory system and can effect the kidneys, liver, eye sight and heart. In extreme cases permanent brain damage can be caused, such as Korsakoff's psychosis, which is a form of permanent amnesia (Institute of Alcohol Studies:1997a).

## ➤ **FACTORS DETERMINING THE EFFECTS OF ALCOHOL**

The physical effects of drinking alcohol depends on the individual because of factors such as body size, gender, rate of consumption, prior use and the time lapse between eating and alcohol consumption (Albertyn & McCann:1993).

- **Body size:** An average sized person (70 kilograms for men and 55 kilograms for women) is more likely to be affected than a person who are larger than average in size. Persons who are smaller than average are more likely to be affected.
- **Gender:** Women are on average physically smaller than men, and are therefore affected to a greater extent than men from alcohol consumption. Even if men and women have identical body weight, women still have less tolerance to alcohol mainly due to a different ratio between body mass and muscle, and body fluid and fat, which leads to a higher concentration of alcohol in women. Women also have fewer enzymes which metabolise alcohol in the stomach wall, resulting in a more rapid increase in blood alcohol concentration.
- **Rate of consumption:** The rate of consumption in a given time frame can greatly affect whether an individual becomes intoxicated.
- **Prior use:** Individuals who drink frequently have a greater tolerance to the use of alcohol, as compared to people who rarely drink.

- The time lapse between eating and alcohol consumption: Alcohol will have a greater physical effect on a person who has not eaten recently than upon someone who has, or who eats at the same time as consuming alcohol (Albertyn & McCann:1993; International Labour Organisation:1994).

The central nervous system, circulatory system, kidneys, liver, vision and breathing can be affected by excessive alcohol consumption.

### **2.11.1 CENTRAL NERVOUS SYSTEM**

The central nervous system is more acutely affected by alcohol than any other organ. Alcohol can cause sedation, relief of anxiety, slurred speech, impaired judgement, irrational behaviour and intoxication. Although many people think alcohol is stimulating, it is a central nervous system depressant like other general anaesthetics. The apparent stimulation, which occurs at low doses, results from the activity of various parts of the brain that have been freed from inhibition as a result of depression of inhibitory control mechanisms (Lee & Becker:1987; Ritchie:1985).

The psychological and behavioural effects of various blood alcohol levels are illustrated in Table 2.2. They range from feeling warm and relaxed after one or two drinks (a blood alcohol concentration of 50) to death from respiratory depression (a blood alcohol concentration of 500). Individual reactions to given blood alcohol concentration vary considerably. Tolerance due to persistent and excessive alcohol consumption increases the levels at which the reactions occur. The effects are more

noticeable when the concentration is rising than when it is falling (Campbell & Langford:1995).

**TABLE 2.2:**  
**EFFECTS OF ALCOHOL CONSUMPTION IN THE NON-TOLERANT**  
**INDIVIDUAL**

<b>BLOOD ALCOHOL CONCENTRATION</b>	<b>EFFECT, SIGNS AND SYMPTOMS</b>
50 Mild intoxication	Reached after approximately one drink. Moderate drinkers experience a feeling of warmth, flushed skin, impaired judgement and decreased inhibitions.
100 Obvious intoxication in most people	Increased impairment of judgement, inhibition, attention and control; some impairment of muscular performance and slowing of reflexes.
150 Obvious intoxication in all normal people	Definite impairment of muscular co-ordination, slurred speech, double vision, memory and comprehension loss.
250 Extreme intoxication	Reduced response to stimuli, inability to stand, vomiting, incontinence and sleepiness.
350 Coma	Unconsciousness, little response to stimuli, low body temperature, poor respiration, fall in blood pressure and clammy skin.
500 Death	Death is likely to occur at this stage.

*Source: Campbell, R.L. & Langford, R.E. 1995. Substance Abuse in the Workplace. Florida: CRC Press, Inc. 211p.*

### **2.11.2 CIRCULATORY SYSTEM**

Evans (1996) emphasises that excessive alcohol consumption causes raised blood pressure and is three times more common in heavy drinkers than in the general population. The ability of haemoglobin to carry oxygen in the blood is interfered with while alcohol is present, contributing to hypoxia. Alcohol raises the blood pressure and prevents good circulation to the extremities. It also contributes to acidosis and lactic acid build up. Three drinks of alcohol destroys all the platelet (needed for blood clotting) the body can make in one day.

### **2.11.3 DIGESTIVE SYSTEM**

Alcohol has extensive and varied effects on the gastrointestinal tract. The input and output of the stomach are controlled by muscular valves known as sphincters. Alcohol has the tendency to relax both the upper and lower sphincters. Furthermore, heartburn occurs when digestive enzymes and acids escape from the stomach through the upper valve and irritate the lower oesophagus.

The small intestine (duodenum) is also a target of the corrosive and irritating effects of alcohol. Inflammation and ulceration can occur along the length of the small intestine, but the segment close to the stomach is most at risk. If ulceration continues, a hole may eventually go all the way through the intestine, allowing gastric acid and intestinal contents to leak into the abdominal cavity. Medically, this condition is known as a “perforated ulcer”, and can result in death if not treated immediately (Tommasello et.al.:1991).



#### **2.11.4 KIDNEYS**

While alcohol is in the body, the kidneys quit the re-absorption function, leaking out new red and white blood cells. The bone marrow does not produce any new cells while alcohol is in the system. The kidneys also leak out platelet, hormones and many other important blood ingredients (Ritchie:1985).

#### **2.11.5 LIVER**

The effects of alcohol on the liver are often thought of as the main and most damaging effects on the human body. However, the liver is the only organ of the body which regenerates itself. Emphasis should be place on the total amount of alcohol consumed, rather than whether continuous or periodic drinking occurred, or on the different types of alcohol consumed (Albertyn & McCann:1993).

All of the alcohol that is absorbed from the stomach and small intestine passes through the liver. The liver processes food and drink into carbohydrates, energy and water. While alcohol is in the system, the liver stops its normal functioning and detoxes the alcohol. It reduces the blood alcohol level by about 0.015 per hour. During the time it is breaking the alcohol down into aldehydes, it stores all other food in the form of fat, resulting in what is called “fatty liver”. If the liver does not get a rest from processing alcohol, the fat that has been stored for any time becomes sclerotic, scar tissue (Alcohol and Other Drugs Programme:1996; Milhorn:1990).

At least nine out of ten chronic alcoholics will develop alcoholic fatty liver. If a person stops drinking, fatty liver will disappear on its own in four to six weeks without

formalised medical treatment. However, if drinking continues, fatty liver may progress to alcoholic hepatitis. Hepatitis is a general term referring to swelling or inflammation of the liver. Alcoholic hepatitis is caused by the toxic effects of alcohol on the liver after long-term use. The treatment of alcoholic hepatitis involves abstinence from alcohol and the provision of adequate nutrition (Tommasello et.al.:1991).

Five to ten percent of all alcoholics develop cirrhosis of the liver, which usually occurs after a long history of excessive alcohol intake. This disease may follow alcoholic hepatitis, or may occur without any previous symptom. The patient may complain of tiredness, appetite suppression and weight loss, nausea and abdominal pain. There may be neurologic changes and swollen and bleeding veins on the inside of the throat. A liver with alcoholic cirrhosis is scarred and irreversibly damaged and if drinking continues, the liver will become so severely damaged, that it will fail to function (Tommasello et.al.:1991).

Research indicates that the detrimental effects of alcohol on the liver are more severe for women than for men. Women develop cirrhosis of the liver after a comparatively shorter period of heavy drinking and at a lower level of daily drinking than men. More alcoholic women also die from cirrhosis than do men (Saunders, Davis & Williams:1981).

#### **2.11.6 VISION**

Alcohol affects both the lateral field of vision and depth perception. The eyes need a good supply of oxygen for good functioning. Vision is not greatly affected by blood

alcohol levels less than 0.100mg per cent (i.e. about 3-4 drinks in an hour), but at higher levels, vision becomes impaired in most people. Alcohol has the greatest effect on peripheral vision, ocular motor control and binocular visual co-ordination (Wilcocks:1987).

In a study conducted by Mortimer & Jorgeson (1986), intoxicated persons revealed up to a 44% deterioration in vision after consumption and five hours later a 16% deterioration was still evident.

### **2.11.7 CANCER**

There are six types of cancer which are associated with the excessive consumption of alcohol, namely, cancer of the mouth, tongue, pharynx, larynx, oesophagus and liver. The cancers of the mouth, tongue and oesophagus are frequently noticed in heavy spirit drinkers who are smoke (Albertyn & McCann:1993).

### **2.11.8 RESPIRATORY PROBLEMS**

There is a higher incidence of recurring chronic chest infections and tuberculosis through excessive alcohol depressing the immune system. Acute alcohol overdose can lead to death from respiratory failure, aspiration pneumonia or cardiac arrhythmia's. The lethal dose of alcohol varies widely because of the development of tolerance. Individuals who have not developed tolerance may lose consciousness at a blood alcohol level of 0.30. Respiratory depression usually occurs as a blood alcohol level of 0.45 and death at a blood alcohol level of 0.50 in individuals who have not developed tolerance. (Albertyn & McCann:1993 & Milhorn:1990).

Other effects include dizziness, black outs and enhanced fatigue, depression, mood swings, irritability, nervousness, over-sensitivity to criticism and paranoid tendencies (Evans:1996).

### **2.11.9 HANGOVERS**

A hangover is the body's reaction to the excessive consumption of alcohol. It is a temporary, acute physical and psychological distress following excessive consumption. Although the alcohol may be eliminated the next day, the body's chemical balance has been upset and digestive organs have been abused. Nausea, abdominal pain, fatigue, headaches and anxiety are reminders of disrupted body functions that could not be felt while intoxicated (Ritchie:1985).

### **2.11.10 COGNITION**

Research indicates alcohol adversely affects the brain. Alcohol may be the cause of patients having cognitive difficulties such as impaired memory or reasoning ability. When treating patients who have abused alcohol, the level of impairment should be identified, and the treatment should be modified accordingly (NIAAA:1989).

### **2.12 DEPRESSANT EFFECTS**

A certain level of cognitive performance is required by every occupation. The cognition of internal and external environments and motivation to perform necessary tasks are basic requirements for effective work performance.

Wilcocks (1987) identifies cognitive and motivational areas which are affected by alcohol intake.

### **2.12.1 EMOTION AND MOOD**

Many drinkers report anxiety reduction and alleviation of depression as reasons for drinking. Depressant effects include increased psychological depression, decreased friendliness, less vigour, increased fatigue and more confusion. Risk-taking behaviour may also increase after alcohol ingestion.

### **2.12.2 LEARNING AND MEMORY**

Alcohol affects the ability to retain information; people learn more slowly when they are drunk as compared to when they are sober. Excessive alcohol also affects short-term memory.

### **2.12.3 INTELLECTUAL PERFORMANCE**

More difficult intellectual tasks are most sensitive to alcohol impairment. However, higher doses of alcohol impair performance in both simple and difficult tasks. Intellectual decrement is positively related to the duration of the drinking. Brain damage can be caused through excessive drinking over a period of years. This will result in the loss of concentration and short-term memory loss.

### **2.13 GENETIC DISPOSITION**

It has been known for years that alcoholism, like diabetes, runs in families. Genetic factors and family role models are often involved in predisposing individuals to alcohol abuse (Cloninger:1983).

Several studies suggest that a disposition for developing alcoholism is transmitted genetically. Males with alcoholic fathers have been found at highest risk. Results of adoption studies have found male adoptees with at least one alcoholic biological parent are three to four times more likely to abuse alcohol than adoptees with biological parents who do not abuse alcohol (Blum, Noble & Sheridan:1990; Cloninger:1987; Schuckit:1988).

It is estimated there are 6.6 million children under the age of 18 years living in American households with at least one alcoholic parent. These children are at a risk for a range of cognitive, emotional and behavioural problems (Russell, Henderson & Blume:1984).

Parents serve as models for their children. Children of alcoholic parents are more likely to become alcoholics themselves. Family life with an alcoholic parent is often disruptive and sometimes abusive and can lead to a wide variety of problem behaviours in adolescent children, including alcohol and drug abuse. Parents who express favourable attitudes toward alcohol use increase their children's likelihood of abusing these substances (Schonberg:1988).

The results of several studies have shown children from alcoholic families report higher levels of depression and anxiety and show more symptoms of generalised stress and low self-esteem than do children from non-alcoholic families. They also tend to express a feeling of lack of control over their environment (Prewett, Spence & Chaknis:1981, Moos & Billings:1982, Anderson & Quast:1983).

## **2.14 WOMEN AND ALCOHOL**

Women first caught up to men in cigarette smoking in the mid-1970s and their rate of lung cancer soared. Now, according to a study conducted by the Centre on Addiction and Substance Abuse (CASA) in America, they found women are catching up to men in the consumption of alcohol and the use of drugs (The Franklin County Prevention Institute:1996).

Women become intoxicated after drinking smaller quantities of alcohol than are needed to produce intoxication in men. One reason for this is women have a total lower body water content than men of comparable size. After alcohol is consumed, it diffuses uniformly into all body water. Since women have a smaller quantity of body water, they achieve higher concentrations of alcohol in their blood than men after drinking equivalent amounts of alcohol.

The fluctuations during the menstrual cycle may also affect the rate of intoxication, making a woman more susceptible to elevated blood alcohol concentrations at different points in the cycle. On the other hand, painful menstruation, premenstrual discomfort and irregular and absent cycles have been associated with chronic heavy drinking.

These disorders can have adverse effects on fertility and may lead to early menopause (Sutker, Goist & King:1987).

According to Hill (1982), alcohol abuse has a greater physical toll on women than on men. Female alcoholics have death rates of at least fifty percent higher than those of male alcoholics. A higher number of female alcoholics also die from suicides, alcohol-related accidents, circulatory disorders and cirrhosis of the liver.

The advertising industry has recently targeted the growth of women drinkers and has been criticised for using stereotyped images and for linking alcohol with images of a desirable lifestyle and personality. Alcohol is portrayed as fashionable, glamorous and socially acceptable and used by women who are independent, fun loving and desirable (Institute on Alcohol Studies:1997a).

Alcohol and drug problems affect various groups of workers in different ways. Working women, particularly divorced, separated and single women with family responsibilities, make excessive use of legal drugs such as tranquilizers as a coping mechanism. They have now turned to alcohol to cope with stress and to balance family responsibilities and demands of their jobs. The increased presence of women in formerly male-dominated workplaces has sometimes led them to participate in traditional work-related drinking (International Labour Organisation:1994).

However, Wilsnack, Wilsnack & Klassen (1986) conclude in their research on women's drinking that women who have multiple roles (example, women who work



outside the home) may have lower rates of alcohol problems than women who do not have multiple roles.

#### **2.14.1 REASONS FOR HEAVY DRINKING IN WOMEN**

The Institute on Alcohol Studies (1997a) estimate 2% of women drinkers are drinking at very high levels of over 35 units per week. They suggest the following factors may predispose some women to develop problems in relation to alcohol:-

- Having a family background of heavy drinking.
- A history of sexual abuse.
- Low self esteem.
- Traumatic life events.
- Association with eating disorders.

Until recently, the majority of alcohol services and treatment programmes have been developed for men. Since more and more women are coming forward for help with their drinking problems, treatment centres are having to readdress their facilities and approaches to make them more accessible for women.

#### **2.14.2 FETAL ALCOHOL SYNDROME (FAS)**

Pregnant women who drink risk having babies with fetal alcohol syndrome (FAS). FAS is a pattern of mental and physical defects which develop in some unborn babies when the mother drinks too much alcohol during pregnancy. A baby born with FAS may be seriously handicapped and require a lifetime of special care (Abel & Sokol:1987).

Mental retardation, growth deficiency, head and facial deformities, joint and limb abnormalities and heart defects are among the most serious of the FAS effects. Abnormalities of the skull bones and face may also be seen, including lip deformities and a flattened, upturned nose. Whilst it is known that the risk of having a FAS-afflicted child increases with the amount of alcohol consumed, a safe level of consumption has not been determined (Tommasello et.al.:1991).

The problem is caused when the alcohol in a pregnant woman's bloodstream circulates to the fetus by crossing the placenta. There the alcohol interferes with the ability of the fetus to receive sufficient oxygen and nourishment for normal cell development in the brain and other body organs (Addiction Research Foundation:1991).

### **2.14.3 RESEARCH FINDINGS**

General population studies indicate there are fewer women drinkers than men. Studies indicate women who are mild drinkers have fewer alcohol-related problems and dependence syndromes than men, yet amongst the heaviest drinkers, women equal or surpass men in the number of problems resulting from their drinking. Their drinking behaviour differs with age, life role and marital status. A woman's drinking generally resembles that of her husband, siblings or close friends (Wilsnack, Wilsnack & Klassen:1984).

Further studies report women who have never married, as well as those divorced or separated are more likely to drink heavily and experience alcohol-related problems

than women who are married or widowed. Marriage lessens the effect of an inherited liability for drinking (Wilsnack & Cheloha:1987, Heath, Jardine & Martin:1989).

In an article on women and alcohol (Brody:1993), Dr Matthew Longnecker of the University of California at Los Angeles pointed out fewer than three percent of American women have two or more drinks a day. Through his research conducted, half the women reported that they average zero drinks a day. Those who drink typically have one or fewer a day.

A British study on women and alcohol indicated the heaviest drinkers among women appear to be those in the 16-24 and 35-44 age groups. Twenty percent of women in the 16-24 age group are drinking over 14 units of alcohol per week compared with 11% in the late 1980's. Nineteen percent of women aged 35-44 are drinking over the limits as compared to 10% in the late 1980's.

Women who are in the 16-44 age range who are divorced, widowed or separated are more likely to drink over the recommended limits than their married or cohabiting counterparts (Institute on Alcohol Studies:1997a).

## **2.15 A THEORY FOR ALCOHOL PROBLEMS IN THE WORKPLACE**

The use of alcohol at the workplace represents an urgent societal problem: this factor is no longer questioned. In recent years, alcohol abuse by employees has become the focus of national attention and programmes to prevent alcohol abuse, to minimise the

consequences of use and to treat abusers have been widely publicised (Schonberg:1988).

The Royal College of Physicians (1987) established a theoretical model which they found useful for identifying alcohol problems in the workplace. It was based on five types of drinkers, namely the social drinker, moderate drinker, heavy drinker, the problem or troubled drinker and the dependent drinker.

### **2.15.1 THE SOCIAL DRINKER**

This is someone who drinks usually not more than two to three units of alcohol a day. He does not become intoxicated, nor is his drinking likely to affect his health or cause problems in his social life or at work.

### **2.15.2 THE MODERATE DRINKER**

He or she consumes between three and four units of alcohol a day and will, on a certain special occasion, possibly become intoxicated - perhaps twice a year.

### **2.15.3 THE HEAVY DRINKER**

This person consumes more than six units of alcohol per day (for example, three double whiskeys or three and a half dumpies (340ml of lager)). This is approximately 41-44 units of alcohol a week. Some heavy drinkers will be periodically intoxicated.

#### **2.15.4 THE PROBLEM OR TROUBLED DRINKER**

Such a person will drink seven to nine units of alcohol a day (for example, three and a half to four and a half double tots of spirits or 4-5 dumpies (340ml)). This is approximately 50-60 units of alcohol a week. He is known to become intoxicated periodically and his social environment, his family or work may have suffered either occasionally or more often, due to the problematic nature of his drinking.

#### **2.15.5 THE DEPENDENT DRINKER**

He or she consumes 80g or 10 units of alcohol daily (for example, five double whiskeys or six dumpies (340ml) of lager). This is approximately 70 units of alcohol a week. He has a marked tolerance of alcohol and can sustain a blood-alcohol level greater than 150mg per 100ml of blood without necessarily looking intoxicated. He will start developing withdrawal symptoms as the alcohol level drops and has probably had bouts of “delirium tremens” (DTs). To avoid the withdrawal symptoms and DTs, he starts topping up, even in the morning.

He could be described initially as “never drunk, but never sober”. At a much later stage, when his liver is dramatically affected, there can be a sudden loss of tolerance and consuming only a few units can produce severe intoxication. Dependent drinkers will continue to drink in spite of the psychological, the social and the physical problems which ensue (Royal College of Physicians:1987).

**TABLE 2.3:**  
**CONSUMPTION CATEGORIES**

CATEGORY	UNITS OR GRAMS PER DAY	UNITS OR GRAMS PER WEEK
Social drinker	2-3 units / 16-24g	14-21 units / 112-168g
Moderate drinker	3-4 units / 24-36g	21-28 units / 168-224g
Heavy drinker	6 units and more	42 units or 336g
Problem or troubled drinker	7-9 units or 56-72g	49-63 units or 392-504g
Dependent drinker	10 units or 80g	70 units or 560g

*Source: Royal College of Physicians. 1987. A Great and Growing Evil, in Albertyn, C. & McCann, M. 1993. Alcohol, Employment and Fair Labour Practice. Cape Town: Juta & Co., Ltd. 252p.*

## **2.16 CONCLUSION**

Alcohol abuse began as soon as man realised certain materials could be used to produce altered states of consciousness or relief from pain. Alcohol is the most commonly abuse substance in the world. Most communities of the world have found a way to ferment numerous materials into alcohol-containing drinks.

Against this background on alcohol, chapter three presents a discussion on the effects of alcohol abuse in the workplace, focusing on the work-related factors of workplace safety, absenteeism and tardiness, productivity and job satisfaction. It is also devoted to providing information on workplace programmes, policies and alcohol and drug

testing which can be instituted to prevent the problems resulting from alcohol abuse in the workplace.

## CHAPTER THREE

### ALCOHOL ABUSE IN THE WORKPLACE

#### 3.1 INTRODUCTION

There is a prevailing and widespread fear, concern and apprehension regarding the problems associated with alcohol and other drug abuse in the workplace. The use of alcohol has become an integral part of the social life of society. For several decades, alcohol has headed the list of substances which adversely impact employees' health, work output and public safety. The use and abuse of substances at work poses an increasingly large problem on factory floors, construction sites and other workplaces. No occupation or demographic group is immune from the disease of alcohol and drug abuse. Alcohol and drug problems are spread across service employees, professionals, manual labourers and executives, across males and females; all race groups and both young and old (De Miranda: 1992; Wilcocks: 1987).

The harmful effects of alcohol use in the workplace extend far beyond simply the negative health consequences. They also have serious repercussions for employers in terms of a loss of productivity, higher absenteeism rates and higher rates of personnel turnover. This ultimately results in additional training costs.

Workplace consequences of alcohol use also leads to excessive use of sick leave and increased workplace accidents which could result in harm to the person concerned as well as to co-workers. Similar consequences among employees are behavioural changes which could result in disciplinary action leading to dismissal as well as



possible ineligibility for unemployment benefits if discharge is due to alcohol or drug use (International Labour Organisation:1994).

Concern about the effects of alcohol consumption at the workplace is of long date. Even before the end of the century, the problems of alcohol and the workplace were receiving considerate attention. Initially, unhealthy working and living conditions were seen as the cause of alcohol problems among workers. During the Seventh International Congress on Alcoholism held in Paris in 1899, many papers were presented on the subject. They pointed out how working conditions in different industries promoted alcohol consumption by the workers. This resulted in diminishing their physical capabilities and producing disastrous economic consequences for themselves and their families (Tongue:1988).

### **3.2 HOW ALCOHOL IMPAIRS WORK PERFORMANCE**

The Institute on Alcohol Studies (1997b) explain that alcohol can impair work performance in two main ways:-

- A raised blood alcohol level while at work will jeopardise both the efficiency and safety of employees, as there could be an increased likelihood of mistakes, errors of judgment and increased accident proneness. The impairment of skills begins with any significant amount of alcohol in the body.
- Persistent heavy drinking can lead to a range of social, psychological and medical problems, including dependence. This is associated with impaired work performance and increased sickness absence. Dependence is associated with

drinking or being under the influence of alcohol at inappropriate times and places, the deterioration of skills and interpersonal difficulties.

Table 3.1 illustrates important warning signs of alcoholism in the workplace, placing emphasis on the effects of alcohol on absenteeism, general behaviour and work performance.

**TABLE 3.1:  
WARNING SIGNS OF ALCOHOLISM IN THE WORKPLACE**

<b>PHASE</b>	<b>ABSENTEEISM</b>	<b>GENERAL BEHAVIOUR</b>	<b>JOB PERFORMANCE</b>
<b>1. Early phase of alcoholism</b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Tiredness</li> <li><input type="checkbox"/> Stops work early</li> <li><input type="checkbox"/> Absent from work situations</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Complaints from colleagues that he/she does not do his/her share</li> <li><input type="checkbox"/> Overreacts</li> <li><input type="checkbox"/> Complaints - "not feeling well"</li> <li><input type="checkbox"/> Makes untrue statements</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Does not meet deadlines</li> <li><input type="checkbox"/> Often makes mistakes</li> <li><input type="checkbox"/> Lower job performance</li> <li><input type="checkbox"/> Criticism by supervisor</li> </ul>
<b>2. Middle phase</b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Often absent for days for vague reasons</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Noticeable changes</li> <li><input type="checkbox"/> Unreliable statements</li> <li><input type="checkbox"/> Avoids colleagues</li> <li><input type="checkbox"/> Borrows money from colleagues</li> <li><input type="checkbox"/> Inflates job performance</li> <li><input type="checkbox"/> Often hospitalised</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> General decline</li> <li><input type="checkbox"/> Cannot concentrate</li> <li><input type="checkbox"/> Intermittent memory loss</li> <li><input type="checkbox"/> Warning by supervisor</li> </ul>

**TABLE 3.1 continued:**

**WARNING SIGNS OF ALCOHOLISM IN THE WORKPLACE**

<b>PHASE</b>	<b>ABSENTEEISM</b>	<b>GENERAL BEHAVIOUR</b>	<b>JOB PERFORMANCE</b>
<b>3. Late or middle phase</b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Regularly absent for days at a time</li> <li><input type="checkbox"/> Sometimes does not return after lunch</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Aggressive and contentious behaviour</li> <li><input type="checkbox"/> Domestic problems interfere with work</li> <li><input type="checkbox"/> Financial problems</li> <li><input type="checkbox"/> More regular hospitalisation</li> <li><input type="checkbox"/> Resignation: does not want to discuss problems</li> <li><input type="checkbox"/> Problems with the law and society</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Far below expectation</li> <li><input type="checkbox"/> Punitive disciplinary action</li> </ul>
<b>4. Approach of final stage</b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Prolonged unpredictable absence</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Drinks on duty</li> <li><input type="checkbox"/> Totally unreliable</li> <li><input type="checkbox"/> Repeated hospitalisation</li> <li><input type="checkbox"/> Serious financial problems</li> <li><input type="checkbox"/> Serious family problems</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Unstable</li> <li><input type="checkbox"/> Completely incompetent</li> <li><input type="checkbox"/> Faces termination of service or hospitalisation</li> </ul>

*Source: Dessler, G. 1988. Personnel Management. 4th ed. New Jersey: Prentice-Hall. p676.*

**3.3 IDENTIFICATION OF THE ALCOHOL ABUSER**

One of the most difficult tasks an employer has is to identify an alcohol abuser. Albertyn & McCann (1993) declares that an employee with an alcohol problem is someone whose drinking problem or dependency interferes with his work, his performance or ability to do his work, or with his relationships at work.

In their research, Lehman, Farabee, Holcom & Simpson (1995) portrayed the employee most likely to be a alcohol abuser as a young male with low self esteem, who came from family with alcohol abuse problems and who associated with alcohol and other substance abuse peers. This employee was also likely to be estranged and to work under risky job conditions.

Albertyn & McCann (1993) in addition distinguish between two categories of alcohol abuse in the workplace: drinking which results in incapacity and drinking which results in misconduct.

### **3.3.1 DRINKING WHICH RESULTS IN INCAPACITY**

This results in a physical incapacity (physical damage or absence through sickness). It also refers to serious deterioration of behaviour at work which will render the employee unable to fulfill his or her work duties.

### **3.3.2 DRINKING WHICH RESULTS IN MISCONDUCT**

This is a form of behavioural, instead of physical, incapacity. The result is that the employees drinking interferes with his capacity to perform his work diligently and productively. Such examples are abusive, disobedient or violent behaviour and sleeping on the shift.

In addition, Backer (1992) distinguishes between three main forms of occurrences of alcohol abuse in the workplace:-

- Where the employee is in possession of alcohol on the company premises during working hours.
- When the employee drinks alcohol while on duty.
- When the employee is under the influence of alcohol on the premises during working hours.

### **3.4 COSTS OF ALCOHOL ABUSE IN THE WORKPLACE**

The cost of alcohol and other substance abuse to the commercial and industrial sector is so astronomical that it can no longer be ignored. Factors such as alcohol-related criminal activity, motor vehicle accidents, destruction of property, social welfare programmes, lost productivity, training costs, private and public hospitalisation for alcohol-related illness and public and private treatment programmes should be considered when reaching an estimate of the cost of alcohol abuse (Doweiko:1996).

The Research Triangle Institute estimated that alcoholism cost the U.S. economy \$117 billion in 1983, up 30 per cent from 1980 (Schappi:1988). In a 1992 study released by the National Institutes of Health (NIH), it was estimated that the annual economic costs of alcohol and other drug abuse in the U.S. amounted to \$246 billion, where alcohol abuse and alcoholism made up \$148 billion or about 60 percent of the costs, while illicit drug abuse and dependence accounted for the remaining \$98 billion, or 40 percent (National Institutes of Health:1998).

In a survey conducted by the National Association of Addiction Treatment Providers (1991), 43% of Chief Executive Officers (CEOs) responded that the estimated use of alcohol and other drugs cost their companies between 1% and 10% of payroll.

Alcohol and drug abuse in South Africa costs the industry over R2 billion per year in related expenses. It is estimated between six and sixteen per cent of the average workforce is likely to be alcohol and drug dependent (Schickerling:1992 & Wilcocks:1989).

In addition, more than 50% of all traumatic injuries and fatal traumatic injuries in South Africa are alcohol related. Ten percent of chronic psychiatric hospital bed occupancy is alcohol related. Over 60% of acute psychiatric hospital admissions concerning Black patients are due to alcohol consumption. In many Black hospitals, 30% of medical beds are occupied by patients with alcohol related diseases (De Miranda:1988).

Additional costs relating to alcohol abuse include costs of social intervention, such as the expenses of national organisations fighting alcohol abuse; cost of delinquency (police intervention in road traffic accidents) and the costs to national health services (psychiatric hospitals and the cost of outpatient care) (McDonnel & Maynard:1985).

### **3.5 ALCOHOL CONSUMPTION AND OCCUPATION**

The average alcohol consumption and alcohol problems can be higher across certain industries and occupations, for example, the hotel and catering industries, the shipping

industry, the military and producers of alcohol. The explanation for this is due to the ease of availability of alcohol; social pressure to drink and a lack of supervision (Institute on Alcohol Studies:1997b).

The 1997 National Household Survey on Drug Abuse (NHSDA), conducted by the Substance Abuse and Mental Health Services Administration (SAMHSA) (1997a), reported in their national study that employees in three of the four occupations with the lowest rates of alcohol and drug use (protective service, extraction and precision production and administration support) were also among employees in the four occupations with the highest rates of alcohol and drug information and policies in the workplace.

Conversely, employees in three of the four occupations with the highest rates of alcohol and drug use (food preparation, waitstaff and bartenders, construction and other services) were also among employees in the four occupations with the lowest rates of alcohol and drug information and policies in the workplace.

Furthermore, the 1997 NHSDA (SAMHSA:1997a) indicated that employees in safety-sensitive occupations (for example, protective services) were much more likely to report having workplace alcohol and drug testing programmes (testing at hiring, randomly, upon suspicion and post-accident). On the other hand, employees in food preparation, waitstaff and bartending occupations reported the lowest percentage of alcohol and drug testing programmes.

Finally, more than 15% of construction workers and 15% of professional workers said that they would be likely less to work for an employer who tested for alcohol and drugs upon reasonable suspicion.

Guinn (1983) studied self-reports from 112 long-distance truckers and found that over 80% had used some form of alcohol or drug to stay awake and alert while trucking during the past year. It is believed that in this occupation, there are strong motivations to use alcohol and drugs in order to enhance work performance.

### **3.6 SOURCES OF DATA ON THE PREVALENCE OF ALCOHOL USE**

Alden (1986) distinguishes between four types of data used to estimate the prevalence of alcohol and drug use in the workplace:-

- Estimates of general alcohol and drug use in the population or within specific occupations.
- Prevalence rates of addicted individuals seeking treatment who admitted using alcohol and drugs on-the-job.
- Estimates based on knowledgeable observers impressions (that is, supervisors and employers).
- Estimates of the prevalence of alcohol or drug use on-the-job, as reported by general community samples.

Newcomb (1994) reviews two of the data sources, employer estimates, and estimates among treatment populations.



### **3.6.1 EMPLOYER ESTIMATES**

Estimates from management or union sources can provide perceptions of the problem as viewed by knowledgeable observers of the situation and who have hands-on experience with the problem. However, it is also possible that the typical employee is able to actively conceal their alcohol and drug-using behaviours, especially from managers and supervisors.

### **3.6.2 ESTIMATES AMONG TREATMENT POPULATIONS**

Other estimates of the extent of alcohol and drug use in the workplace can be found in the reports from treatment samples or those employees who admit having problems with alcohol and drugs. However, these estimates cannot be generalised to other populations or to the typical workforce, since it reflects the inherent biases of studying only those employees who are in treatment, who are identified as alcohol or drug users, or who personally acknowledge severe difficulty with alcohol or drug use. Hence, these results only describe what a small group of severe abusers or addicts seeking treatment have done on-the-job.

### **3.7 ALCOHOL AND LEGAL ISSUES**

An employee has a legal obligation to perform his work in terms of his contract of employment. Being under the influence of alcohol at work constitutes an unfair labour practice by an employee. The employer on the other hand, has a legal obligation to provide a safe and healthy workplace for its employees (Albertyn & McCann:1993).

### **3.7.1 GENERAL DUTIES AND RIGHTS OF EMPLOYEES AND EMPLOYERS**

The International Labour Organisation (1994) has drawn up the following general duties and rights of employees and employers with respect to alcohol and other substance abuse in the workplace.

Employees should:-

- Respect all laws and regulations applicable to alcohol and drugs in the workplace.
- Co-operate with the employer to prevent accidents at work due to the use of alcohol and drugs.
- Bring to the attention of the employer conditions in the workplace that may encourage, incite or lead to alcohol and drug problems and suggest corrective measures.
- Co-operate with the employer in the elaboration of an alcohol and drug policy which is consistent with safety and health requirements, the nature of the work involved and the national, cultural and social environment.
- Co-operate and participate in alcohol and drug programmes offered by the employer for the benefit of the employees.
- Have the right to expect that their right to privacy be respected. An intrusion into the private life of an employee regarding alcohol or drug use should be limited, reasonable and justified on the basis of health considerations.

Employers, on the other hand, should:-

- Provide and maintain a safe and healthy workplace in accordance with the applicable law and regulations. They must draw a comprehensive workplace alcohol and drug policy to prevent accidents and safeguard the employees' health.
- Strictly respect laws and regulations which are applicable to alcohol and drugs in the workplace.
- Be good personnel managers who adopt fair employment practices. They should strive to create a working environment that does not cause undue stress, physical or mental hardship, or give rise to other negative conditions liable to encourage or lead to alcohol and drug problems.
- Take measures to prevent alcohol and drug problems from occurring in the workplace through information, education and training programmes.
- Have the right to expect employees not to be intoxicated from the after-effects of alcohol or drugs at work.
- Have the right to take appropriate safety and health measures with respect to employees with alcohol and drug problems which affect their work performance.
- Maintain the confidentiality of all information communicated to them by employees concerning their alcohol and drug problems.

### **3.7.2 LABOUR LAWS CONTROLLING ALCOHOL PROBLEMS AT WORK**

The following laws in South Africa help control alcohol problems at work, as discussed by Backer (1992).

### **3.7.2.1 MACHINERY AND OCCUPATIONAL SAFETY ACT (MOS-ACT)**

The Machinery and Occupational Safety Act (Mos-Act) and the Mines and Works Act cover alcohol-related problems at work. The Mos-Act prohibits an employer to permit any employee who is or appears to be drunk or who is in the possession of alcohol entry on premises where machinery is used. Managers and supervisors who do not take action against someone in possession of alcohol are guilty of contravention of these regulations.

### **3.7.2.2 WORKMAN'S COMPENSATION ACT**

In terms of the Workman's Compensation Act, an employer could incur increased premiums if the accident rates in the workplace increase. This could be the case due to alcohol abuse in the workplace. Furthermore, no compensation is payable if the accident is attributable to the serious and willful misconduct of the employee, where "serious and willful" is defined to mean, inter alia, "drunkenness". However, this rule is waived if the accident results in serious disablement or the employee leaves a dependant who is fully dependent upon him.

### **3.7.2.3 COMMON LAW**

Alcohol consumption is primarily a common law breach of contract. All employees are bound by the common law, hence, when they sign the service contract, they undertake to behave in accordance with the accepted practices and policies of the employer. They also undertake to remain in a fit state of work.

### 3.7.3 IMPLICATIONS OF THE LABOUR RELATIONS ACT ON ALCOHOL ABUSE IN THE WORKPLACE

The Labour Relations Act (1995) states:-

*“Where an employee is incapacitated on account of ill health, an employer should conduct an investigation to establish the extent of that incapacity and the prognosis. Where it is established that the employer is unable to perform the work for which he or she was employed, or that he or she is likely to be absent for an unreasonably long period, the employer should investigate possible alternatives to dismissal. Relevant factors include the nature of the job, the period of absence or seriousness of the illness and the possibility of securing a temporary replacement.*

*The employee should have a right to be heard in this process, with assistance from a trade union representative or fellow employee, where appropriate.*

*The degree of incapacity is relevant to the fairness of any dismissal. The cause of the incapacity may also be relevant. In the case of certain kinds of incapacity, such as alcoholism or drug abuse, counseling and rehabilitation may be appropriate steps for an employer to consider”.*

Sartor (1996) states that by means of the amended Labour Relations Act, employees are granted a powerful tool to manipulate to their own advantage. The implications of the Act are:-

- Employees may no longer summarily be dismissed on the grounds of incapacity arising from ill health caused by substance abuse and dependence.

- It is now the responsibility of the employer to investigate and establish the cause of the incapacity, and to provide an opportunity for appropriate treatment, counseling and rehabilitation, prior to dismissing the employee.

This, therefore, sets the tone for effective intervention and the ultimate prevention of alcohol abuse in the workplace. The Act will positively influence future constructive economic development, since this is based on the principle that it is better to offer assistance to employees experiencing personal problems (including alcohol abuse problems), than to dismiss them, as recovering employees become more productive and effective.

### **3.8 THE EFFECTS OF ALCOHOL ABUSE IN THE WORKPLACE ON WORKPLACE SAFETY, ABSENTEEISM AND TARDINESS, PRODUCTIVITY AND JOB SATISFACTION**

The cost of alcohol abuse to a business is extremely variable, depending on the circumstances. The excessive consumption of alcohol at work can lead to a decrease in productivity, which is due to the lack of attention, loss of time, repeated lateness and frequent stoppages.

The alcoholic employee is on average absent from work 3.3 times longer than the entire workforce. An immoderate use of alcohol eventuates in “lost-weekends”, destroying physical health and causing a financial crisis, resulting in the employee eventually having to stay away from work. Hence, the alcoholic does not find

sufficient time to drink, to solve his or her problems and to keep working as steadily as before alcoholism set in (Romelsjo:1995; Sternhagen:1986).

Alcohol using employees also have lower work morale and job satisfaction than other employees. Furthermore, the activity of the co-workers are interfered with, leaving others to do the work, which in turn creates a negative influence on the motivation of colleagues and a destabilisation of the atmosphere at work.

A further consequence of alcohol abuse in the workplace is that an alcohol or drug using employee stands a greater chance of being involved in a work-related accident, than other employees.

Cary (1989) reports that substance abuse employees, who make up 3-25% of the American workforce, to be:-

- Four times more likely to be involved in accidents at work.
- Two and a half times more likely to be absent from work more than a week.
- Five times more likely to file a workman's compensation claim.
- Repeatedly involved in grievances procedures.
- Receiving three times more sickness benefits.
- Functioning at 67% of their potential.

The US Department of Labour (1998a) states that drug and alcohol-related problems are one of the four top reasons for the rise in workplace violence. They further report that through a study conducted by the Institute for Health Policy at the Brandeis

University (USA), substance abuse is the number one health problem in the U.S., resulting in more deaths, illnesses and disabilities than any other preventable health condition.

### **3.8.1 WORKPLACE SAFETY**

Accidents in the workplace may be attributed to two factors: unsafe working conditions and unsafe actions by employees. Whilst unsafe working conditions may include defective equipment, inadequate mechanical protection, explosions, fires and unsafe machinery, unsafe actions include the wrong use of equipment and tools, as well as failure to comply with safety regulations (Gerber, Nel & van Dyk:1998).

Alcohol abuse in the workplace may cause an accident resulting in the loss of life, physical injuries, significant damage to property and an interference with performance on-the-job. Workplace safety is a legitimate shared goal and responsibility of labour and management (International Labour Organisation:1994).

The operation of a complex piece of machinery whilst impaired by alcohol or other substances pose critical risks to other employees. Airline pilots, air traffic controllers, train operators and bus drivers are a few examples of occupations where even the mildest degree of impairment could be catastrophic (University of Toronto Faculty of Medicine:1990).

In addition, it has been found that workplace safety is the most common reason for instituting a drug testing programme, with the aim that drug testing will reduce



substance usage on-the-job and consequently reduce occupational accidents and injuries (Feinauer & Havlovic:1993).

Feinauer & Havlovic (1993) further suggest the following alcohol and drug testing options, which large organisations should contemplate when approaching workplace accidents:-

- Management in organisations with large facilities should install post-accident drug testing to offset increasing workplace accident rates.
- They should also review the adequacy of their safety inspections and their safety and job training interventions.
- At unionised facilities, labour and management should engage in collective bargaining to establish procedures and programmes that help to reduce workplace accidents. Unions should also consider offering less resistance to post-accident drug testing, especially when it involves the use of existing counseling, rehabilitation and Employee Assistance Programmes.

### **3.8.1.1 THE OCCUPATIONAL HEALTH AND SAFETY ACT**

The Occupational Health and Safety Act (Act 85 of 1993) was promulgated to make provision for the health and safety of people at work and in relation to their use of operating equipment and machinery; the protection of other people against threats to their health and safety arising from the activities of people at work, and the establishment of an advisory council for occupational health and safety matters.

It is the responsibility of each employer to establish and maintain a safe work environment, which is not at risk to the health of its employees. Furthermore, employers must operate its organisation in such a way that the public, and other people who are not employees but are directly affected by the activities of the organisations, are not exposed to threats to their health and safety as a result. Finally, each employee must take responsibility or reasonable precautions at work for his or her own safety and health, and that of other people who may be affected by his or her actions or failures (Gerber et.al.:1998).

### **3.8.1.2 RESEARCH FINDINGS**

Bernstein & Mahoney (1989) report up to 40% of industrial fatalities and 47% of industrial injuries can be linked to alcohol consumption or alcoholism. At a 1995 COSATU sponsored safety and health conference, it was revealed for every day in the South African industry on average five people die from injuries received, 430 people are injured and 52 people are permanently disabled. Studies show between 20% and 40% of industrial accidents are alcohol related, and of all persons in industry identified as “troubled”, there is an alcohol involvement in 11% to 15% of cases (Sartor:1996).

The University of Toronto Faculty of Medicine (1990) approximates the cost of alcohol and other substance abuse to the Canadian industry to be two to three times more than other employees in terms of injuries, accidents and absenteeism, hence posing a serious concern for employers, employees and the public. Similarly, Schappi (1988) estimates that alcoholics face a three to four times greater risk than other employees of being involved in on-the-job accidents.

Research conducted by Webb, Redman, Hennrikus & Kelman (1994) examined whether relationships exist between problem drinking and high alcohol consumption and outcomes such as work injuries and related absences. Questionnaire data from 785 male employees at an industrial worksite indicated significant relationships between problem drinking and work injuries and injury-related absences, but not between high alcohol consumption and work injuries and related absences. Injured subjects were almost twice as likely to have more injuries if they had high numbers of recent stressful life events and low levels of job satisfaction. Problem drinkers were 2.7 times more likely to have injury-related absences than were non-problem drinkers, and subjects with low levels of job satisfaction were 2.2 times more likely than others to have injury-related absences.

The US Department of Labour (1998a) report on employees who were tested for the use of alcohol and other substances at a power and light company in the USA. Employees who tested positive on pre-employment drug tests were 5 times more likely to be involved in a workplace accident than those who tested negative.

In a study done on blood alcohol content of Zambian copper mine employees, it was revealed that 30% of a series of accident cases had measurable levels of alcohol in the blood. The average was 0.06g% and 6% had levels over 0.08g%. This study concluded that employees with blood alcohol levels between 0.08g% and 0.16g% had a low risk of detection for intoxication but a higher risk of having an accident (Buchanan:1988).

In another study conducted on 48 employees of an engineering company who had been referred for rehabilitation over a four-year period showed that 32 or 66.6% had suffered injuries on duty prior to referral. This was 50% higher than the average (Beaumont & Allsop:1983).

Leigh (1996) conducted a survey on 9870 employees (aged 12 years and older) using the National Health and Nutrition Examination Survey II and the Quality of Employment Survey (QES). The aim of the survey was to determine if hazardous working conditions encourage heavy alcohol use and/or if heavy drinking contributes to job-related injuries and deaths. They defined heavy drinking “drinking alcohol at least once a day, or frequently drinking three or more drinks at a time”. In the QES, heavy drinking is also defined as “drinking on-the-job”. Heavy beer, wine and liquor use is separately defined in the NHANES II as “drinking four or more times per week”.

The only robust finding that emerged was that heavy beer use was strongly correlated with the fatality rate within occupations and industries. There was no significant relationship between heavy drinking and job-related injuries.

Another method of assessing the association between alcohol and accidents is to identify the types of accidents. In a study conducted at an engineering company in 1983, of 81% of the accidents related to alcohol 33% were due to falls, 29% were due to handling faults and 19% were due to stepping on or striking against an object (Beaumont & Allsop:1983).

### **3.8.2 ABSENTEEISM AND TARDINESS**

Absenteeism, which is the failure of employees to report on-the-job when they are scheduled to work, is a critical problem in all organisations, and in some instances is caused by alcohol-related problems either in the work or family environment (Sternhagen:1986).

The maintenance of correct employee medical, personnel, time-keeping and accident records can assist in the identification of the extent of alcohol problems in an organisation, as well as in individual employees (Albertyn & McCann:1993).

The Alberta Alcohol and Drug Abuse Commission (1992) estimates the annual cost to the Alberta economy of employees absent or tardy due to alcohol and other drug abuse to be approximately \$400 million.

#### **3.8.2.1 SYMPTOMS OF ABSENTEEISM**

Campbell & Langford (1995) have identified the following signs and symptoms which can identify an alcohol abuser in terms of absenteeism and tardiness:-

- Using excessive sick leave, especially for minor conditions.
- Repeated unscheduled absences or tardiness, especially on Mondays or Fridays, before and after holidays or paydays.
- Leaving work early for a variety of reasons.
- Arriving late for work regularly.
- Leaving the work area more than necessary with a variety of excuses.
- Taking excessively long lunch breaks.

### **3.8.2.2 CAUSES OF ABSENTEEISM**

Carroll & Schuler (1983) and Sternhagen (1986) identify the following causes of absenteeism:-

- Employees' attitudes: Job satisfaction is a major contributor to absenteeism.
- Rewards and controls: The more the employee is rewarded for being at work, the less the absenteeism.
- The desire for leisure: The need may arise for a break in the usual work routine.
- An organisational climate sanctioning absenteeism: This is done through either explicit allowances for personal time off or sick days, or a norm of non-importance for attendance.
- Poor physical working conditions: Environmental distractions such as excesses of temperature, unpleasant noise, fumes and inadequate light and ventilation can cause an increase in absenteeism.
- Poor work relations: Absenteeism can also increase when employees have relatively poor relations with their immediate supervisors. If a supervisor is unfair or unfriendly, the employee tends to have a poor absenteeism record.

### **3.8.2.3 CONTROLLING ABSENTEEISM**

An organisational policy on absenteeism can assist in controlling absenteeism in an organisation. Such a policy should state that each employee was hired as an important and necessary person to fulfill the objectives and obligations of the organisation, and therefore each person is needed for each day he or she is supposed to be present on-the-job. The control of absence should be the direct responsibility of both management and employees (Sternhagen:1986).

Sternhagen (1986) also maintains that absenteeism can be controlled by supervisory action, in the following four ways:-

- The first absence: Initially, the supervisor has to record the absence, and check with the employee regarding the cause and the condition on the first day of return.
- Occasional recurring unexcused absences: If the absenteeism continues, the supervisor has to bring the matter to the attention of higher management, after which another interview with the employee is held.
- The final warning: If the absenteeism still persists, the management is obliged to inform the employee that this is the last chance prior to termination from the payroll, and this should be done in writing.
- Termination: If another unexcused absence then occurs, the employee is terminated.

When the supervisor becomes aware of a physical or psychiatric problem underlying the absenteeism, such as alcohol abuse, the employee should be immediately referred to the medical department for rehabilitation during any stage prior to termination.

#### **3.8.2.4 RESEARCH FINDINGS**

Research indicates substance abuse is responsible for a job absence rate five to fifteen times greater than normal. Alcohol and drug using employees take three times as many sick benefits as other employees, and they are five times more likely to file a worker's compensation claim (Backer:1987; Schappi:1988).

Jones, Casswell & Zhang (1995) evaluated the economic costs of alcohol-related absenteeism, and reduced productivity among the working population in New Zealand. Data were collected from 4 surveys of 4662 people (aged 14-65 years). Alcohol consumption was measured by multiplying the estimated amount of alcohol consumption at 14 different locations and the frequency of consumption, and absenteeism was recorded as the number of times the subjects were away from work because of drinking.

The results indicated that approximately four percent of the subjects reported an alcohol-related absenteeism. There was a significant difference in the number and cost of absenteeism and reduced efficiency days, between the top and the bottom 10 percent drinkers.

Wiebe, Vinje & Sawka (1995) determined the extent to which alcohol and drugs are used by employees on-the-job, investigated the impact of substance abuse, examined variations among industries in the magnitude of the problem and determined workplace responses to these issues. A telephone survey was administered to a sample of 2007 people in the Alberta, Canada work force.

A minority of subjects used alcohol or other drugs at work, and reports of substance-related accidents and injuries were rare. However, the largest impact of substance use, particularly alcohol, in the workplace was in terms of absenteeism and reduced productivity. Approximately fifteen per cent of samples were aware of someone



missing a day of work due to substance use. Most subjects, particularly those at high risk for substance abuse, did not have access to employee assistance programmes.

According to the US Department of Labour (1990 & 1998a), alcoholism costs 500 million lost workdays each year in the United States, whilst absenteeism rates among alcoholics or problem drinkers is 16 times greater among all employees with alcohol and other drug-related problems. However, Bernstein & Mahoney (1989) report absenteeism rates among alcoholics or problem drinkers to be a lower figure of 3.8 to 8.3 times greater than normal. They continue to report that non-alcoholic members of alcoholics' families use ten times as much sick leave than members of families in which alcoholism is not present.

The US Department of Labour (1998a) also report that alcohol-using employees at General Motors average 40 sick days leave per year compared to 4.5 days for non-users. However, General Motors estimates that subsequent to implementing its Employee Assistance Programme (EAP), they save over \$280 million per year in absenteeism reduction (Chiabotta:1985).

According to a study conducted by Normand, Salyards & Maloney (1990) based on an evaluation of pre-employment drug testing at the US Postal Service, it was found employees who tested positive on their pre-employment drug test were absent from work 66% more often than those who tested negative.

### **3.8.3 PRODUCTIVITY**

Problems of alcohol and drug dependence are costly to society in terms of lost productivity, social disorder and avoidable health care utilisation.

#### **3.8.3.1 IDENTIFICATION OF POOR JOB PERFORMANCE**

Factors identifying poor job performance in employees include the following:-

- Alternating periods of high and low work productivity.
- Making more errors than usual.
- Work takes longer to complete.
- Making poor judgments and decisions.
- Deadlines are missed.
- Details are overlooked.
- Wasting materials used on-the-job, or damaging equipment.
- The employee is found to be unreliable.
- Slow at starting and completing tasks assigned (Albertyn & McCann: 1993; Campbell & Langford:1995; McLellan, Woody & Metzger:1996).

Performance varies for many reasons and often is very difficult to measure, particularly over short periods of time. The performance of all employees should, where possible, be measured on a daily basis and even before and after lunch. This would give useful indicators of an alcohol problem in the company. Examples of such indicators include a drop in productivity on Monday mornings and the morning after pay day, or if a large number of staff leave the company at lunch time and there is a

drop in productivity after lunch. These factors must be weighed against the type of company as well as the prevailing culture.

The economic cost of lost production can also be approximated by estimating the market value of what might have been produced by alcohol abusers if they had no productivity problems associated with alcohol. It is possible to attribute lost production due to alcohol abuse in terms of physical magnitude, for example, loaves of bread, bottles of wine, number of cars and tons of steel. This lost output in physical terms would then have to be valued at market prices in order to quantify them into a common unit of account (Albertyn & McCann:1993).

Albertyn & McCann (1993) further illustrate the following case. A computer software company was experiencing poor productivity in one of its departments and increased the staff number to help cope with the workload. Eventually they identified the source: the Head of Department had a drinking problem and encouraged members of his department to drink heavily at lunch time, with little work being done in the afternoon. When the Head of Department resigned and an alcohol policy was instituted, productivity dramatically increased.

### **3.8.3.2 RESEARCH FINDINGS**

The Substance Abuse and Mental Health Services Administration (SAMHSA) (1991) established that problems resulting from the use of alcohol and other drugs during 1990 cost American businesses an estimated \$81.6 billion dollars in lost productivity

due to premature death (\$37 billion) and illnesses (\$44 billion). They attributed 86% of these combined costs to the use and abuse of alcohol.

Similarly, the National Institutes of Health (1998) report on a 1992 study conducted in the U.S. on the economic costs of alcohol and drug abuse. They estimated that two-thirds of the costs of alcohol abuse were related to lost productivity, either due to alcohol-related illness (45.7%) or premature death (21.2%).

The Addiction Research Foundation (1998) estimate that in Ontario, Canada, the total value of reduced labour productivity due to alcohol and other drug abuse was \$2.3 billion in 1986-1987.

### **3.8.4 JOB SATISFACTION**

Job satisfaction is an attitude or an internal state. It is a complex concept which is difficult to measure objectively. It could, for example, be associated with a personal feeling of achievement (Mullins:1996).

Low job satisfaction has been associated with excessive alcohol consumption and other alcohol-related problems (Romelsjo:1995).

#### **3.8.4.1 FACTORS DETERMINING JOB SATISFACTION**

The level of job satisfaction is affected by a range of variables relating to the following factors:-

- Individual factors: Personality, education, intelligence and abilities, age, marital status and orientation to work.
- Social factors: Relationships with co-workers, group working and norms, opportunities for interaction and an informal organisation.
- Cultural factors: Underlying attitudes and beliefs and values.
- Organisational factors: Nature and size, formal structure, personnel policies and procedures, employee relations, technology, supervision and styles of leadership, management systems and working conditions.
- Environmental factors: Economic, social, technical and governmental influences (Mullins:1996).

#### **3.8.4.2 RESEARCH FINDINGS**

Martin & Roman (1996) tested a model of the influences of job conditions on the patterns of employees' alcohol abuse and examined the role of self-reported satisfaction with work on these behaviours. Data from a large national probability sample of 5733 full-time employees indicated a complex interplay of stressors, rewards and work-related effects which influence the employee's problematic drinking behaviours. They concluded that satisfied employees are less likely to consume excessive alcohol than those employees who are dissatisfied with their jobs.

Seeman & Anderson (1983) conducted a study in which they attempted to measure the correlation between low control (lack of opportunities for leadership or little leadership ability), job satisfaction and high social involvement and problem drinking. There was a significant interaction between work experience, job satisfaction and powerlessness

which, when combined yielded distinctive drinking patterns. The sense of low control was consistently associated with heavier drinking. While heavy drinking could be related to the sense of powerlessness, there appears to be a complex interaction of forces.

However, Archer (1981) found in his study with blue collar employees there was no evidence to suggest alcoholic employees to be less able than non-alcoholics to tolerate monotonous, routinised jobs offering little opportunity for self exploration and self actualisation.

The results indicated that the direct effects of low skill and participation in workplace decision-making on heavy drinking was minimal once background factors were controlled. Alienating workplaces do increase problem drinking, but indirectly through an effect on job satisfaction and then through the latter's effects on a set of beliefs about drinking. The positive relationship between job autonomy and alcohol problems suggests for some people there may be risks attached to work requiring a high level of responsibility.

### **3.9 ESTABLISHING AN ALCOHOL ABUSE PROGRAMME**

Alcohol and drug abuse are problems of the social system for which industry is a part and for which industry must shoulder some responsibility. Few organisations pay serious or sufficient attention to alcohol problems when compared to efforts applied in other safety and health sensitive areas. Employers are now looking for ways to both prevent and detect this problem in the workplace. The elimination of alcohol and drug

abuse in the workplace would be a highly desirable goal for any organisation, however experience has shown the elusiveness of such an approach (Burbank:1986; Evans:1996).

Therefore, a focus on managing alcohol problems in the workplace through programmes would yield more constructive results of management and employees. Once an individual has been identified as an alcohol abuser or dependent, a company has two options: to either assist or to dismiss the individual (Campbell & Langford:1995; Schur & Broder:1990). By dismissing an alcoholic employee instead of attempting to salvage them, the employer sacrifices employees who are, or once were valuable to the organisation, and throws onto the streets of society individuals who will now have much less chance of a recovery (Burbank:1986).

The ability of the employer to set behavioural standards, observe performance and apply sanctions against those who breach performance standards, has promoted the workplace as a promising site for alcohol and drug abuse intervention and prevention. The development of alcohol and drug policies and testing in the workplace can be seen to be part of a wider change in attitudes towards drinking (Institute on Alcohol Studies:1997b).

The U.S. Department of Labour (1998b) identifies five major components which an alcohol abuse programme should comprise of, in order to effectively address the problems of alcohol and other substance abuse in the workplace. The components

include writing an alcohol policy, training of supervisors, educating the employees, providing employees assistance and testing for alcohol and drugs.

### **3.9.1 WRITING AN ALCOHOL POLICY**

One of the strengths of an organisation is its bureaucratic insistence on established decision rules, which ensure fair, consistent and equal treatment for all who come into contact with the organisation. An organisation should therefore have at a minimum level, policies and procedures for dealing with unacceptable work behaviour in general, and policies and procedures for dealing with drug and alcohol abusers. The policy should be designed and tailor-made to suit each specific organisation, and should be tailored to the needs and unique circumstances that prevail (Albertyn & McCann:1993; Bruce:1990).

There is no direct legal requirement for an organisation to implement an alcohol policy. However, health and safety legislation at work requires both employers and employees to maintain a safe working environment, and if an alcohol-related accident were to occur, then, depending on circumstances, the employer, the employee concerned or both could be liable (International Labour Organisation:1995).

An example of an alcohol policy is:-

*“An employee who is abusing alcohol or drugs or who has a drinking problem must be referred to the company physician and be given a reasonable opportunity for rehabilitation before being considered for termination”.*



In a study conducted by the Substance Abuse and Mental Health Services Administration (SAMHSA), it was found lower rates of illicit alcohol and drug abuse were reported by employees who receive information, written policies and who have access to Employee Assistance Programmes (EAPs) from their employers (SAMHSA:1997a).

### **3.9.1.1 AIMS OF WRITTEN POLICIES AND PROCEDURES**

The alcohol policy should be a Statement of Intent, with clearly defined objectives, which should be followed by a procedural agreement. Acutt (1996) emphasises the following aims of written policies and procedures:-

- To act as a safeguard in decision making.
- To safeguard both clients and health workers.
- To prescribe the steps that should be followed in order to carry out the policy or conform to it.
- To ensure standardisation of care and uniformity of action.

### **3.9.1.2 DRAWING UP AN ALCOHOL POLICY**

Clear policies and procedures must be developed for a safe, secure and healthy work environment. A needs assessment should be conducted in order to understand the organisation's current situation and to determine exactly what the programmes needs to accomplish (U.S. Department of Labour:1998b).

When drawing up such a policy, representatives from all key units and employees should be involved. Such a policy should be communicated to all employees before it

is enforced. There should then be an agreement on the policy through negotiations between management and employees, which allows a basis for consistency and fairness (De Miranda:1992; Evans:1996).

The policy should also be consistent with government requirements and regulations related to alcohol and drug abuse, mental health concerns and other employee problems which affect performance (Bruce: 1990). It should take into account the work environment, which will enable employees to have more opportunities to acquire skills and to have a creative input in their specific tasks and in the organisational policy (Institute on Alcohol Studies:1997b).

In an alcohol abuse policy management should undertake to do the following:-

- Declare that it considers alcohol abuse to be detrimental to the organisation and to the employees.
- Reserve the right to test any employee on the premises at any time for intoxication.
- State that access to the workplace will be refused should a test reveal the presence of alcohol (Backer:1992).

### **3.9.1.3 CONTENTS OF AN ALCOHOL POLICY**

The U.S. Department of Labour (1998b) have drawn up three basic parts to a written policy:-

- The policy should include an explanation of why the organisation is implementing a programme. An important consideration may be the safety of its employees, customers and the general public. Other reasons may include employees' and

dependents' health, product quality, productivity, public liability and legal requirements.

- The policy should include a clear description of alcohol and other substance abuse-related behaviours that are prohibited. At a minimum, this should include the use, possession and transfer or sale of alcohol and illegal drugs. Unacceptable behaviours also may include employees under the influence of alcohol or other drugs while at work.
- The policy should include a thorough explanation of the consequences for violations of the policy.

Similarly, the International Labour Organisation (1994) have drawn up a policy for the management of alcohol abuse in the workplace. Such a policy should include information on the following:-

- Measures in which alcohol abuse in the workplace can be reduced through proper personnel management, good employment practices, and proper arrangement of work.
- Measures to prohibit and restrict the availability of alcohol in the workplace.
- Education and training programmes for the prevention of alcohol abuse in the workplace.
- Identification and assessment of employees who have alcohol and drug problems.
- Counseling, treatment and rehabilitation of individuals with alcohol or drug problems.

- Rules governing conduct in the workplace relating to alcohol and drug. Employees should be informed that the violation of such rules could result in disciplinary measures, and could lead to dismissal.
- Equal opportunity employment policy for persons who have or who have previously had alcohol and drug problems.

#### **3.9.1.4 EXAMPLE OF AN ALCOHOL ABUSE POLICY**

The following describes the main elements of an alcohol policy operated by the Manchester City Council (England), as cited by the Institute on Alcohol Studies (1997b).

The policy is that the council will attempt to:-

- Alert staff to the problems associated with alcohol.
- Offer encouragement and assistance to all employees who feel they may have an alcohol problem to seek help voluntarily at an early stage.
- Offer assistance to an employee with a drink-related problem which comes to light through observation or by the normal disciplinary procedures, for example, through poor work performance, absenteeism or conduct.

The City Council will also try to create a working environment which understands the problems which inappropriate consumption of alcohol can cause by:-

- Promoting and publicising health and alcohol education and information.
- Demonstrating a sympathetic management attitude towards problem drinkers.

- Not encouraging excessive consumption of alcohol in connection with any of the councils functions, facilities or civil business.

Furthermore, the Council extends its policy to the identification of problem drinkers:-

- Problem drinkers tend to be identified by poor performance, high sickness absence or disciplinary problems. Once they enter the monitoring system, they are interviewed by a personnel officer. A trade union representative can be present if the employee requests it. If treatment is sought, time off is given in accordance with the usual conditions of service concerning sick pay.
- If employees refuse to undergo treatment, their work performance is monitored for a specific period. If it remains unsatisfactory, the employee will be interviewed again and if necessary disciplinary procedures invoked.
- Employees who accept a course of treatment devised by the medical department are asked to sign an agreement drawn up by the personnel department setting out the obligations on both sides so that both the council and the employee know what is expected of them.
- A limited amount of counseling is carried out in-house by the council's two part-time counsellors. There is a limit of six formal sessions, typically held with decreasing frequency.
- Staff will continue to be monitored for at least a year after their return to work.

### **3.9.2 TRAINING OF SUPERVISORS**

The supervisors are responsible for identifying and addressing performance problems when they occur which, on occasion, may be the result of alcohol and other substance

abuse. Supervisors, however, should not be expected to diagnose possible alcohol and other substance abuse problems. Instead, they should be expected to be able to identify the signs of poor job performance and follow standard company procedures for dealing with the employee (U.S. Department of Labour:1998b).

Supervisors must be trained to understand the organisation's alcohol abuse programme and the practical working of it. They must then be able to explain the programme to the employees and know what action to take. Training means looking at the facts and providing practical skills for dealing with employees who have alcohol-related problems, whilst education looks at the meaning behind the facts themselves (Burbank:1986; MacDonald & Patterson:1991).

Moreover, there should be close co-operation between the supervisor, the human resource department and the organisation's physician when handling an employee with an alcohol-related problem. These problems rarely disappear spontaneously (Burbank:1986).

MacDonald & Patterson (1991) emphasize specific topics on which supervisors require specialised training in:-

- Appropriate methods of working with multi-drug users and alcoholics, and how current skills can be applied.
- A practical working knowledge of alcohol, drugs and their effects.
- The availability of alcohol and other substances in society.
- The alcohol and drug subculture.

- Characteristics of alcoholics and drug users.
- Available facilities and resources in the local community.
- Furthermore, by attending an effective training programme, supervisors will be thereafter be able to do the following:-
- Know the company's policy and understand their role in its implementation and maintenance.
- Observe and document unsatisfactory job performance.
- Confront workers about unsatisfactory job performance according to company procedures.
- Understand the effects of alcohol and other substance abuse in the workplace.
- Know how to refer an employee suspected of having an alcohol or other substance abuse problem to those who are qualified to make a specific diagnosis and to offer assistance (U.S. Department of Labour:1998b).

Finally, it is critical that the supervisor uses objective criteria for assessing job performance, in order to identify the alcohol abuser, before referring him for help, on the grounds of poor or deteriorating performance. The supervisor should not get too involved in the reasons for inadequate performance, but rather focus on referring the employee to the programme for assessment and treatment. Prior to the referral, the supervisor should accurately document poor work performance and inform the employee of his observations (Albertyn & McCann:1993).

### **3.9.3 EDUCATING THE EMPLOYEES**

Employees must understand the reason for the implementation of an alcohol and drug abuse policy, its disciplinary code and the consequences of transgressing it. Provision of assistance to troubled employees should be provided where possible and this message of available assistance should be spread (Wong:1996).

New workers should be informed immediately about the alcohol abuse policy and what is expected of them. Furthermore, if the organisation is part of a union, the union representatives can provide valuable assistance in the development and maintenance of an education and awareness programme. Alcohol and drug education activities may include the distribution of written materials, videotapes, lunchtime employee forums and employee alcohol awareness days (U.S. Department of Labour:1998b).

A basic programme which should be used to educate employees should be able to accomplish the following objectives:-

- Provide information about the dangers of alcohol and other drugs and how they affect individuals and families.
- Describe the impact that alcohol and other drug abuse can have on safety at work, productivity, product quality, absenteeism, health care costs and accident rates.
- Explain in detail how the workplace policy applies to every employee of the company and the consequences for violations of the policy.
- Describe how the basic components of the overall programme works, including the employee assistance programme (EAP) and alcohol and drug testing, if these are part of the programme.



- Explain how employees and their dependents, if included, can get help for their alcohol and other drug abuse problems, including how to access the EAP or how to obtain services available from the community (U.S. Department of Labour:1998b).

In the 1997 NHSDA (SAMHSA: 1997a), close to three-quarters (74%) of the full-time employees surveyed reported their workplaces provided information about alcohol or drug use, 70% reported their workplaces had a written policy concerning alcohol or drug use, whilst 50% mentioned that their workplaces provided access to an Employee Assistance Programme on alcohol or drug problems. Furthermore, data indicated that employees in small workplaces (1 – 24 employees) were least likely to have information or a written policy on alcohol and drug use.

#### **3.9.4 PROVIDING EMPLOYEE ASSISTANCE**

The response to the problem of alcohol abuse at the workplace has not always been fair and realistic. Many companies have adopted punitive disciplinary methods, believing that by finding and firing the abuser, the issue of alcohol problems in their organisations would be eradicated. However, this has exacerbated the problem and has impeded timeous identification of alcohol and drug related issues (Sartor:1996).

As a partial solution to the problem of alcohol abuse in the organisation, information, education and assistance programmes concerning alcohol abuse should be provided to promote safety and health in the workplace. Such programmes should be directed at all employees and contain information on the workplace and on the family, social and personal consequences of alcohol abuse (International Labour Organisation:1994).

Occupational Alcohol Programmes (OAPs) and Employee Assistance Programmes (EAPs) are two such programmes which employers can establish to address the problems created by alcohol and other substance abuse in the workplace.

#### **3.9.4.1 OCCUPATIONAL ALCOHOL PROGRAMMES (OAPs)**

The first attempt to address alcohol abuse in the workplace was the development of the original Occupational Alcohol Programme (OAP) in the 1970's. The programme aimed to identify and treat the alcohol dependent. It constantly showed high recovery rates, by ensuring continued gainful employment as an integral goal recovery (De Miranda:1992; De Miranda:1994).

Googins & Godfrey (1987) identified the following five assumptions on which OAPs were based:-

- Alcohol abuse is relatively evenly distributed across the population.
- The workplace as a central institution in society is directly affected by problem drinking in terms of costs, inefficiency and impaired working environments.
- The workplace is an appropriate focus for intervention and uniquely suited to disrupting patterns of dysfunctional drinking behaviour.
- Treatment of alcohol problems must be integrated into the basic institutions of society rather than isolated among social welfare agencies.
- Alcohol and drug abuse is a treatable illness.

### 3.9.4.2 EMPLOYEE ASSISTANCE PROGRAMMES (EAPs)

Once an individual has been diagnosed with an alcohol problem, the better alternative to firing the employee would be to help him or her. It would be in the organisation's best interest to retain such an employee since it is expensive to recruit and train another individual. The organisation could establish an Employee Assistance Programme (EAP) to assist their employees. Such a programme should be for all problems faced by the employees and not only for alcohol abuse or dependency (Campbell & Langford:1995).

An EAP is a job-based programme intended to assist workers whose job performance is being negatively affected by personal problems, including alcohol and substance abuse. The EAP contains a written set of policies and procedures adapted by employers in order to identify problem employees. The policy should outline the procedures the organisation will follow to refer a problem employee, and clearly identifies the types of services the EAP staff will offer (Myers:1984; Shain & Groeneveld:1982).

The Industrial Court has shown support for employers who use EAPs to assist employees to overcome an addiction prior to dismissing an employee for an alcohol or drug dependency. Only after such a programme has failed, or if the employee did not avail himself or herself for the programme, will the dismissal be fair (Verster:1994).

Burke (1988) reports that approximately 90% of the Fortune 500 companies have established EAPs, although this percentage is much lower among smaller companies.



This is in agreement with the US Department of Labour (1989), who report that only 9% of businesses with fewer than 50 employees have EAPs.

De Miranda (1992) however states many of the present EAPs are missing some of the alcohol and drug related problems. In many instances employers still work with the shortsighted policy of “find them and fire them”. He further suggests a serious and thorough review of the present workplace situation in Southern Africa as an essential component of future constructive economic development. The review should be initiated and undertaken by organised commerce and industry in close co-operation with organised labour.

#### ➤ **PURPOSE AND GOALS OF EAPs**

The purpose of an EAP is to identify, motivate, rehabilitate and follow up on employees with one or more of three main problems: alcohol or drug abuse or addiction, emotional or family problems and financial and legal problems. EAPs focus on the concepts of wellness, safety, benefits and medical assistance to approach serious problems affecting the work force (Schur & Broder: 1990).

Bruce (1990) emphasises that further goals of EAPs are to address the underlying stressors in the workplace, and to assist both managers and employees in achieving health and productivity. Albertyn and McCann (1993) believe that an EAP should not only be aimed at the end-stage employee with a severe problem or at those developing a problem, but rather at the total work population.

### ➤ **TYPES OF EAPs**

Bruce (1990) identifies four basic types of EAPs, which are the hot line, consortium, contractor and employer.

- **Hot line:** This is either a local or long distance telephone service available as a self-referral for troubled employees, where listeners are trained to assess problems, offer advice and make a referral to an appropriate service provider.
- **Consortium:** A consortium is a not-for-profit organisation which meets the needs of small employers since it is set up to serve a number of organisations, including the general public. They are most suitable for organisations with less than two thousand employees.
- **Contractor:** A contractor is a for-profit agency which is paid by the contracting organisation. They serve employees who contact them in self-referral, as well as those referred by management.
- **Employer:** An on-site EAP can be established if an organisation has more than three thousand employees.

### ➤ **COSTS AND SAVINGS OF EAPs**

The U.S. Department of Labour (1990) report that for every dollar companies invest in an EAP, they generally save between \$5 and \$16, and the average cost for an EAP ranges from \$12 to \$20 per employee. In 1995, the average annual cost of EAP services per eligible employee in the USA was \$26.59 for internal programmes staffed by company employees and \$21.47 for external programmes provided by an outside contractor (French, Zarkin, Bray & Hartwell:1994).

A small plumbing company in Washington, D.C. saved \$385 000 in one year by establishing a drug-free workplace programme that included EAP services. The company attributed the savings to a decrease in the number of accidents, which resulted in lower workers' compensation costs and lower vehicle insurance premiums. They now have a waiting list of top mechanics wanting to work in its drug-free environment, saving the company \$20 000 a year on personnel advertising costs. Additionally, the proportion of apprentices completing a two-year training course has increased from 25% to 75%, resulting in an annual savings of \$165 000 (Working Partners:1998).

After implementing a comprehensive drug-free workplace programme in response to a workers' compensation discount law, mechanical contractor in Florida, USA, saved \$100 000 on workers' compensation premiums in 1990. They also experienced increased productivity, reduced absenteeism and fewer accidents (De Lancey:1994).

#### **3.9.4.3 EVALUATING AN ALCOHOL PROGRAMME**

Whichever alcohol programme is implemented, it should be reviewed and evaluated annually to ensure its credibility. Albertyn & McCann (1993) suggest that such an audit should be based on:-

- Criteria such as sickness absence, accidents in the workplace, tardiness and disciplinary hearings.
- Information from the medical department on the number of cases of physical illness which relate to alcohol abuse.

- Statistics regarding the number of cases assessed, the number of employees treated and the success rate among those treated. This information is provided by the EAP co-ordinator.
- The percentages of self-referrals and management referrals.

Finally, a cost-benefit analysis should be undertaken as the final input to the evaluation, which should be presented in the form of an annual report to management and the union shop stewards. Any shortcomings and alterations should be addressed annually (Albertyn & McCann:1993).

### **3.9.5 ALCOHOL AND DRUG TESTING**

Employers are increasingly turning to alcohol and drug testing, not necessarily as an alternative to an EAP, but rather as a focused, immediate approach to combatting alcohol and illicit drug use (Cook & Youngblood:1990).

When combined with other comprehensive components of an alcohol abuse programme, alcohol and drug testing can be an effective deterrent to alcohol abuse, and an important tool to help employers identify workers who need help.

Before implementing an alcohol or drug testing programme, the following questions should be considered:-

- Who will be tested? (Job applicants, all employees, selected employees or employees only in some job categories).

- When will they be tested? (After all accidents or only after some? When will the employer have reason to believe an employee is using drugs? Will it be part of periodic physical examinations?)
- For what substances will they be tested? (Only for alcohol, since it is the number one abused substance in most places? Only for marijuana and cocaine since they are the most commonly abused illegal substances? For other legal substances which are commonly abused, such as prescription drugs, which can affect job performance?)
- What consequences will employees and job applicants face if they test positive?
- Who will administer the testing programme? (U.S. Department of Labour:1998b).

Although there are some controversial issues surrounding alcohol and drug testing in the workplace, employees' attitudes towards various drug testing programmes have changed over time. They are now more willing to work for an employer who has a drug testing programme in place (SAMHSA:1998).

Visual observation, breath alcohol detectors and blood tests are a few of the techniques employed for assessing the level of alcohol in the body. These tests assist in identifying an individual with an alcohol problem, as well as his level of intoxication, or for monitoring an employee on a rehabilitation programme (Albertyn & McCann:1993).



### **3.9.5.1 VISUAL OBSERVATION**

One way of proving intoxication in an employee is to see whether his or her eyes are bloodshot and whether the pupils are dilated. Alcoholics also tend to have slurred or incoherent speech and his or her breath may smell (Backer:1992).

However, Albertyn & McCann (1993) stress that visual observation is a subjective identification method. It is possible for experienced drinkers to hide the effects of alcohol, hence preventing those effects to be shown in their normal behaviour.

### **3.9.5.2 BREATHALYSERS (BREATH ALCOHOL DETECTORS)**

The amount of alcohol in the bloodstream can be accurately recorded by the amount of alcohol in the breath. A reliable breathalyser is as accurate a measure of blood alcohol as is a blood test. It can therefore be used alternatively to a blood test, with equal precision (Albertyn:1992).

Breathalysers should be operated at site entrance points on a random basis, to deter and prevent intoxicated persons from entering the workplace. It can further be used to educate personnel who may not be aware of the alcohol problems they attain. In addition, breathalysers can be used to re-test previous offenders on a regular but diminishing basis (Evans:1996).

Albertyn & McCann (1993) distinguish between voluntary, random and compulsory breathalysing.

➤ **VOLUNTARY BREATHALYSING**

An employee who arrives at work unsure whether he is intoxicated can ask to submit to the test. If he is over the specified limit, then he will be told he cannot go to work and will have a day's pay docked. This is without severe disciplinary measures being taken against him unless it becomes a frequent occurrence.

➤ **RANDOM BREATHALYSING**

Since it is impossible to put everyone through breathalyser tests in most large organisations, a certain number of employees entering the workplace are chosen to be tested by a security guard or supervisor either via a computer or by drawing names from a box to ensure impartiality. These random methods are recommended in order to eliminate the possibility of favouritism or intimidation. As part of this approach, employees identified by subjective signs of intoxication would be considered for testing in addition to those chosen randomly.

➤ **COMPULSORY BREATHALYSING**

New and sophisticated mechanisms are now available in which all employees entering a factory or a specified hazardous area can be tested. For example, the breathalyser is linked to the clocking mechanism and the results recorded via computer.

### **3.9.5.3 BLOOD TESTS**

No person can be forced to undergo a blood test since this violates his or her personal integrity and is regarded as invasive. The disadvantage of blood tests is that they can be cumbersome to administer in comparison to breathalyser tests. They also have a

degree of inaccuracy as compared to breathalyser tests, because the alcohol has not yet equilibrated in the bloodstream in the period immediately after consumption (Albertyn:1992).

Employees should preferably be given both options of the breathalyser and the blood test. The breathalyser should be the prescribed test, and the blood test should be optional.

#### **3.9.5.4 MEDICAL TESTS AND SCREENING**

Perhaps the most definitive way of assessing the extent of the problem in the organisation is by medical tests. If certain tests are done at pre-employment and then during periodic medicals during employment, it is possible to monitor each individual's progress and thus any trends that have developed in the organisation. If testing is not possible for all employees, then consideration needs to be given to testing job categories which are potentially at risk of developing an alcohol problem, or which are hazardous to employees themselves or to others (Albertyn & McCann:1993).

Employees who are found to be unfit for continued employment on the basis of the examination may be dismissed after due compliance with fair procedures. However, where an employee has a record of alcohol or drug abuse, it may not be necessary for the employer to prove conclusively that a subsequent incident of unfitness to work was caused by alcohol or drugs, in order to discharge him. (Verster:1994).

### **3.9.5.5 MICROPHONE VOICE KEY**

Albertyn (1992) discusses the microphone voice key, which is a relatively recent invention. The human voice is as individually distinctive as a finger print. A record is made of each employee's voice and the microphone voice key responds only to the recorded voices. The microphone voice key is used with a turnstile instead of clock-cards.

When the employee speaks into the microphone, the voice key recognises the voice and the turnstile opens. The voice key can also perform a breath analysis and will not open if the employee is over the prescribed alcohol limit, since the voice will be unrecognisable.

### **➤ ALCOHOL AND DRUG TESTING RESEARCH FINDINGS**

Taylor (1989) reports that a 1988 survey by the Bureau of Labour Statistics in the USA found only 3.2% of businesses surveyed to have drug testing programmes, and of those who had programmes, 64% tested current employees.

According to the American Management Association's annual Survey on Workplace Drug Testing and Drug Abuse Policies (1996), workplace drug testing has increased by more than 1200% since 1987. More than 81% of businesses surveyed in 1998 were conducting some form of applicant or employee drug testing. Likewise, the perceived effectiveness of drug testing, as assessed by human resources managers, has increased from 50% in 1987 to 90% in 1996.

According to a study conducted by Normand et.al. (1990), based on an evaluation of pre-employment alcohol and drug testing at the US Postal Service, it was found employees who tested positive on their pre-employment drug test were 77% more likely to be discharged within the first three years of employment.

Through another study conducted by SmithKline Beecham Clinical Laboratories (1997) on four million employees, it was reported that only 5.8% of employees tested positive for drugs in 1996 (as compared to 13% in 1995), and this was fewer than at any time in the previous ten years.

In the 1997 NHSDA (SAMHSA:1997a), 49% of the employees surveyed reported that their workplaces had any type of drug testing programme (at hiring, random, upon suspicion and post-accident). Furthermore, drug testing as part of the hiring process was the most frequently used testing programme reported by employees (39%), followed by testing upon suspicion (30%), post-accident (29%) and random testing (25%). It was also found that alcohol and drug users were less likely than non-users to work for an employer who tests for alcohol and drug use.

While drug testing supporters have many good reasons for implementing drug testing programmes, there are opponents who have many reasons why drug testing programmes should not be instituted. A main argument against drug testing is that the percentage of errors is extremely high. Through drug testing it is also possible that lives, families and careers can be damaged when faith is put into a simple test which resulted from error (Bruce:1990).

### **3.10 RECOMMENDATIONS TO DEAL WITH THE ALCOHOL ABUSE**

#### **PROBLEM IN SOUTH AFRICA**

Kibble (1998) & Simon (1998) place emphasis on the following suggestions to deal with alcohol and other substance abuse problems in South Africa.

- Make broader use of appropriate education initiatives to address the public at large, especially high risk groups in order to promote awareness, health, behavioural change and alternative lifestyles.
- Ensuring that hard drugs policy and action is linked appropriately to that on alcohol and other substance abuse.
- Ensuring effective liaison among various donor agencies who provide material, technical and financial assistance to substance abuse in respect of drugs policy, policing and treatment.
- The South African government should reverse the decline in funding for all aspects of alcohol and drug control.
- The government should encourage a public and political debate on substance abuse and substance abuse policy.
- The government should also provide support for programmes which address a wide range of substance abuse problems and initiatives.
- There should be an increased awareness by the government and other agencies of the potentially detrimental effects of alcohol and drugs on reconstruction and development.

### **3.11 CONCLUSION**

Alcohol abuse in the workplace is an issue all employers need to address and it is an issue than can be successfully prevented. Taking steps to raise awareness among employees about the use of alcohol use on workplace performance, and offering the appropriate resources and/or assistance to employees in need, will not only improve employee safety and health, but also increase workplace productivity and market competitiveness (Working Partners:1994).

Alcohol abuse in the workplace costs an employer an amount equal to at least one quarter of the annual salary in hidden losses such as absenteeism, tardiness, spoiled material, unsatisfactory production, medical bills and accidents. The problems of alcohol abuse are private problems until they affect safety, productivity and the cost of running a business. The symptoms may show up as work performance declines over a period of time; the losses associated with decreased production, excessive absenteeism, accidents, conflicts with work mates and disciplinary action add up.

With the Amended Labour Relations Act (No. 66 of 1995), employers have a mandatory responsibility to identify and help those in their employ who abuse alcohol and other substances. An organisation can assist its employees by establishing an alcohol abuse programme, which contains appropriate alcohol and drug abuse policies for the workplace, employee assistance and alcohol and drug testing facilities. The use of an Employee Assistance Programme (EAP) will help reduce accidents, workers' compensation claims and absenteeism and contribute to improved productivity and worker morale.

**CHAPTER FOUR**  
**RESEARCH METHODOLOGY**  
**THE RESEARCH DESIGN**

**4.1 INTRODUCTION**

A literature review was conducted on alcohol and alcohol abuse in the workplace relating to its effects on workplace safety, absenteeism and tardiness, productivity and job satisfaction. An empirical analysis will be conducted to test the effects of alcohol abuse on employees' behaviour in the workplace.

This incorporates an analysis into the objectives of the research, the sampling technique and a description of the research sample. The procedure followed in executing the research and a description of the research instruments used (data collection methods) is explained.

**4.2 OBJECTIVES OF THE STUDY**

The core objectives of this research include:-

- (v) To compare and contrast the extent of alcohol consumption in the workplace on workplace safety, absenteeism and tardiness, productivity and job satisfaction.
  
- (vi) To correlate each of the biographical variables (age, gender, marital status, number of children, highest educational qualification, occupation, tenure,



income, organisation and location) with workplace safety, absenteeism and tardiness, productivity and job satisfaction, respectively.

(vii) To determine whether a significant difference exists between alcohol consumption in the workplace and each of the biographical variables (age, gender, marital status, number of children, highest educational qualification, occupation, tenure, income, organisation and location) respectively.

(viii) To recommend prevention policies and programmes for addressing and managing the problems resulting from alcohol abuse in the workplace.

### **4.3 SAMPLING TECHNIQUE AND DESCRIPTION OF THE SAMPLE**

#### **4.3.1 POPULATION AND SAMPLE**

Sekaran (1992:225) defines a population ( $N$ ) as “the entire group of people, events or things of interest that the researcher wishes to investigate”. The population consists of all the available cases with which the study is concerned. Reid (1987) explains that within a population or sample, each individual unit is called a case or observation. A case is the basic unit of analysis.

The population for the study comprised all employees at a government department in Pretoria, and two private organisations in Durban. Due to the sensitive nature of the survey, management were excluded from the sample. It is believed that an

investigation into the habits of this segment would entail a full study on its own and would fall within the jurisdiction of a separate study.

It is beyond a researcher's resources to sometimes collect data from the entire population. In such instances, a sample ( $n$ ) of cases is selected to represent the population as a whole. Sampling consists of selecting some part of a population to observe so that one may estimate something about the whole population (Thompson:1992).

Welkowitz, Ewen & Cohen (1982) explain, whereas the population consists of all the cases of interest, a sample consists of any sub-group drawn from the specific population.

The sample of cases then stand in place of the total universe of cases and it is the sample which is used as the basis for the investigation. The sample should be as representative as possible of the population from which it is drawn. The use of sampling permits a researcher to make observations about populations which would be impractical to otherwise study in full (Reid:1987).

The critical difference between a population and a sample is that, with a population the interest is to identify its characteristics, whereas with a sample, the interest is to make inferences about the characteristics of the population from which the sample was drawn (Hoffman:1985).

## ❖ SAMPLE SIZE

Reid (1987) draws on one important factor which should be taken into consideration when sampling – the size of the sample. This is important since a small sample, especially when it represents only a small proportion of the population, is more vulnerable to bias, and the inclusion or exclusion of even a few cases can have a disproportionate effect on the final data. Low response rates should not be of concern if the sample is large and constitutes a substantial proportion of the original population.

### 4.3.2 COMPOSITION OF SAMPLE AND POPULATION

From each population, a sample of employees was chosen, as illustrated in Table 4.1.

**TABLE 4.1**  
**COMPOSITION OF SAMPLE**

<b>Organisation</b>	<b>Population</b>	<b>Sample</b>	<b>Questionnaires returned</b>	<b>Response rate (%)</b>
Organisation A	1100	300	180	60%
Organisation B	150	100	56	56%
Organisation C	100	70	44	63%
<b>TOTAL</b>	<b>1350</b>	<b>470</b>	<b>280</b>	<b>60%</b>

The highest response rate of 63% was from Organisation C, whilst Organisation A returned 60% of the questionnaires and 56% was returned by Organisation C. There was an overall response rate of 60%.

### 4.3.3 TYPES OF SAMPLING

A distinction can be made between probability samples and non-probability samples.

#### **4.3.3.1 PROBABILITY SAMPLES**

In probability samples, the researcher can determine the probability that any element or member of the population will be included in the sample. Examples of probability samples include simple random samples, stratified random samples, systematic samples and cluster samples (Welman & Kruger:1999).

#### **4.3.3.2 NON-PROBABILITY SAMPLES**

Non-probability samples rely on the judgement of the researcher. According to Martins, Loubser & van Wyk (1996), there is no way of estimating the probability that any element will be included in the sample and therefore, there is no way of finding out whether the sample is representative of the population.

Purposive samples, quota samples and incidental samples are examples of non-probability samples (Welman & Kruger:1999).

This research sample was drawn using a probability sampling design, namely, cluster sampling.

#### **4.3.3.3 CLUSTER SAMPLING**

Cluster sampling is used where the population is aggregated into groups, each of which can be treated as a sub-population. The samples can later be combined into a sample of the whole population by the use of weighting. The number of units within a cluster is the cluster size, and they are frequently unequal (Reid:1987; Tietjen:1986).

## ❖ STEPS IN THE CLUSTER SAMPLING PROCESS

Peterson (1988) explains the two steps in the cluster sampling process:-

- The first step is to divide the study objects in the sampling frame into mutually exclusive and exhaustive groups, where every object in the sampling frame is a member of one and only one group. These groups are called “clusters”. Clusters should be constructed so that within a cluster, study objects are as different as possible, while the clusters themselves are as similar as possible.
- Secondly, data is collected from or on each object in a sampled cluster.

In the research study conducted, the selected clusters referred to Organisations A, B and C. Within each of these organisations further clusters in the form of middle and lower level employees were selected.

## ❖ ADVANTAGES AND DISADVANTAGES OF CLUSTER SAMPLING

The advantage of cluster sampling is that it saves both time and costs as compared to other sampling methods such as simple random sampling.

A disadvantage of this sampling method is that some clusters can be homogeneous (similar) in terms of the variables of interest, and this may lead to biased samples, where the sample may lean towards a particular factor (Welman & Kruger:1999).

### 4.3.4 SAMPLE COMPOSITION

The composition of the sample may be analysed in respect to age, gender, marital status, number of children, highest educational level, profession or occupation, number

of years employed by the company, gross income per annum, name of organisation and location of organisation (Table 4.2).

**TABLE 4.2 : SAMPLE CHARACTERISTICS**

<b>VARIABLE</b>	<b>N (280)</b>	<b>%</b>
<b>Age</b>		
15 – 24 years	5	1.8
25 – 34 years	111	39.6
35 – 44 years	113	40.3
45 – 54 years	36	12.9
55 years and older	15	5.4
<b>TOTAL</b>	<b>280</b>	<b>100%</b>
<b>Gender</b>		
Male	158	56.4
Female	122	43.6
<b>TOTAL</b>	<b>280</b>	<b>100%</b>
<b>Marital Status</b>		
Married	160	57.2
Separated	2	0.7
Divorced	18	6.4
Single	88	31.4
Widowed	12	4.3
<b>TOTAL</b>	<b>280</b>	<b>100%</b>
<b>Number of children</b>		
No children	109	38.9
1 – 3	119	42.5
4 – 6	52	18.6
<b>TOTAL</b>	<b>280</b>	<b>100%</b>
<b>Highest Educational Qualification</b>		
Primary School	2	0.7
High School	130	46.4
University degree / diploma	80	28.6
Technikon degree / diploma	65	23.2
Other	3	1.1
<b>TOTAL</b>	<b>280</b>	<b>100%</b>

**TABLE 4.2 continued : SAMPLE CHARACTERISTICS**

<b>VARIABLE</b>	<b>N (280)</b>	<b>%</b>
<b>Occupation</b>		
Professional	121	43.3
Clerical / Administration	112	40.0
Skilled manual	6	2.1
Supervisory	4	1.4
Unskilled manual, labourers	35	12.5
Other	2	0.7
<b>TOTAL</b>	<b>280</b>	<b>100%</b>
<b>Tenure</b>		
0 – 2 years	65	23.2
3 – 5 years	112	40.0
6 – 8 years	50	17.8
9 – 11 years	24	8.6
12 years and over	29	10.4
<b>TOTAL</b>	<b>280</b>	<b>100%</b>
<b>Income</b>		
Less than R20 000	29	10.4
R20 000 – R39 999	36	12.8
R40 000 – R59 999	66	23.6
R60 000 – R79 999	84	30.0
R80 000 and over	65	23.2
<b>TOTAL</b>	<b>280</b>	<b>100%</b>
<b>Organisation</b>		
Organisation A	180	64.3
Organisation B	56	20.0
Organisation C	44	15.7
<b>TOTAL</b>	<b>280</b>	<b>100%</b>
<b>Location</b>		
Pretoria	180	64.3
Durban	100	35.7
<b>TOTAL</b>	<b>280</b>	<b>100%</b>

**FIGURE 4.1**  
**PIE CHART : AGE**

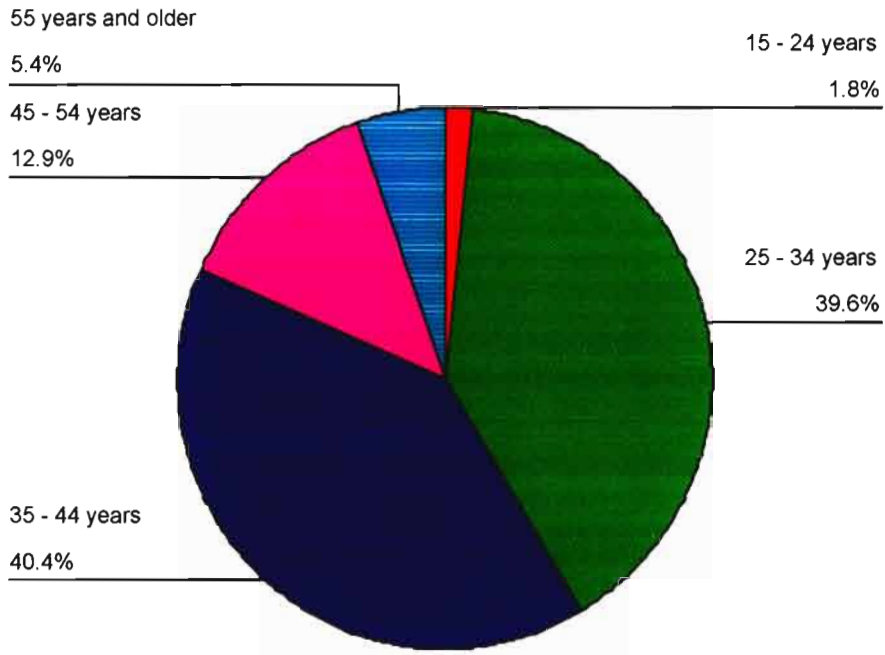


Figure 4.1 is a representation of the ages of the subjects. The majority of those surveyed were between the age groups of 35 – 44 years ( $N = 113$ ), representing 40.4% of the sample. This was closely followed by 111 subjects from the 25 – 34 years age group (39.6%). There were 36 subjects or 12.9% who were between the ages of 45 – 54 years, whilst 5.4% ( $N = 15$ ) and 1.8% ( $N = 5$ ) of the subjects represented the 55 years and older and 15 – 24 years age groups respectively.



**FIGURE 4.2**  
**BAR GRAPH : GENDER**

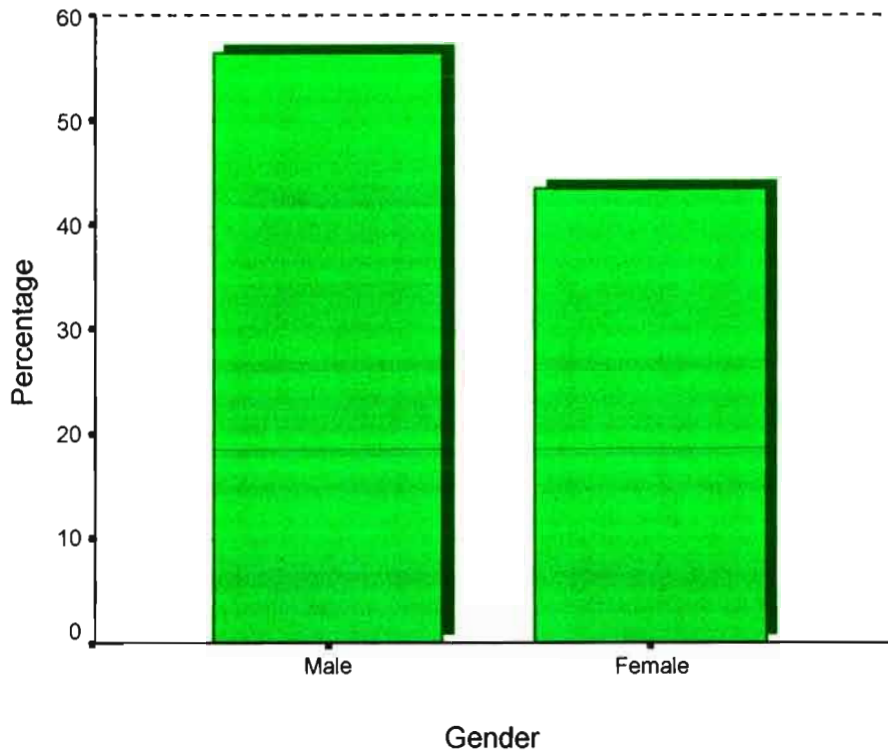


Figure 4.2 illustrates the gender composition of the subjects. Males (N = 158) comprised the majority of the sample (56.4%), whilst there were 43.6% or 122 female subjects.

**FIGURE 4.3**

**PIE CHART : MARITAL STATUS**

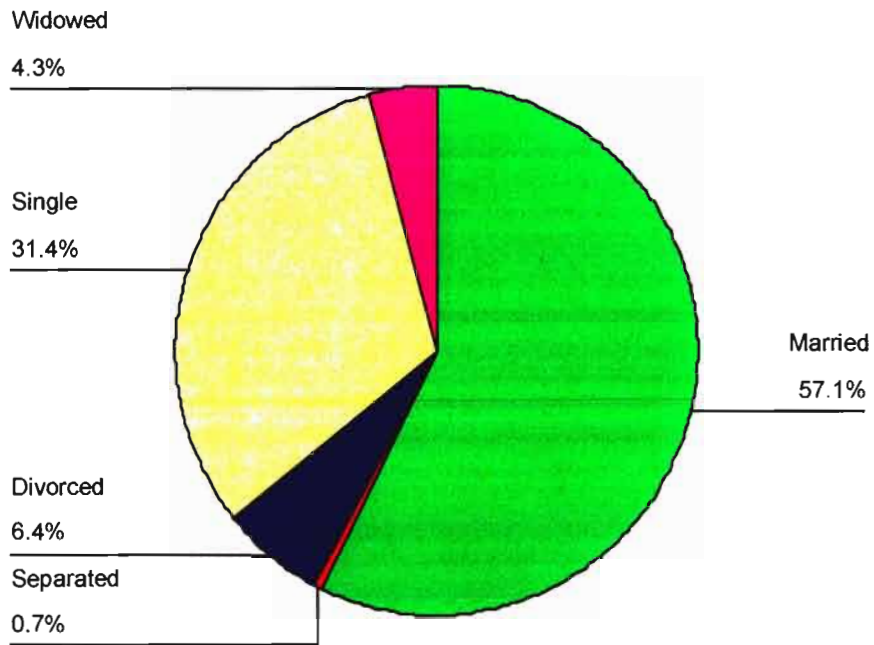


Figure 4.3 is a representation of the marital status of the subjects. The majority of those surveyed, that is,  $N = 160$ , were married (57.1%), whilst 88 or 31.4% were single. There were 18 (6.4%) divorced subjects and 12 (4.3%) were widowed. A minor number of the subjects ( $N = 2$ ) were separated, that is, 0.7% of the sample.

**FIGURE 4.4**

**LINE CHART : NUMBER OF CHILDREN**

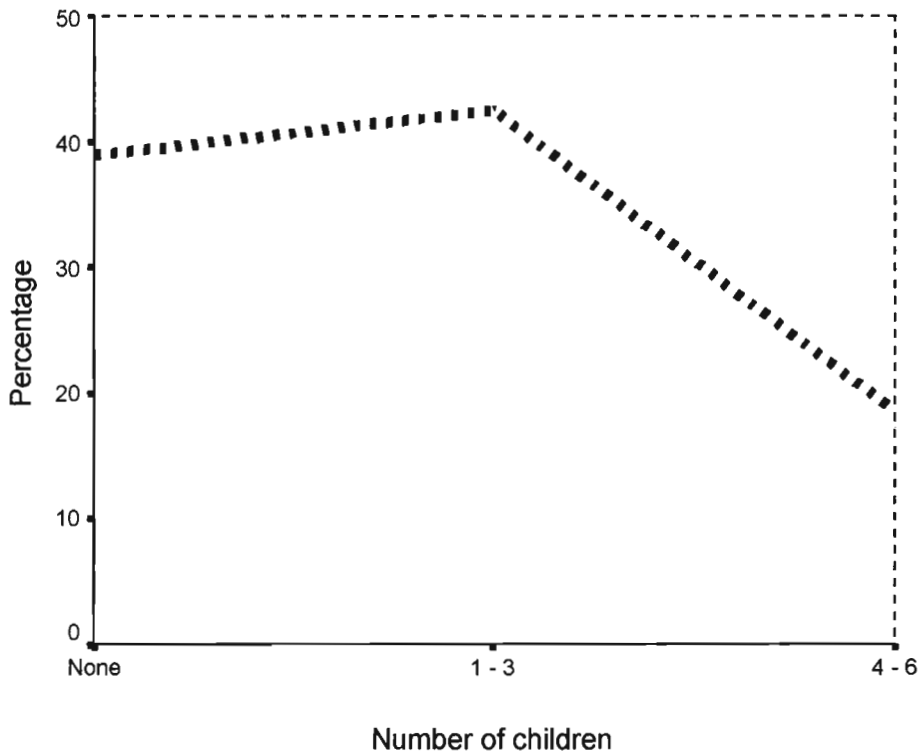


Figure 4.4 depicts the number of children per subject. The majority of subjects (N = 119) or 42.5 % had between 1 and 3 children, whilst 38.9% or 109 subjects had no children. The remaining 52 subjects (18.6%) had between 4 and 6 children, whilst none of those surveyed had 7 or more children.

**FIGURE 4.5**

**BAR GRAPH : HIGHEST EDUCATIONAL QUALIFICATION**

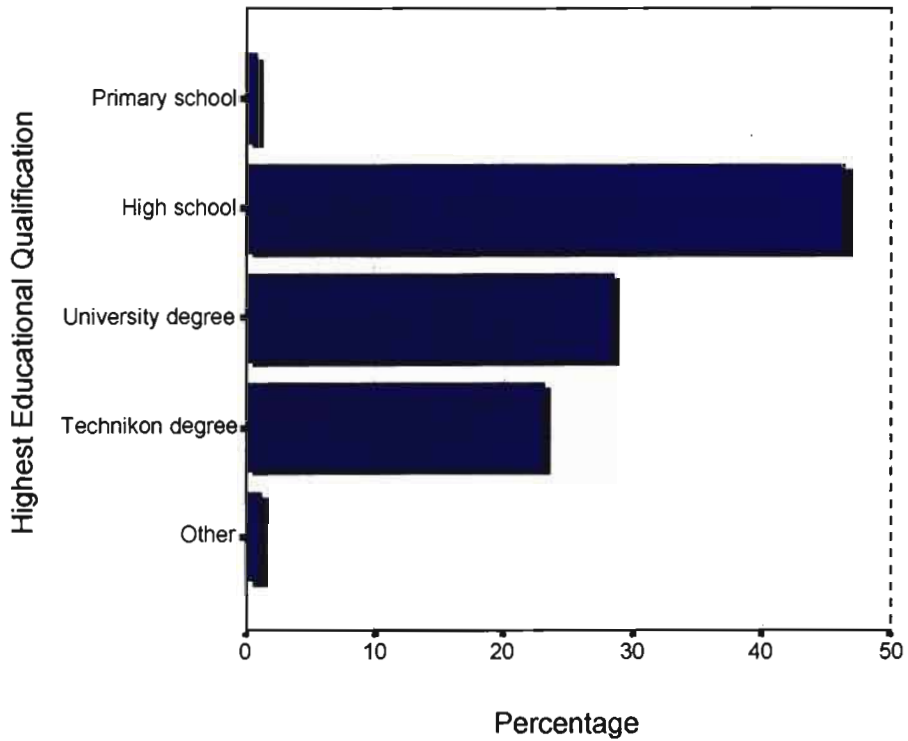
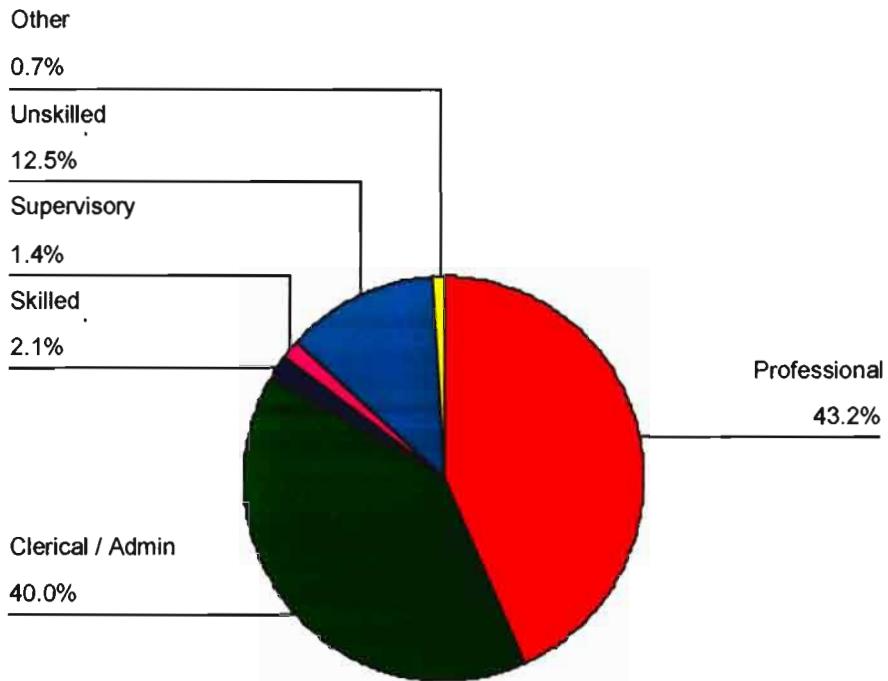


Figure 4.5 is an indication of the highest educational qualification of the subjects. The majority of those surveyed, that is,  $N = 130$  or 46.4% had completed high school, whilst 80 (28.6%) and 65 (23.2%) of the subjects had a university and technikon qualification respectively. Only 0.7% ( $N = 2$ ) of the subjects' highest educational qualification was primary school.

**FIGURE 4.6**

**PIE CHART : OCCUPATION**



The occupation of the subjects are illustrated in Figure 4.6. The largest proportion of subjects ( $N = 121$ ) were professional subjects, that is, 43.2%, closely followed by the clerical and administrative subjects who comprised 40% of the sample ( $N = 112$ ). There were 35 (12.5%) unskilled manual subjects, but a few ( $N = 6$ ) or 2.1% depicted skilled manual subjects. The remaining were at supervisory level ( $N = 4$  or 1.4%) and from other occupational categories not mentioned ( $N = 2$  or 0.7%).

**FIGURE 4.7**

**BAR GRAPH : TENURE**

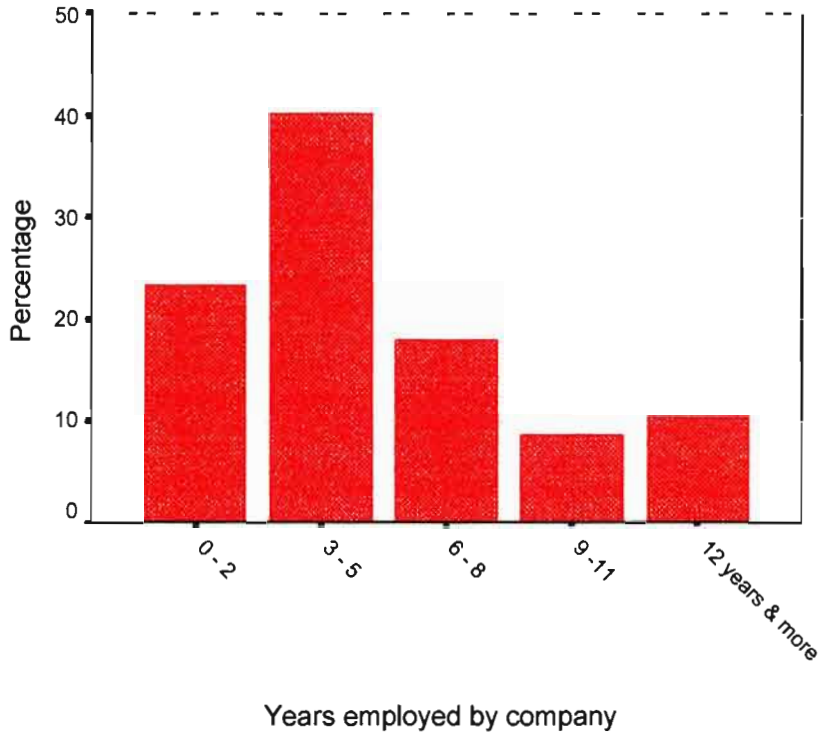


Figure 4.7 is a representation of the tenure or number of years each subject has been employed by the organisation. The majority of subjects, that is 40% or N = 112 have been working at the organisation for 3 – 5 years. There were 65 (23.2%) and 50 (17.9%) subjects who were employed by the organisations for 0 – 2 years and 6 – 8 years respectively. Twenty nine (10.4%) of the subjects have been working at their organisations for 12 years and more, whilst the remaining 8.6% (N = 24) were employed for 9 – 11 years.

**FIGURE 4.8**

**PIE CHART : GROSS INCOME PER ANNUM**

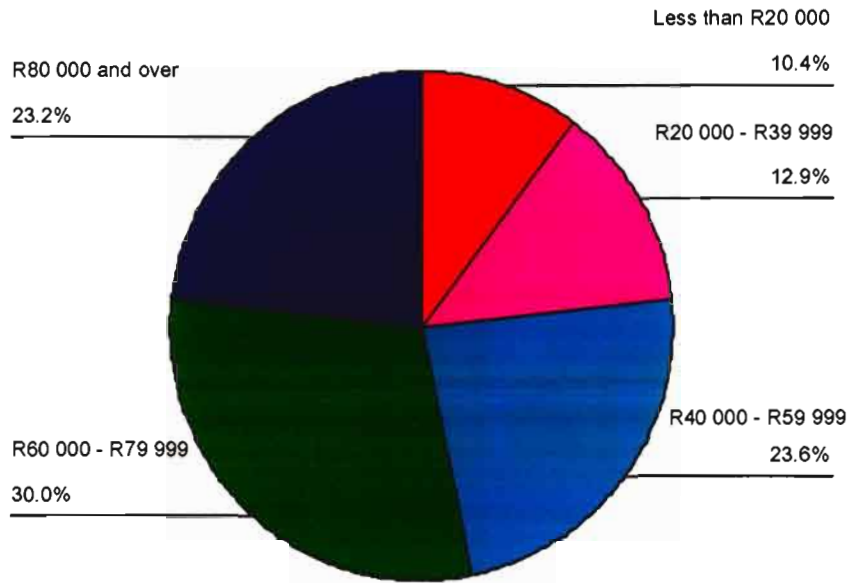


Figure 4.8 is an indication of the gross income per annum of each subject. Thirty percent of the subjects (N = 84) earned between R60 000 and R79 999 per annum. There were 66 subjects (23.6%) earning between R40 000 and R59 999, closely followed by 65 subjects (23.2%) earning R80 000 and over. There were 36 or 12.9% of the subjects earning between R20 000 and R39 999 and 29 (10.4%) who earned less than R20 000 per annum.

**FIGURE 4.9**

**BAR GRAPH : ORGANISATIONS SURVEYED**

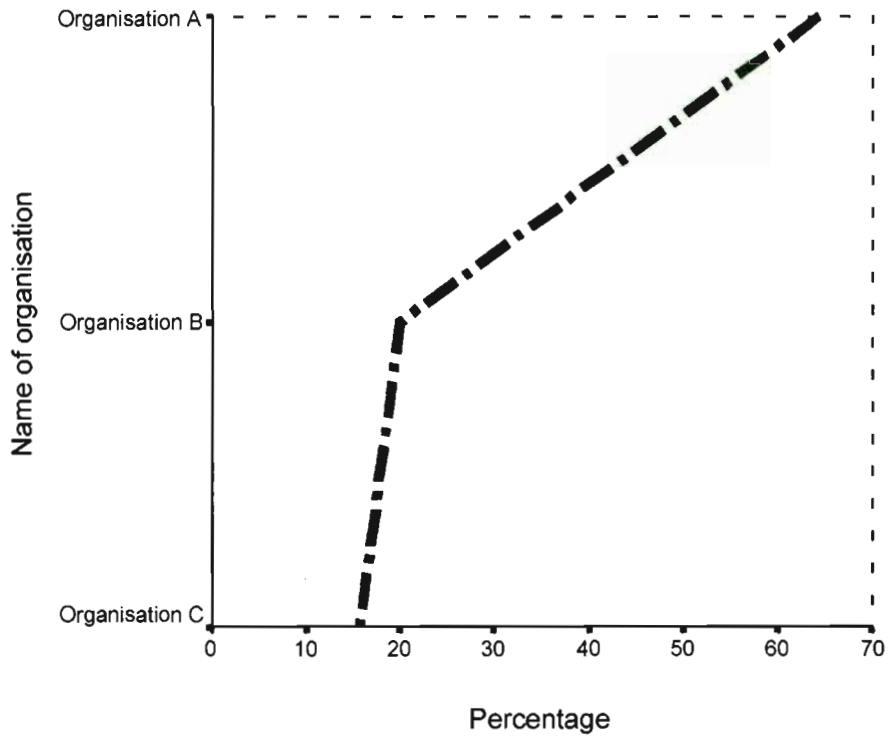


Figure 4.9 represents the organisations which were part of the survey. Of the 280 subjects, 180 (64.3%) were from Organisation A, 56 (20%) from Organisation B and the remaining 44 (15.7%) from Organisation C.



**FIGURE 4.10**

**PIE CHART : LOCATION OF ORGANISATIONS**

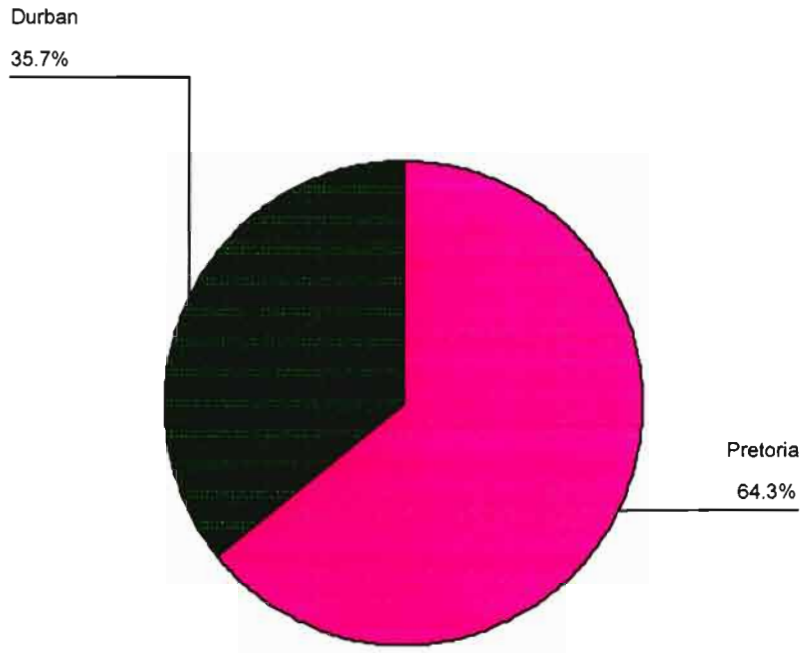


Figure 4.10 illustrates the location of the organisations participating in the survey. The majority of subjects, that is, 64.3% or  $N = 180$  were from Pretoria, whilst Durban accounted for the remaining 100 or 35.7% of the subjects. The discrepancy between the sample sizes in the two regions does not create a problem, as quotas were not originally set and was not defined as a requirement.

#### **4.4 THE RESEARCH INSTRUMENT**

The various ways of collecting data include survey questionnaires, individual tests, direct observation, rating scales and structured interviews (Crimp:1990; Welman & Kruger:1999).

The data collection method used in this research study involved the development and use of a structured questionnaire (Appendix 1), which was formulated after undertaking the literature review.

##### **4.4.1 QUESTIONNAIRES**

Sekaran (1992:200) defines a questionnaire as a “pre-formulated written set of questions to which respondents record their answers, usually within rather closely defined alternatives”.

###### **4.4.1.1 DESCRIPTION AND PURPOSE OF QUESTIONNAIRES**

Martins et.al. (1996) identify three related goals that questionnaires are designed to achieve:-

- To maximise the relevance and accuracy of the data.
- To maximise the participation and co-operation of target respondents.
- To facilitate the collection and analysis of the data.

Welman & Kruger (1999) maintain that questionnaires can be used to obtain four types of information:-

- Biographical particulars (for example, age, gender, marital status, income and educational level).
- Typical behaviour (for example, which type of alcohol they prefer).
- Opinions, beliefs and convictions (about any topic or issue, for example, should a formal policy on the consumption of alcohol at work be necessary?).
- Attitudes (for example, towards the testing for alcohol levels at work).

#### **4.4.1.2 ADVANTAGES AND DISADVANTAGES OF USING QUESTIONNAIRES**

The following advantages and disadvantages are associated with the use of questionnaires in a research study:-

##### **❖ ADVANTAGES**

- **Cost:** Questionnaire surveys are the least expensive of all surveys. Irrespective of where the respondents are located in the country, they can all be reached by means of relatively equal priced postage stamps.
- **Anonymity:** Questionnaires provide the greatest possibility of anonymity, since no name or identification may be given (Welman & Kruger:1999).

##### **❖ DISADVANTAGES**

- **Control over responding:** The researcher has the least control over the conditions under which certain questions are completed. The respondent may omit questions and it is possible that someone else may complete some of the questions.

- Response rate: The researcher's lack of control over the completion of the questionnaires may result in poor response rates (the percentage of questionnaires returned) (Welman & Kruger:1999).
- Non-contact: Non-contact is a situation where the individual simply cannot be contacted after being selected for answering the questionnaire. They may have moved, left the organisation, be ill or otherwise unavailable.
- Non-response: This occurs when the individual is contacted successfully but is unable or unwilling to participate in the research (Reid:1987).

#### **4.4.2 SCALES OF MEASUREMENT**

Data collection through the questionnaires requires that the researcher makes measurements of the observations. Measurement involves either categorising events (qualitative measurement) or using numbers to characterise the size of the event (quantitative measurement) (Gravetter & Wallnau:1988).

The items in the questionnaire were based on three scales of measurement: nominal, ordinal and interval.

##### **4.4.2.1 NOMINAL SCALE**

The word "nominal" means "having to do with names". According to Reid (1987), a nominal scale classifies values into useful categories or codes. Numerical codes are similar to names and imply no particular order or relationship between the values. The values cannot be ordered in any mathematically meaningful way.

An obvious example is that of “gender”. Here there are typically two possible values – male and female and they are both simply equal and descriptive categories. A nominal level variable with only two possible values is referred to as a “dichotomous” variable. The number and type of values with other nominal level variables will depend on the study, but they all remain basically “names” for different possible elements of the variable.

#### 4.4.2.2 ORDINAL SCALE

Whilst the nominal level of measurement classifies elements into categories, the ordinal level of measurement permits the ordering of those categories into a single rank or scale. This level applies to variables where the researcher can distinguish between the values in terms of degree, but cannot measure the degree of difference between them.

For example, employees may rank the extent to which the following job characteristics are important to them, such that a value of 5 is accorded to the most important characteristic and a value of 1 is accorded to the least important characteristic.

Interacting with others	_____
Seeing the end product	_____
Having autonomy	_____
Being able to make decisions	_____
Obtaining feedback on projects done	_____

#### **4.4.2.3 INTERVAL SCALE**

An interval scale implies both an ordering of the categories and a measure of difference between them. This implies the existence of a common unit of standard measurement, by which the distance between the values can be quantified. The values of an interval level variable will be numerical values of some kind (Gravetter & Wallnau:1988).

Part of the questionnaire was based on the Likert Scale, which indicates a degree of agreement or disagreement with each of a series of statements to the research topic (Martins et.al.:1996).

The points on the scale used in this study were labelled as follows:-

- 1 Strongly agree
- 2 Agree
- 3 Neither agree nor disagree
- 4 Disagree
- 5 Strongly disagree

#### **4.4.2.4 OPEN-ENDED QUESTION**

The questionnaire concluded with an open-ended question, which was done to determine whether anything of importance to the respondent had been omitted.

When responses to open-ended questions are obtained through questions in a questionnaire, or through interviews or data collected through observations, they can

be categorised and coded according to some meaningful classification scheme. Frequency counts are then made and the chi-square or other appropriate non-parametric tests are used, in order to analyse these responses. This is termed qualitative data analysis (Gravetter & Wallnau:1988).

Welman and Kruger (1999) discuss the following advantages and disadvantages of using open-ended questions:-

❖ **ADVANTAGES**

- Multiple choice items may restrict a respondent to particular responses which may not provide for their unique situation. Hence, the respondents prefer the freedom to express themselves which is allowed by open-ended questions.

❖ **DISADVANTAGES**

- The possibility of obtaining inappropriate responses is greater in the case of open-ended questions than with multiple choice questions.
- Open-ended questions require respondents to have a better ability to express themselves.
- Respondents are also expected to usually have a higher level of education, as compared to when they answer multiple choice questions.
- It is difficult to compare different respondent's responses to open-ended questions than is the case with multiple choice questions (Welman & Kruger:1999).

### **4.4.3 PRETESTING AND VALIDATION**

Prior to the questionnaires being administered, the researcher has to pretest and validate them, to ensure there are no flaws in the measurement procedure, and that the questionnaire is measuring the correct concept.

#### **4.4.3.1 PRETESTING**

Pretesting includes conducting a pilot study and in-house pretesting.

##### **❖ PILOT STUDY**

A pilot study is where the questionnaire is distributed to a small group of individuals who are representative of the populations for which the questionnaires are intended. It tests the questionnaire, and helps determine costs of the research (Crimp:1990; Welman & Kruger:1999).

Welman & Kruger (1999) continue to explain the purpose of conducting a pilot study in the development of an instrument:-

- It is used to detect possible flaws in the measurement procedures, for example, ambiguous instructions and inadequate time limits.
- It can identify unclear or ambiguously formulated items. By answering the actual questions, the respondent should indicate how they have interpreted the formulated questions.

A pilot test was conducted in each organisation, where 25 questionnaires were distributed to Organisation A and 15 and 10 to Organisations B and C respectively.



The results indicated there were no ambiguous questions, and a few changes were made to the questionnaire. Since these changes were minor, the pilot sample was incorporated into the main sample of the study.

However, if a self-developed instrument is not tested in a pilot study, it is advisable to ask at least one experienced researcher/expert in the field to check the instrument with a view to spotting glaring flaws, thus determining its face validity. This procedure is termed in-house pretesting.

#### ❖ **IN-HOUSE PRETESTING**

Pretesting also includes in-house pretesting, where the developed questionnaire is given to a supervisor, to colleagues or to experienced researchers in the field.

The questionnaire was distributed to the following researchers and academics, who reviewed the instrument for corrections, comments and suggestions:-

- A chief research specialist, who heads the Centre for Alcohol Studies at the Human Sciences Research Council in Pretoria.
- The deputy director at the Directorate: Mental Health and Substance Abuse, at the Department of Health in Pretoria.
- A Ph.D. student in social research from the University of Bremen, Germany.
- The researcher's supervisors, who are based in the Industrial Psychology Department at the University of Durban-Westville.

In the few instances where minor problems were detected, the appropriate corrections and modifications were made to the questionnaire.

#### **4.4.3.2 VALIDATION**

Validation refers to face and content validity, to ensure the questionnaire is measuring the particular concept it is supposed to measure.

##### **❖ CONTENT VALIDITY**

Content validity ensures that the instrument includes an adequate and representative set of items which would tap the concept. The degree of content validity is high when there is a large number of items representing the universe of the concept being measured (Sekaran:1992).

##### **❖ FACE VALIDITY**

Face validity is a basic index of content validity. It indicates the relevance of test appearance to a stated ability, as well as whether the items which are supposed to measure a concept do, on the face of it, look like they are measuring the concept (Pearson:1991 & Sekaran:1992).

A rigorous literature survey and in-house pretesting contributed to ensuring both face and content validity.

#### **4.4.4 ADMINISTRATION OF THE QUESTIONNAIRE**

A questionnaire on alcohol abuse in the workplace was developed, based on previous research instruments employed in alcohol abuse investigations. It included questions from the 1994 American National Household Study on Drug Abuse (United States Department of Health and Human Services:1994), the Michigan Alcoholism Screening Test (Selzer:1971) and the Xerox EAP Questionnaire (Smits & Pace:1992).

##### **4.4.4.1 SAMPLE**

Three hundred questionnaires were distributed to employees at Organisation A in Pretoria; 100 to Organisation B in Durban, and 70 to Organisation C in Durban (as outlined in Table 4.1), during February and March 1999. The distribution was done through the assistance of the Human Resources Personnel at each organisation. The questionnaires were not distributed to staff at management level.

##### **4.4.4.2 CONSTRUCTION OF THE QUESTIONNAIRE**

The aims of the research were to establish the effects of alcohol abuse in the workplace, to better understand the problems caused by alcohol abuse in the workplace and to develop a policy and procedure manual relating to the management of alcohol abuse in the workplace.

Dimensions were divided into a number of alcohol abuse related problems in the workplace, such as, workplace safety, absenteeism and tardiness, productivity and job satisfaction. The questionnaire also considered the employees' consumption patterns, consumption levels at work and their awareness of their organisation's rules and

policies. Finally, the questionnaire catered for an open-ended question, where the respondent was asked to indicate any issues relating to alcohol abuse in the workplace, which the questionnaire may not have accommodated.

The same attributes were studied for each organisation, thereby enabling the researcher to compare the extent of alcohol abuse in the workplace in each organisation, and the awareness of each organisation's rules and policies.

There is also the intention of conducting a comparative analysis between the two provinces where the questionnaires were distributed : Gauteng and Kwa-Zulu Natal, and to assess whether there are any major differences in the extent of alcohol abuse in the workplace in these two regions.

#### **4.4.4.3 BIOGRAPHICAL INFORMATION**

The 65-item questionnaire tapped 10 personal information items, namely, age, gender, marital status, number of children, highest educational qualification, occupation, tenure, gross income per annum, name of the organisation and location of the organisation.

#### **4.4.4.4 FACTORS RELATING TO ALCOHOL ABUSE IN THE WORKPLACE**

Research focusing on the factors relating to alcohol abuse in the workplace has been conducted by Wilcocks (1987), Backer (1992), Campbell & Langford (1995) and Sartor (1996). Organisations such as the International Labour Organisation (1994), the United States Department of Labour (1998), the Substance Abuse and Mental Health Services Administration (SAMHSA) (1995) also researched this topic.

Together the following problems relating to alcohol abuse in the workplace were delineated:-

- Workplace safety
- Absenteeism and tardiness
- Productivity
- Job satisfaction.

#### **❖ WORKPLACE SAFETY**

Respondents completed a 6-item workplace safety index (involvement in a work-related accident; involvement in the last 12 months; taking an alcohol/drug test; importance of safety in the job; safety risk due to drinking; alcohol's threat to safety). These questions were based on a combination of the interval and nominal scales of measurement, for example, a 5 point Likert Scale was used, with ratings ranging from very important (1), important (2), quite important (3), not very important (4) and not at all important (5).

An example of a question based on the Likert scale is:-

How important is safety in your job?

- <sup>1</sup> Very important
- <sup>2</sup> Important
- <sup>3</sup> Quite important
- <sup>4</sup> Not very important
- <sup>5</sup> Not at all important

#### ❖ ABSENTEEISM AND TARDINESS

This concept was assessed through a 5-item absenteeism and tardiness concept, by asking the respondents to rate the frequency of their absenteeism from work in the past 12 months; the number of days off sick due to alcohol consumption; the frequency of their irregular work times due to alcohol consumption; the frequency of their absenteeism due to alcohol consumption; and the number of times they have taken longer lunch hours due to alcohol consumption. An itemised scale was used for this purpose.

For example:-

How many days were you absent from work in the past 12 months as a result of illness?

- <sup>1</sup> None
- <sup>2</sup> 1 – 5 days
- <sup>3</sup> 6 – 10 days
- <sup>4</sup> 11 – 15 days
- <sup>5</sup> Over 20 days

## ❖ **PRODUCTIVITY**

A 6-item productivity index was used, which assessed the respondents' ratings of their work performance and whether this was affected through alcohol consumption. A combination of nominal and ordinal scales were used to measure the concept of productivity.

For example,

How would you rate the quality of your work generally?

- <sup>1</sup> Excellent
- <sup>2</sup> Very good
- <sup>3</sup> Good
- <sup>4</sup> Neither good nor poor
- <sup>5</sup> Poor
- <sup>6</sup> Very poor

## ❖ **JOB SATISFACTION**

Respondents completed a 5-item job satisfaction index (rating of present work situation; problems with employer; amount of work done; time devoted outside work to improve skills; dislike of job), which included a combination of the ordinal and interval scales of measurements.

For example,

How do you feel about your present work situation?

- <sup>1</sup> Very Satisfied
- <sup>2</sup> Satisfied
- <sup>3</sup> Neither Satisfied nor Dissatisfied
- <sup>4</sup> Dissatisfied
- <sup>5</sup> Very Dissatisfied

#### ❖ **ORGANISATIONS' RULES AND POLICIES**

A 5-point Likert Scale was used to assess the employees knowledge of and attitudes towards their organisations' rules and policies. The scale ranged from strongly agree (1), agree (2), neither agree nor disagree (3), disagree (4) to strongly disagree (5).

Furthermore, employees were asked questions on the information the organisation distributes on alcohol abuse in the workplace.

#### **4.5 STATISTICAL ANALYSIS OF THE DATA**

Both descriptive and inferential analysis techniques were used in this study.

Statistics are facts and figures and consist of a set of methods and rules for organising and interpreting observations. According to Pilcher (1990), statistics are used for some of the following purposes:-

- To summarise research results in a meaningful way and in a convenient form.



- To make decisions about the confidence the researcher can have in generalising about a population from the information gained from the sample of that population.
- To determine whether or not a set of research findings may be due to chance.
- To make decisions about how closely two or more variables are related.

Statistical procedures which are used to describe or analyse the population or sample are called descriptive statistics. Inferential statistics are used when the researcher wishes to infer characteristics of the population from the observations made on a sample of that population (Reid:1987).

#### **4.5.1 DESCRIPTIVE STATISTICS**

Descriptive statistics is concerned with “the description and/or summarisation of the data obtained for a group of individuals” (Huysamen, 1990:3).

They are techniques which enable researchers to undertake the first task of analysis – the measuring, ordering and summarizing of data. It is basically used to describe the characteristics of a sample or population into one variable. For example, out of 100 employees:-

- The most common age group was between 21 – 30 years, and
- 47% of the employees were aged over 60 years.

Hence, descriptive statistics are simple statements which describe the shape of the data and present the information about one variable in readily understandable figures. Since

they are used in relation to only one variable at a time, they are sometimes referred to as “univariate” statistics (Reid:1987).

Descriptive statistics include frequencies as well as measures of central tendency, namely, the mean, median and mode, and measures of dispersion – the range, standard deviation and variance.

#### **4.5.1.1 FREQUENCIES**

Frequencies refer to the spread of the data over the various categories of a certain phenomenon, from which the percentage and cumulative percentage of the occurrence of the categories can be calculated. Frequencies are used on nominally scaled variables, and are grouped into various non-overlapping categories (Sekaran:1992).

#### **4.5.1.2 CUMULATIVE FREQUENCIES**

A rank or percentile rank of a particular score is the percentage of individuals in the distribution with scores at or below the particular value. The first step in determining percentiles is to find the number of individuals who are located at or below each point in a distribution. This can be done with a frequency distribution table by counting the number of responses in or below each category on the scale.

The resulting values are called cumulative frequencies since they represent the accumulation of individuals as you move up the scale. These frequencies are converted into percentages in order to calculate percentiles, which results in cumulative

percentages, since they show the percent of individuals which is accumulated as you move up the scale (Gravetter & Wallnau:1988).

#### **4.5.1.3 MEASURES OF CENTRAL TENDENCY**

Central tendency is a statistical measure which identifies a single score as a representative for an entire distribution (Gravetter & Wallnau:1988).

The goals of central tendency are:-

- To calculate the averages or the value in the middle of a distribution.
- To make comparisons between groups of individuals or between sets of figures (Gravetter & Wallnau:1988).

The three standard ways to measure central tendency are the mode, median and mean.

#### **❖ MODE**

Huysamen (1998:42) explains that “the mode of a collection of scores is the score value which has the highest frequency of occurrence”.

It is possible for a distribution to have two modes (bimodal) or to have more than two modes (multi-modal). It is also possible for a distribution with several equally high points to be described as having no mode (Gravetter & Wallnau:1988).

Reid (1987:72) distinguishes between the following advantages and disadvantages of the mode:-

➤ **ADVANTAGES**

- It is very easy to identify.
- It can be used with variables at any level of measurement.
- It is useful when the most common value in the distribution is required.

➤ **DISADVANTAGES**

- It is a crude measure, which does not take into account all the cases in a distribution.
- In a fairly evenly spread distribution, it can be misleading when the modal value happens to occur at one end of the range.

❖ **MEDIAN**

The median of a collection of scores “is the middlemost score when the scores have been arranged in ascending or descending order” (Huysamen, 1998:43). Exactly one half of the scores are less than or equal to the median and exactly one half are more than or equal to the median. Since exactly 50% of the scores fall at or below the median, this value is equivalent to the 50<sup>th</sup> percentile (Reid:1987).

The following advantages and disadvantages of the median are explained by Reid (1987) :-

➤ **ADVANTAGES**

- The median is easy to identify from a cumulative distribution.

- It represents the true middle of the data. It is not affected by the existence of values of the extremes of the range.

➤ **DISADVANTAGES**

- It can be used with the ordinal and interval level variables but not with nominal level variables, since the values cannot be arranged in any hierarchical order.
- It is based on only one case out of the entire distribution.

❖ **MEAN**

The mean or arithmetic average is the sum of all the values of a series, divided by the number of values. It offers a general picture of the data, by providing an average or centre value for the data. The mean is also suitable for comparing different samples of the same population, as well as estimating a total for a population when the mean and the number of the population are known (Martins et.al.:1996).

➤ **THE CENTRAL LIMIT THEOREM**

The Central Limit Theorem is a statement about the characteristics of the sampling of distribution of means of random samples from a given population.

It describes the characteristics of the distribution of values which would be obtained if it is possible to draw an infinite number of random samples of a given size from a given population and the mean of each sample was calculated (Dowdy & Wearden:1983; Hoffman:1985).

According to Hoffman (1985), the Central Limit Theorem consists of three statements:-

- The mean of the sampling distribution of means is equal to the mean of the population from which the samples were drawn.
- The variance of the sampling distribution of means is equal to the variance of the population from which the samples were drawn divided by the size of the samples.
- If the original population is distributed normally (that is, it is bell shaped), the sampling distribution of means will also be normal. If the original population is not normally distributed, the sampling distribution of means will increasingly approximate a normal distribution as sample size increases. (that is, when increasingly large samples are drawn).

#### ❖ OPEN-ENDED DISTRIBUTIONS

A distribution is said to be “open-ended” when there is no upper limit (or lower limit) for one of the categories. Table 4.3 is an example of an open-ended distribution, which shows the number of children in each family for a sample of  $n = 20$  households.

**TABLE 4.3**

#### **NUMBER OF CHILDREN PER HOUSEHOLD**

<b>Number of children</b>	<b>Frequency</b>
No children	4
1 – 3	6
4 – 6	3
7 or more	7

The bottom category in this distribution shows that seven of the families have “7 or more” children. This is an open-ended category, “for which it is impossible to compute the mean, range and standard deviation. Instead, the median can be computed” (Gravetter & Wallnau, 1988:76).

#### **4.5.1.4 MEASURES OF DISPERSION**

The variability or dispersion of a collection of scores refers to the size of the differences between each score and every other score. Three measures of variability will be discussed, namely, the range, variance and standard deviation. None of these measures of variability can be applied meaningfully to nominal data (Huysamen:1998).

##### **❖ RANGE**

The range of a sample of observations is the difference between the highest and lowest occurring values in a distribution (Cox:1987).

The disadvantage of using the range as a measure of variability is that it is completely determined by the two extreme values and ignores the other scores in the distribution. Since the range does not consider all the scores in the distribution, it often does not give an accurate description of the variability for the entire distribution and is therefore, an unreliable measure of variability (Gravetter & Wallnau:1988).

##### **❖ VARIANCE**

The variance accounts for the problems encountered when using the range. It is the mean of the squared deviations of the values from the mean. The variance is the

intermediate step to computing the standard deviation (Gravetter & Wallnau:1988). The disadvantage, however, is that it represents a squared value as opposed to the ordinary value of the mean with which it is compared. This is overcome by calculating the standard deviation (Reid:1987).

#### ❖ **STANDARD DEVIATION**

The standard deviation is the most commonly used and the most important measure of variability. It is a measure which is calculated as the square root of the variance and is the standard measure of variability from the mean and the measure of dispersion (Sekaran:1992).

The mean and standard deviation are often used together in the analysis of data because it is important to have a measure of central tendency and a measure of dispersion to get a sense of the distribution (Pilcher:1990).

The standard deviation is also usually preferred to the variance, because it is expressed in the same units as those of the original measurements (Huysamen:1998).

Whilst descriptive statistics are simply used to describe or analyse the population or sample, inferential statistics are used to infer characteristics of the population from the observations made on a sample of that population (Reid:1987).



## **4.5.2 INFERENCE STATISTICS**

If the entire population of interest is not accessible to the researcher, then only a portion of the population (sample) is observed. Inferential statistics involves making inferences regarding the properties (for example, the mean) of the population studied, on the basis of the results obtained for appropriately selected samples from this population (Dowdy & Wearden:1983; Huysamen:1990).

Through the distinction between the population (all the cases in which the researcher is interested in) and a sample (a selection of cases taken to represent the population), the researcher often has to base conclusions about the former on the more limited evidence of the latter. When this happens, the researcher is said to induce or infer the characteristics of the population from the characteristics of the sample. The purpose of inferential statistics is to assist the researcher in the production of a representative sample, and to enable the researcher to assess how representative the sample is (Reid:1987).

Inferential statistics include the t-Test, analysis of variance (ANOVA) and chi-square test.

### **4.5.2.1 t-TEST**

The t-Test is used to test hypotheses about the population mean ( $\mu$ ) and to establish the values of that mean when the value for the standard deviation ( $\sigma$ ) is not known. It is used in univariate situations, and is also frequently used with two variable or bivariate distributions (Cox:1990).

The t-Test is also used to see if there are any significant differences in the means for two groups in the variable of interest. It takes into consideration the means and standard deviations of the two groups on the variable and examines if the numerical difference in the mean is significantly different from zero, as postulated in the null hypothesis (Sekaran:1992).

#### **4.5.2.2 ANALYSIS OF VARIANCE (ANOVA)**

Whereas the t-Test is used to indicate whether or not there is a significant mean difference in a dependent variable between two groups, an analysis of variance (ANOVA) examines if there are any significant mean differences among two or more groups (Sekaran:1992).

ANOVA is a method for separating the total sum of squares of deviations (from the grand mean) into components corresponding to the several sources of variation present in the experiment (Tietjen:1986).

The ANOVA test assumes that the data are derived from a random sample. It can be used with one independent variable or in a multivariate situation. The independent variables can be nominal or ordinal with the dependent variable at the interval-level of measurement. It is called a one-way analysis of variance if only one independent variable is involved (Pilcher:1990).

Martins et.al.(1996) & Reid (1987) discuss two criteria which are taken into consideration when working with ANOVA:-

- a) measuring variations between columns or treatments, and
- b) measuring variations within columns or treatments.

### ❖ BETWEEN-TREATMENTS VARIABILITY

When two samples representing two treatment conditions are compared, there are three possible explanations for the differences (variability) between the sample means.

#### ➤ TREATMENT EFFECT

It is possible that the different treatments have caused the samples to be different.

#### ➤ INDIVIDUAL DIFFERENCES

Subjects or respondents have different backgrounds, abilities and attitudes, which make them unique individuals. When separate samples (different groups of individuals) are compared, it is possible that the differences between samples are simply the result of individual differences.

#### ➤ EXPERIMENTAL ERROR

Whenever a measurement is made, there is a chance of error, which can be caused by poor equipment, lack of attention or unpredictable changes in the event which is being measured. This kind of uncontrolled and unexplained difference is called “experimental error” and it can cause two samples to be different (Teitjen:1986).

### ❖ WITHIN-TREATMENT VARIABILITY

There are two possible explanations for variability with a treatment condition:-

### ➤ **INDIVIDUAL DIFFERENCES**

The scores are obtained from different individuals which could explain why scores are variable.

### ➤ **EXPERIMENTAL ERROR**

There is always the chance that the differences are caused by experimental error (Martins et.al.:1996 & Reid:1987)

Once the between and within treatment variations have been established, the between treatment variations are divided by the within treatment variations. The statistic arrived at, F-ratio (named after the statistician R.A. Fisher), indicates the level of confidence at which the researcher will be able to state that variations exist between the treatments. The higher this statistic, the greater the confidence will be (Martins et.al.:1996).

### **4.5.2.3 CHI-SQUARE TEST**

Chi-square tests are a type of non-parametric technique which tests hypotheses about the form of the entire frequency distribution. It applies to nominal data and is concerned with whether the differences between an observed set of frequencies and a theoretically expected set of frequencies are significant. The test is based on the assumption that the sample is randomly selected from the population (Martins et.al.:1996).

Reid (1987) explains that the chi-square test can only be performed when the following two conditions are in place: when the observations are independent, that is, no

response should be related to or dependent upon any other responses and where the subject also has to fall in one and only one category, that is, choose the response which is most preferred.

The value of the chi-square measures the discrepancy between the observed frequencies (data) and the expected frequencies ( $H_0$ ). Hence, when there are large differences between these frequencies, the value of the chi-square will be large and this leads to the conclusion that the data does not fit the hypothesis. Similarly, a small chi-square value indicates a failure to reject the null hypothesis. Chi-square values are always positive (zero or larger), which implies that a typical chi-square distribution will be positively skewed (Dowdy & Wearden:1983; Gravetter & Wallnau:1988).

#### **4.6 STATISTICAL ANALYSIS OF THE QUESTIONNAIRE**

The goodness of a measure is determined on the basis of its validity and reliability. Validity tests how well an instrument measures the particular concept it is supposed to measure. Reliability tests how consistently a measuring instrument measures whatever concept it is measuring. It refers to the extent to which the obtained scores may be generalised to different measuring occasions (Pearson:1991 & Welman & Kruger:1999).

Hence, validity is concerned with whether the right concept is being measured and reliability is concerned with stability and consistency in measurement. Validity and reliability attest to the scientific rigour applied to the research study (Sekaran:1992).

#### **4.6.1 VALIDITY : FACTOR ANALYSIS**

Multivariate analysis is an application of methods which deal with reasonably large numbers of measurements (or variables) made on each object in one or more samples simultaneously. Multivariate techniques differ from univariate and bivariate analysis by directing the attention away from the analysis of the mean and variance of a single variable to the analysis of the covariances or correlations affecting the extent of the relationship among three or more variables (Dillon & Goldstein:1984). Factor analysis is one of the multivariate techniques used in the study.

Factorial validity can be established by submitting the data obtained from the questionnaires for factor analysis, which is a multivariate technique. Factor analysis would reveal whether the theorised dimensions to operationalise the concept being measured are indeed tapped by the items in the questionnaire (Sekaran:1992).

Dillon & Goldstein (1984:53) define factor analysis as “the study of interrelationships among the variables in an effort to find a new set of variables, fewer in number than the original set of variables, which express that which is common among the original variables”. The factors are correlated so that they retain the maximum amount of information available in the original variables (Peterson:1988).

Mercer (1992) explains that factor analysis is primarily a tool used in “data reduction”, to reduce a large number of possible variables to a smaller, aggregated or summarised number which can be handled more easily.

#### **4.6.1.1 OBJECTIVES OF FACTOR ANALYSIS**

According to Peterson (1988), the general objectives of factor analysis include any or all of the following:-

- Deriving a set of uncorrelated variables.
- Grouping variables according to their relationships with one another.
- Describing the underlying structure of a data set.
- Classifying variables with respect to other known variables.

#### **4.6.1.2 CONVENTIONAL FACTOR ANALYSIS PROCESS**

The major activity stages in a typical factor analysis include the following steps, as outline by Peterson (1988):-

##### **➤ COMPUTATION OF CORRELATION COEFFICIENTS**

The researcher begins with a raw data matrix of interval- or ratio-scaled variables, and then computes correlation coefficients between all pairs of variables, resulting in a matrix of correlation coefficients (Peterson:1988).

When calculating the correlation matrix, two classes of factor analysis can be distinguished, namely, R-factor analysis and Q-factor analysis. In R-factor analysis, the correlations are calculated between variables, whilst in Q-factor analysis they are calculated between cases (Kinnear & Taylor:1987).

### ➤ **COMPUTATION OF INITIAL FACTORS**

The correlation coefficients are subjected to an initial factor analysis, which results in an unrotated matrix of factor loadings. The object of factor extraction is to find a set of factors that are formed as a linear combination of the variables in the correlation matrix. One method which is used to extract the initial factors is called the principal factors method. For example, if the variables  $X_1$ ,  $X_2$  and  $X_3$  were highly correlated with each other, they would be combined together to form one factor (Barker & Barker:1994; Peterson:1988).

### ➤ **ROTATION**

The initial factors are often difficult to interpret and are hence, rotated or manipulated to yield a rotated factor loading matrix. The two types of rotation are orthogonal rotation, which keeps the factors as uncorrelated with each other, and oblique rotation, which allows the factors to be correlated with each other (Kinnear & Taylor:1987).

### ➤ **CALCULATION OF FACTOR SCORES**

The final factor analysis step is to calculate a factor score for each study object on each rotated factor, resulting in a factor score matrix (Peterson:1988).

An eigenvalue indicates the portion of variance of the variables which is common with the factor score (Barker & Barker:1984). To mathematically calculate an eigenvalue, square each loading for a factor, add, and then divide the result by the number of variables (Kinnear & Taylor:1987).



#### **4.6.1.3 COMMUNALITY**

Factor analysis allows the breaking down of a variable into a number of distinct components, one of which is called the communality of a variable. Communality of the proportion of a variable's variance is due to factors common with the remaining variables in a factor analysis (Cliff:1987; Dillon & Goldstein:1984).

Communalities are mathematically denoted by  $h^2$ , which is the sum of the squared loading of a variable on all factors (Kinnear & Taylor:1988).

#### **4.6.1.4 PERCENTAGE OF VARIANCE**

In addition to communality, a variable also has a unique variance component, which is denoted by  $u^2$ , and this is the variance not accounted for by other variables. Hence, the total variable variance is composed of the common variance and the unique variance (Peterson:1988).

#### **4.6.2 RELIABILITY: CRONBACH'S COEFFICIENT ALPHA**

Reliability refers to the extent to which a scale produces identical results if a particular characteristic is measured repeatedly (Peterson, 1988:280). A reliability coefficient is an index whose values range from 0 (no reliability) to 1 (perfect reliability), and is used to quantitatively express the reliability of a scale.

Cronbach's Coefficient Alpha is one approach to measuring the reliability of a scale. Its is a reliability coefficient that reflects how well the items in a set are positively correlated to one another. It is computed in terms of the average intercorrelations

among the items measuring the concept. The closer Cronbach's Alpha is to 1, the higher the internal consistency or reliability (Peterson:1988).

Reliabilities less than 0.60 for Cronbach's Alpha are generally considered to be poor, those in the 0.70 range to be acceptable and those over 0.80 to be good (Sekaran:1992).

#### **4.7 CONCLUSION**

The primary objectives of this research, the sampling technique used (cluster sampling) and a description of the research sample, and the sample characteristics have been outlined.

An overview of the research instrument used (questionnaire) is provided, which included its description and purpose, pretesting and validation and its administration. A review of the statistical methods used, namely, descriptive and inferential statistics, was included. Finally, a statistical analysis of the questionnaire was conducted in terms of validity (factor analysis) and reliability (Cronbach's Coefficient Alpha). Chapter five presents a discussion on the results and findings of the research generated.

## **CHAPTER FIVE**

### **PRESENTATION OF RESULTS**

#### **5.1 INTRODUCTION**

A statistical analysis of the data is conducted to establish the following:-

- Whether alcohol consumption affects an employee's workplace safety, absenteeism and tardiness, and productivity.
- Whether an employee's job satisfaction determines his or her level of alcohol consumption.
- Whether significant relationships exist between alcohol consumption and each of the biographical variables of the sample, respectively.
- Whether a significant relationship exists between the biographical data of the sample and the work-related factors of workplace safety, absenteeism and tardiness, productivity and job satisfaction, respectively.
- Whether a significant relationship exists between the respective biographical data of the sample and the employees' knowledge of the organisation's rules and policies on alcohol consumption.

The t-Test, chi-square test, analysis of variance (ANOVA) and descriptive tests were used to measure the above relationships. The psychometric properties of validity (factor analysis) and reliability (Cronbach's Alpha) were used to test the goodness of the measuring instrument.

## 5.2 RESULTS OF THE STUDY

### 5.2.1 ALCOHOL CONSUMPTION PATTERNS

FIGURE 5.1

BAR GRAPH : THE PERCENTAGE OF SUBJECTS WHO HAVE  
CONSUMED ALCOHOL IN THEIR LIFE-TIME

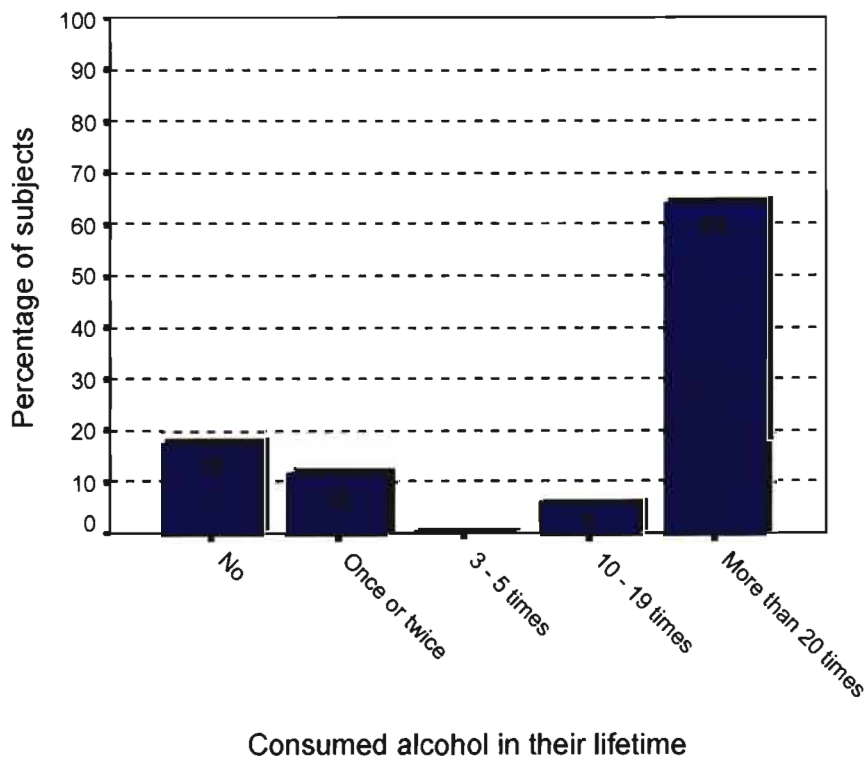


Figure 5.1 is a representation of the percentage of subjects who have consumed alcohol in their life-time, and the frequency of the consumption. Of the 280 subjects, the majority (64.29%) responded that they have consumed alcohol 20 times or more during their lifetime. Forty nine subjects (17.5%) never consumed alcohol, whilst 11.8% (N = 33) consumed alcohol just once or twice in their lifetimes. There were 6.1% or 17 subjects whose alcohol consumption was between 10 – 19 times.

**FIGURE 5.2**

**PIE CHART : SUBJECTS' CONSUMPTION OF ALCOHOL OVER THE  
PAST 30 DAYS**

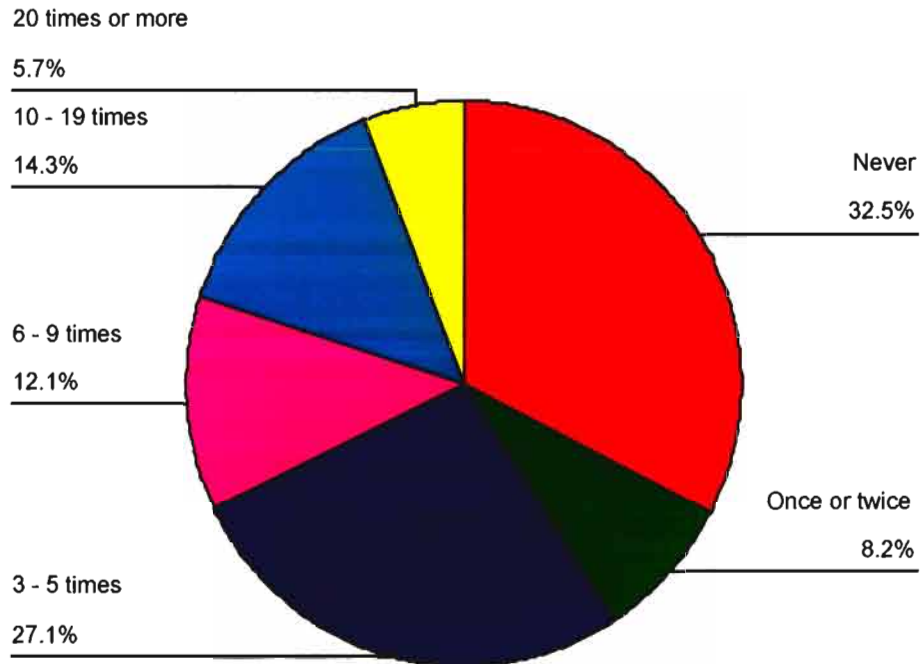


Figure 5.2 illustrates the subjects' consumption of alcohol over the past 30 days. Close to one-third (N = 91 or 32.5%) of the subjects did not consume any alcoholic beverage over the past 30 days. However, 27.1% (N = 76) consumed alcohol between 3 and 5 occasions during the same period. There were 40 (14.3%) and 34 (12.1%) subjects whose alcohol consumption during the past 30 days was 10 – 19 times and 6 – 9 times respectively. Only 16 or 5.7% of the subjects had consumed alcohol on 20 or more occasions during this period.

**FIGURE 5.3**

**BAR CHART : SUBJECTS' CONSUMPTION OF ALCOHOL OVER THE PAST 12 MONTHS**

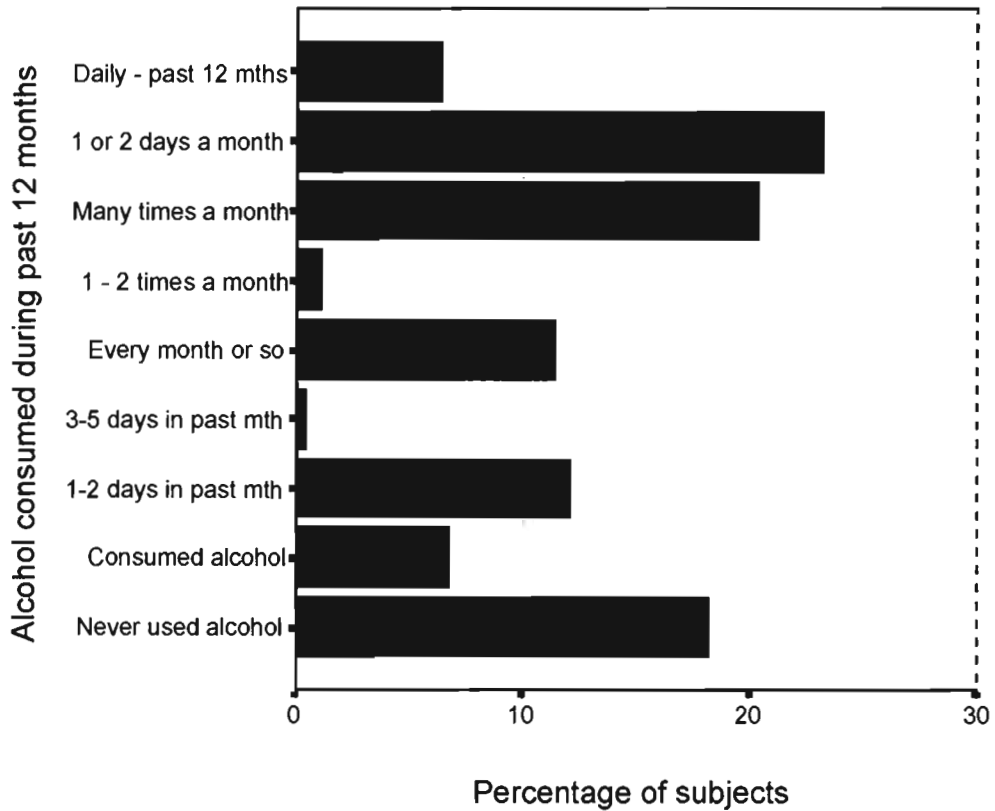


Figure 5.3 represents the subjects' consumption of alcohol over the past 12 months. During the period, 65 (23.2%) of the subjects had consumed an alcoholic beverage about 1 or 2 days a week. There were 57 subjects (20.4%) who consumed alcohol several times a month, whilst 51 subjects or 18.2% stated they had never had a drink of beer, wine or liquor in their life. The remaining 34 subjects (12.1%) had consumed alcohol only for 1 or 2 days in the past 12 months. None of the subjects' consumed alcohol for 3-6 days during this period.

### Hypothesis 1:

There is a significant relationship between alcohol consumption levels and each of the biographical variables (age, gender, marital status, number of children, highest educational qualification, occupation, tenure, income, organisation and location) respectively.

**TABLE 5.1**  
**CHI-SQUARE : ALCOHOL CONSUMPTION LEVELS**

VARIABLE	VALUE	DF	SIGN
Age	285.55	44	<b>0.000*</b>
Gender	59.67	11	<b>0.000*</b>
Marital status	358.57	44	<b>0.000*</b>
Number of children	193.78	22	<b>0.000*</b>
Highest educational qualification	322.41	44	<b>0.000*</b>
Occupation	287.43	55	<b>0.000*</b>
Tenure	326.70	44	<b>0.000*</b>
Income	589.22	44	<b>0.000*</b>
Organisation	66.46	22	<b>0.000*</b>
Location	21.14	11	<b>0.032**</b>

\*  $p < 0.01$     \*\*  $p < 0.05$

The chi-square analysis in Table 5.1 indicates that there are a significant relationships between alcohol consumption levels and each of the biographical variables (age, gender, marital status, number of children, highest educational qualification, occupation, tenure, income and organisation) respectively, at the 1% level of significance. Furthermore, the former is significantly related to the location of the organisation, at the 5% level of significance.

**Hypothesis 2:**

There is a significant relationship between the number of times the subject has consumed alcohol and his or her consumption over the past 30 days.

**TABLE 5.2**  
**CHI-SQUARE : NUMBER OF TIMES SUBJECT HAS CONSUMED**  
**ALCOHOL IN LIFE-TIME**

<b>VARIABLE</b>	<b>VALUE</b>	<b>DF</b>	<b>SIGN</b>
Consumption of alcohol over past 30 days	318.39	20	<b>0.000*</b>

**\* p < 0.01**

From the chi-square results in Table 5.2, it is evident there is a significant relationship between the number of times the subject has consumed alcohol in his or her life-time and his or her consumption over the past 30 days. Hence, the null hypothesis is rejected at the 0.05 level of significance.



**5.2.2 ALCOHOL CONSUMPTION WITH COLLEAGUES AT WORK, AND ITS EFFECTS**

**FIGURE 5.4**

**AREA CHART : SUBJECTS' CO-WORKERS WHO HAVE GONE DRINKING TOGETHER OFF-THE-JOB**

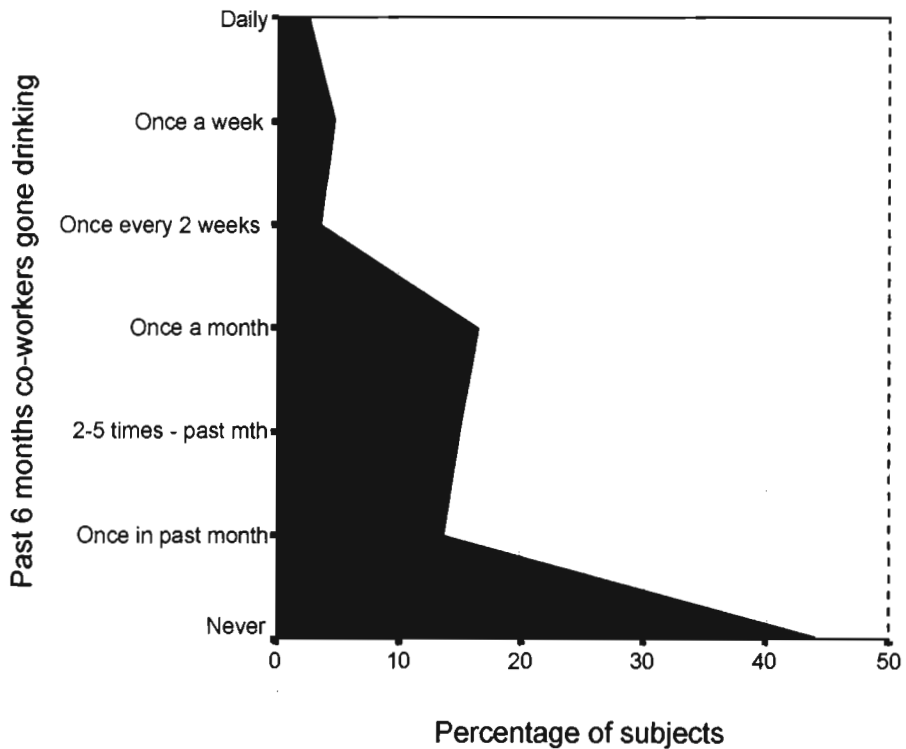


Figure 5.4 is an illustration of the percentage of subjects' co-workers who have gone drinking together off-the-job. The majority of subjects (N = 124 or 44.3%) stated over the past six months their co-workers had never gone drinking together after work. There were 46 subjects (16.4%) who said their co-workers had gone drinking together off-the-job around once a month during this period, whilst 42 subjects (15%) said this happened between 2 – 5 times in the past six months. Ten or 3.6% of the subjects maintained that over this period their co-workers had gone drinking together off-the-job once every fortnight, whilst 7 (2.5%) did so on a daily basis.

**FIGURE 5.5**

**PIE CHART : HOW OFTEN THE SUBJECTS ACCOMPANIED THEIR CO-WORKERS AFTER WORK TO DRINK**

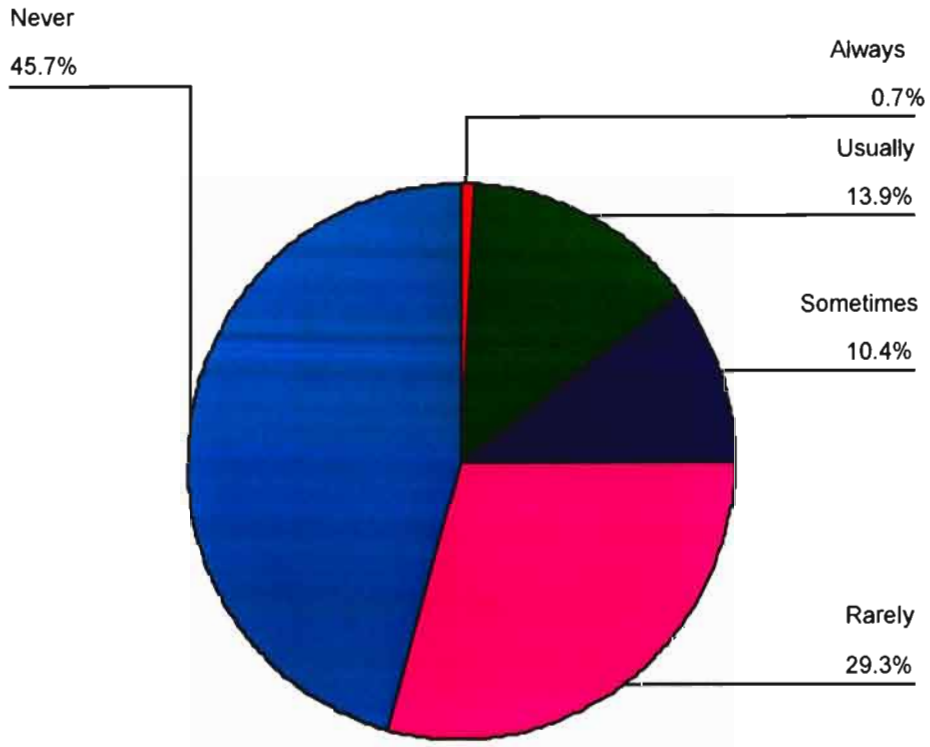


Figure 5.5 represents how often the subjects joined their co-workers for a drink after work. There were 128 subjects (45.7%) who said they never joined their co-workers to go drinking together off-the-job, whilst 82 (29.3%) maintained they rarely did this. Thirty-nine of the subjects or 13.9% said they usually joined their co-workers after work to go drinking. Only 2 (0.7%) of them said they always accompanied their co-workers.

FIGURE 5.6

LINE CHART : THE AMOUNT OF TALK AT WORK ABOUT DRINKING

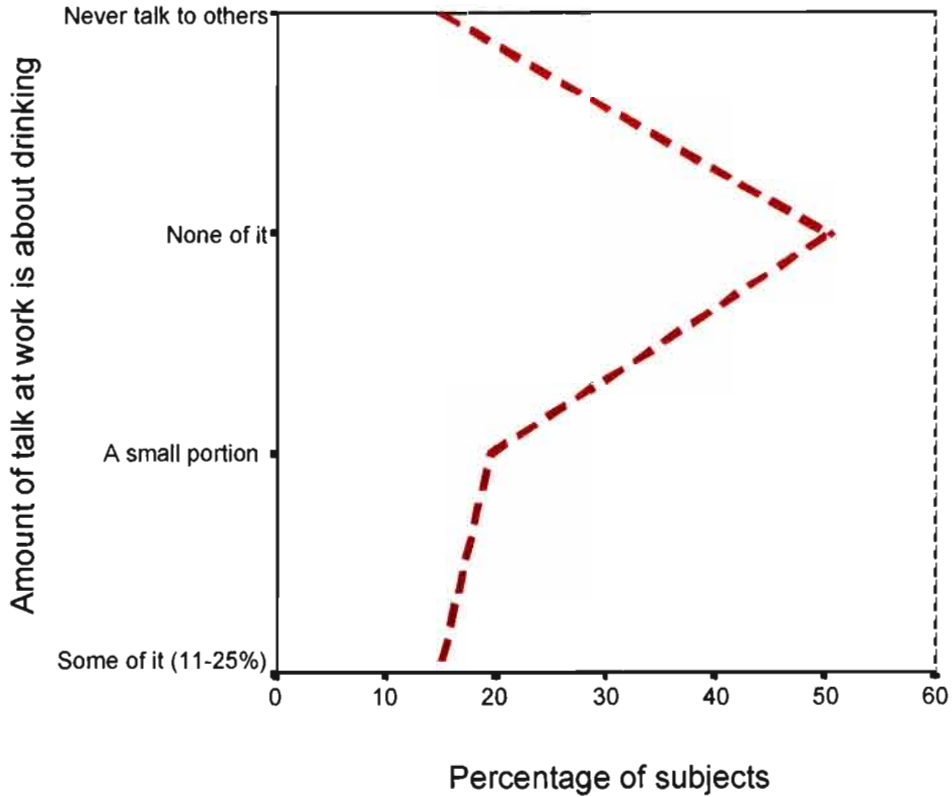


Figure 5.6 depicts the amount of talk at work about drinking or activities involving drinking. More than half of the subjects (N = 141 or 50.4%) pointed out that none of the talk at work is about alcohol-related issues. There were 55 subjects (19.6%) who said that only a small portion of the talk involved these issues. An equal number of 42 subjects (15%) maintained they never speak to others at work or that some of the talk (11-25%) at work was on drinking or activities involving drinking. None of the subjects indicated there was more than 25% of the talk at work on these issues.

**FIGURE 5.7**

**BAR GRAPH : PERCENTAGE OF FRIENDS WHO DRANK AT WORK  
OVER THE PAST SIX MONTHS**

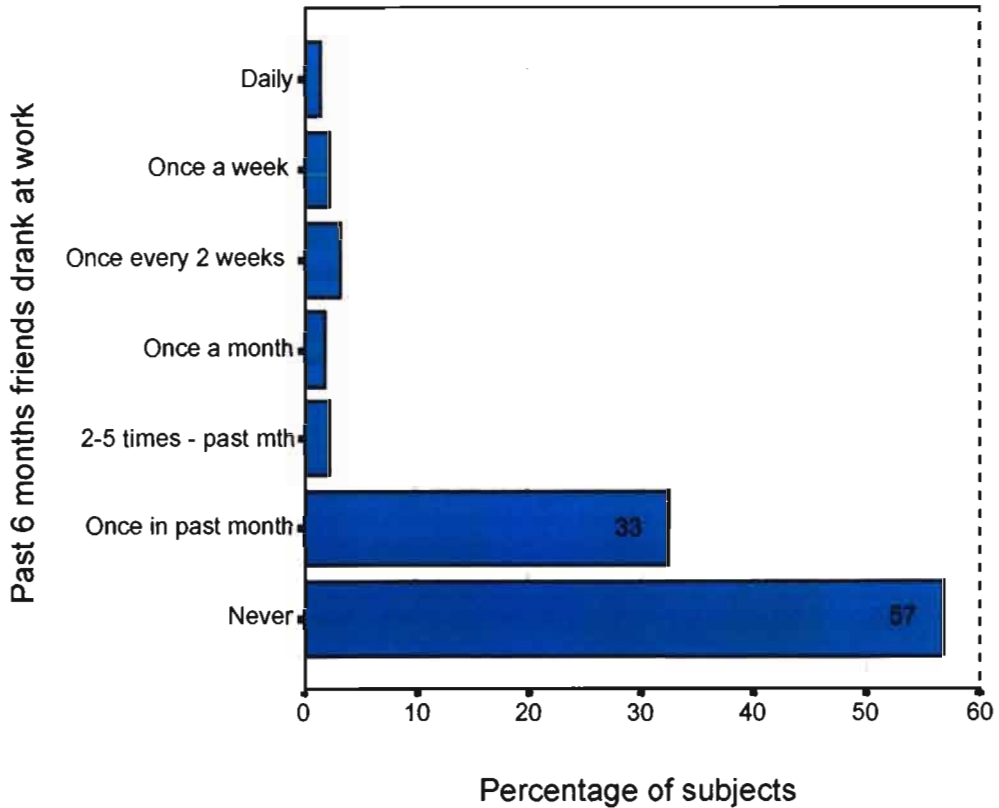


Figure 5.7 is a representation of the percentage of subjects whose friends drank at work over the past six months. More than half of the subjects, that is, 159 or 56.8% maintained that over the past six months their friends had never consumed alcohol at work. There were 32.5% or 91 subjects who said their friends had consumed alcohol at work only once in the past six months. Only 1.4% (N = 4) of the subjects had friends who drank daily at work.

**FIGURE 5.8**

**PIE CHART : NUMBER OF TIMES SUBJECTS DRANK AT WORK TO  
CELEBRATE AN OCCASION**

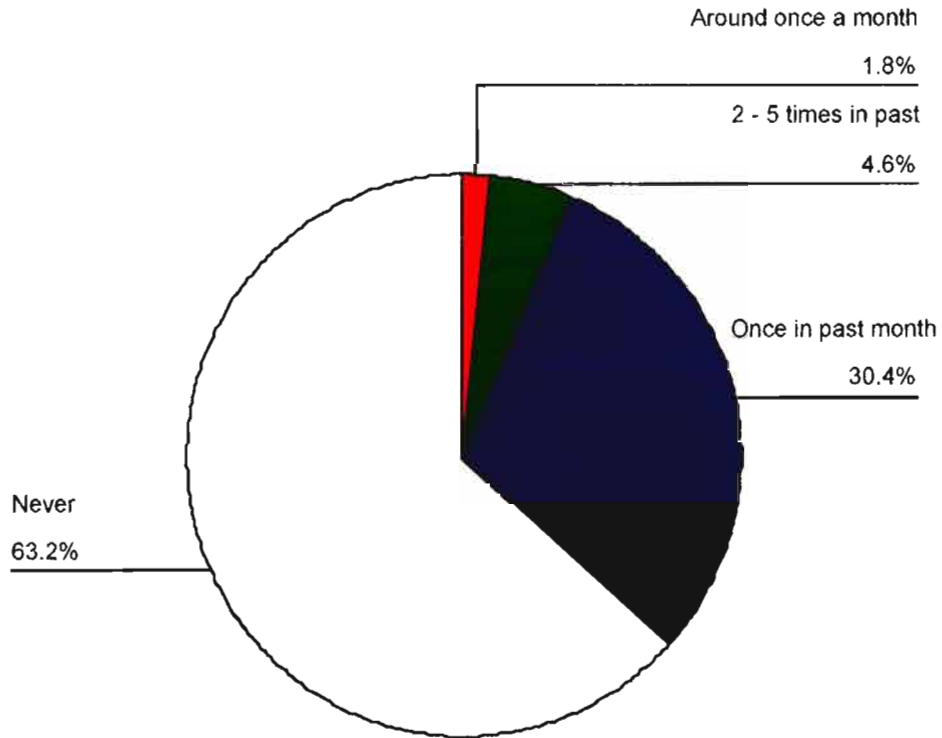


Figure 5.8 illustrates the number of times the subjects drank at work during the past six months to celebrate something. The majority of the subjects (N = 177 or 63.2%) had never consumed alcohol at work over the past six months to celebrate an occasion. There were 85 subjects or 30.4% who did so only once in the past six months. During this period, 13 (4.6%) and 5 (1.8%) of the subjects drank at work to celebrate something between 2 – 5 times and around once a month respectively. None of the subjects consumed alcohol more than once a month for this reason.

**FIGURE 5.9**

**BAR GRAPH : SUBJECTS' CONSUMPTION OF ALCOHOL AT WORK  
DURING A TYPICAL WEEK**

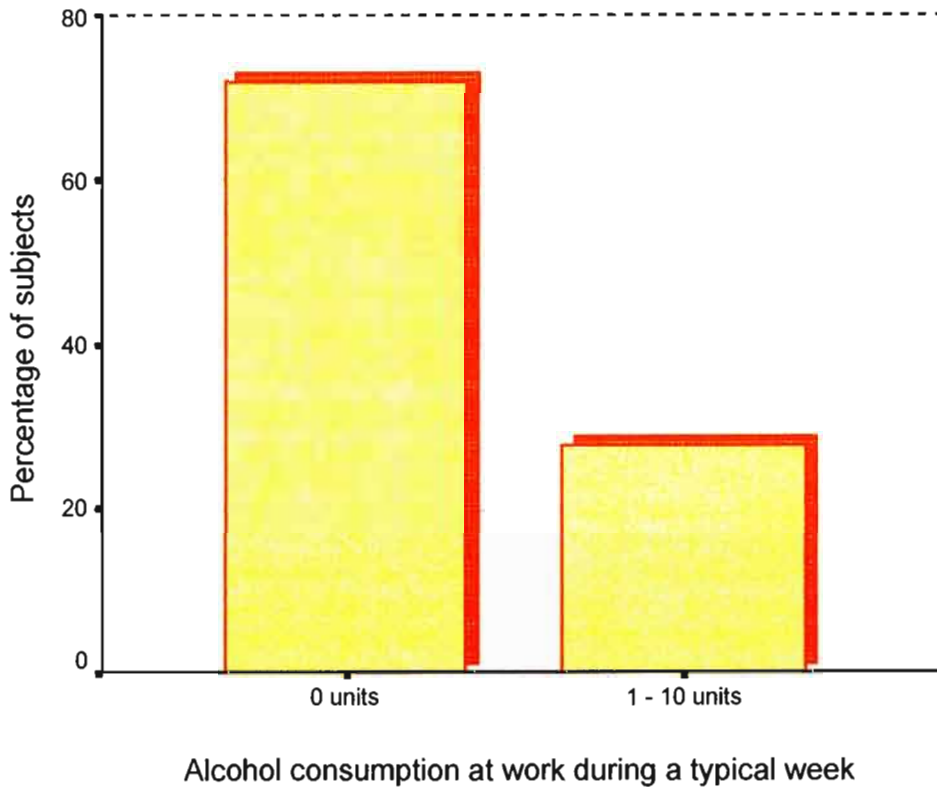


Figure 5.9 is a representation of the subjects' alcohol consumption at work during a typical week. Close to three-quarters of the subjects, that is, 72.1% or 202 indicated that during a typical week they consume 0 units of alcohol whilst at work (including lunch and other breaks). The remaining 27.9% of the subjects (N = 78) consumed 1 – 10 units of alcohol at work during this same period.

**FIGURE 5.10**

**LINE CHART : THE SUBJECTS' CONSUMPTION OF ALCOHOL AS COMPARED TO THOSE THEY WORK WITH**



Figure 5.10 depicts the subjects' consumption of alcohol as compared to the people they work with. The majority of the subjects ( $N = 120$  or 42.9%) indicated that they consume the same amount of alcohol as their co-workers. There were 88 or 31.4% of the subjects who do not consume alcohol, whilst 68 (24.3%) indicated that they drink less when compared to their co-workers. Only 4 subjects (1.4%) said they consume more alcohol than their co-workers.

**FIGURE 5.11**

**PIE CHART : THE EFFECTS OF ALCOHOL FELT AT WORK**

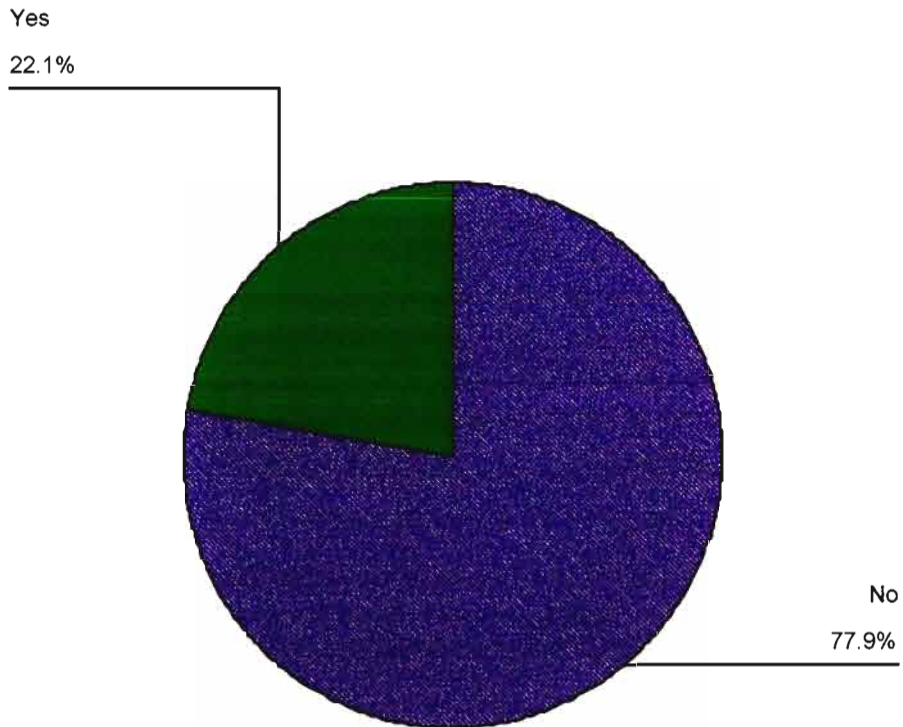


Figure 5.11 illustrates whether the subjects have felt the effects of alcohol whilst at work. More than three quarters of the subjects (N = 218 or 77.9%) indicated they have never felt the effects of alcohol at work. The remaining 62 or 22.1% agreed this had happened to them.



**FIGURE 5.12**

**BAR GRAPH : THE FREQUENCY WITH WHICH THE SUBJECTS FELT THE EFFECTS OF ALCOHOL AT WORK**

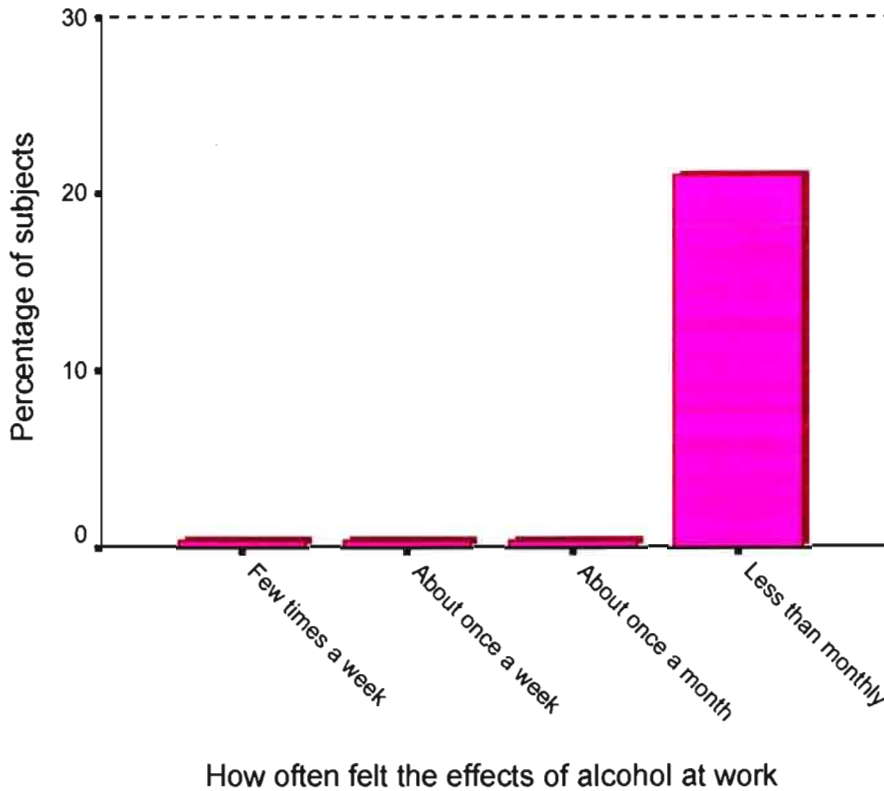


Figure 5.12 represents how often the subjects felt the effects of alcohol whilst at work. Of the 62 subjects who previously indicated that they felt the effects of alcohol whilst at work, 59 subjects (21.1%) indicated this happened less than monthly. There were 3 subjects (0.4%) who individually felt this was the case either about once a month, about once a week, or few times a week. The remaining 218 subjects (77.9%) were those who had never felt the effects of alcohol whilst at work.

**FIGURE 5.13**

**PIE CHART : PERCENTAGE OF SUBJECTS WHO NOTICED THEIR COLLEAGUES EXPERIENCE THE EFFECTS OF ALCOHOL AT WORK**

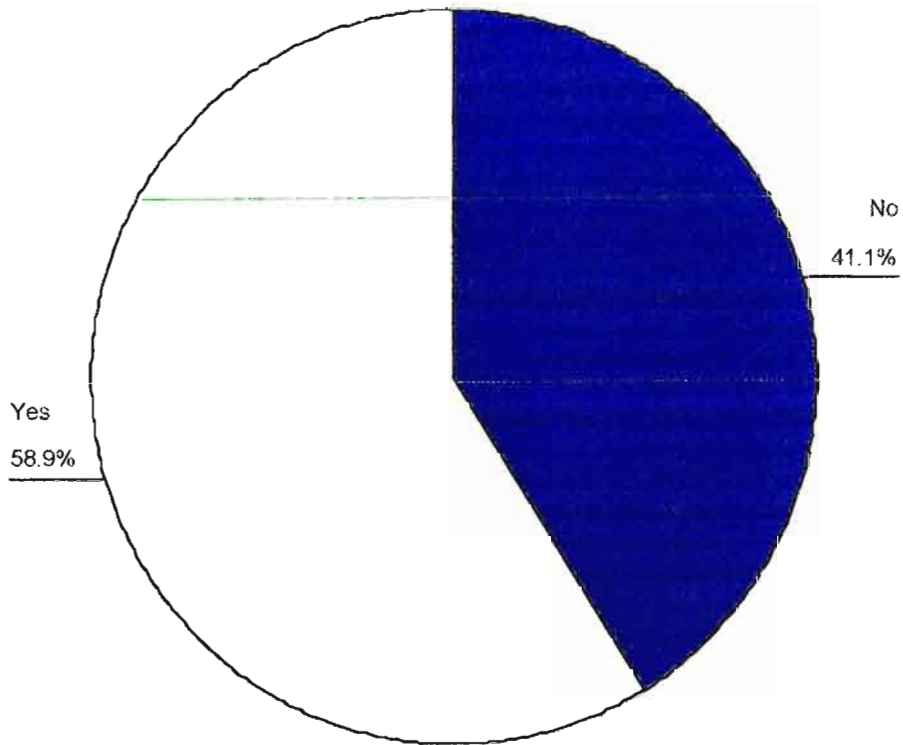


Figure 5.13 is an illustration of the percentage of subjects who noticed their colleagues feeling the effects of alcohol whilst at work. More than half of the subjects (N = 165 or 58.9%) said they noticed their colleagues feeling the effects of alcohol, whilst the remaining 41.1% (N = 115) indicated this never happened.

**FIGURE 5.14**

**AREA CHART : FREQUENCY WITH WHICH SUBJECTS NOTICED COLLEAGUE EXPERIENCING THE EFFECTS OF ALCOHOL AT WORK**

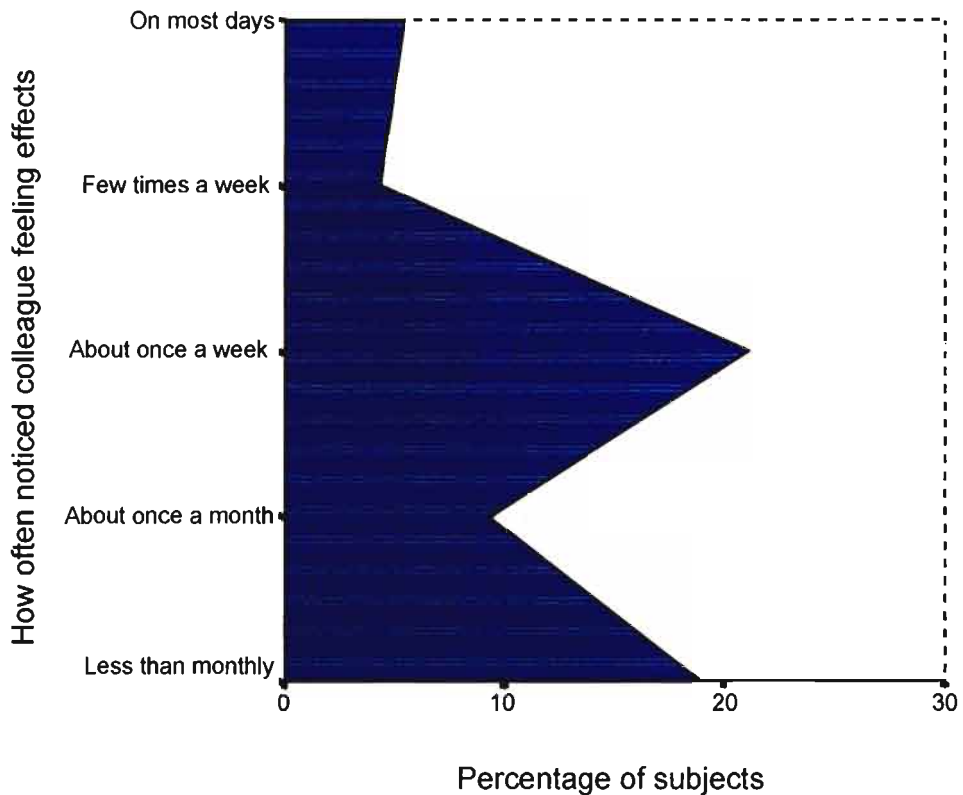


Figure 5.14 depicts the frequency with which the subjects noticed a colleague experiencing the effects of alcohol whilst at work. Of the 165 subjects who noticed a colleague feeling the effects of alcohol, 59 of them (21.1%) indicated that they noticed this about once a week, whilst 18.9% or 53 subjects noticed this happening less than monthly. There were 15 subjects (5.4%) who indicated that they noticed this on most days. The remaining 115 subjects (41.1%) had previously said they have never noticed a colleague feeling the effects of alcohol at work.

**FIGURE 5.15**

**PIE CHART: PERCENTAGE OF SUBJECTS WHO FEEL THEIR COLLEAGUES HAVE A DRINKING PROBLEM**

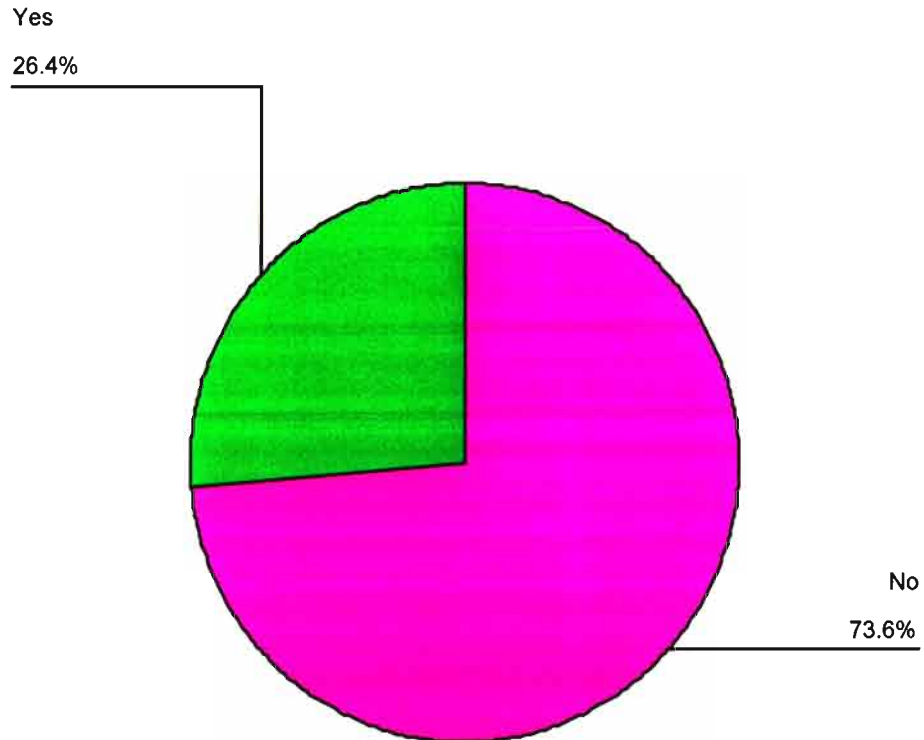


Figure 5.15 represents the percentage of subjects who believe their colleagues have a drinking problem. The majority of subjects, that is, 73.6% (N = 206) do not believe their colleagues have a drinking problem, whilst the remaining 26.4% or 74 subjects believe this is the case.

### Hypothesis 3:

There is a significant relationship between the amount of alcohol consumed at work during a typical week and each of the biographical variables (age, gender, marital status, number of children, highest educational level, occupation, tenure, income, organisation and location) respectively.

**TABLE 5.3**  
**CHI-SQUARE : ALCOHOL CONSUMPTION AT WORK DURING A**  
**TYPICAL WEEK**

VARIABLE	CHI-SQUARE	DF	SIGN
Age	10.13	4	<b>0.038**</b>
Gender	7.25	1	<b>0.007*</b>
Marital status	105.62	4	<b>0.000*</b>
Children	24.08	2	<b>0.000*</b>
Education	18.59	4	<b>0.001*</b>
Occupation	41.6	5	<b>0.000*</b>
Tenure	105.77	4	<b>0.000*</b>
Income	115.30	4	<b>0.000*</b>
Organisation	13.59	2	<b>0.001*</b>
Location	13.37	1	<b>0.000*</b>

\*  $p < 0.01$

\*\*  $p < 0.05$

From Table 5.3, the null hypothesis is rejected at the 0.05 level of significance. Hence, there is a significant relationship between alcohol consumption at work during a typical week and each of the biographical variables (age, gender, marital status, number of children, highest educational level, occupation, tenure, income, organisation and location) respectively.

#### Hypothesis 4:

There is a significant relationship between how often the effects of alcohol is felt at work and each of the biographical variables (age, gender, marital status, number of children, highest educational level, occupation, tenure, income, organisation and location) respectively.

**TABLE 5.4**

**CHI-SQUARE : HOW OFTEN THE EFFECTS OF ALCOHOL IS FELT AT WORK**

VARIABLE	VALUE	DF	SIGN
Age	4.85	6	0.663
Gender	3.28	3	0.350
Marital status	2.13	12	0.999
Children	7.14	6	0.309
Education	62.88	6	<b>0.000*</b>
Occupation	95.63	15	<b>0.000*</b>
Tenure	52.89	12	<b>0.000*</b>
Income	25.52	12	<b>0.013**</b>
Organisation	12.41	6	0.053
Location	2.77	3	0.428

\*  $p < 0.01$     \*\*  $p < 0.05$

From Table 5.4 it is apparent that there are no significant relationships between how often the effects of alcohol is felt at work and each of the biographical variables (age, gender, marital status, number of children, organisation and location) respectively. The null hypothesis can therefore be accepted at, at least the 95% confidence interval. However, there are significant relationships between how often the effects of alcohol is felt at work and each of the biographical variables (highest educational level, occupation and tenure) respectively, at the 1% level of significance. Furthermore, the former is significantly related to income at the 5% level of significance.

### Hypothesis 5:

There is a significant relationship between the amount of alcohol consumed at work during a week and the frequency of alcohol consumption, the effects of alcohol as experienced at work and work-related alcohol consumption issues (how often work is incomplete due to alcohol consumption, how the subject feels about the present work situation, whether problems are experienced with the people at work and whether the subject dislikes going to work) respectively.

**TABLE 5.5**  
**CHI-SQUARE : AMOUNT OF ALCOHOL CONSUMED AT WORK DURING**  
**A WEEK**

<b>VARIABLE</b>	<b>VALUE</b>	<b>DF</b>	<b>SIGN</b>
Number of times consumed alcohol	79.33	4	<b>0.000*</b>
Felt the effects of alcohol at work	179.49	1	<b>0.000*</b>
How often work is incomplete due to alcohol consumption	185.35	1	<b>0.000*</b>
Feel about present work situation	71.99	4	<b>0.000*</b>
Experience problems with the people at work	20.51	2	<b>0.000*</b>
Dislike going to work	9.13	2	<b>0.000*</b>

**\* p < 0.01**

The chi-square test in Table 5.5 denotes a significant relationship between the amount of alcohol consumed at work during a week and the frequency of alcohol consumption, the effects of alcohol as experienced at work, and work-related alcohol consumption issues (how often work is incomplete due to alcohol consumption, how the subject feels about the present work situation, whether problems are experienced

with the people at work and whether the subject dislikes going to work) respectively. The null hypothesis is therefore, rejected at the 5% level of significance.

### 5.2.3 WORKPLACE SAFETY

FIGURE 5.16

PIE CHART : PERCENTAGE OF SUBJECTS WHO HAVE BEEN INVOLVED IN A WORK-RELATED ACCIDENT

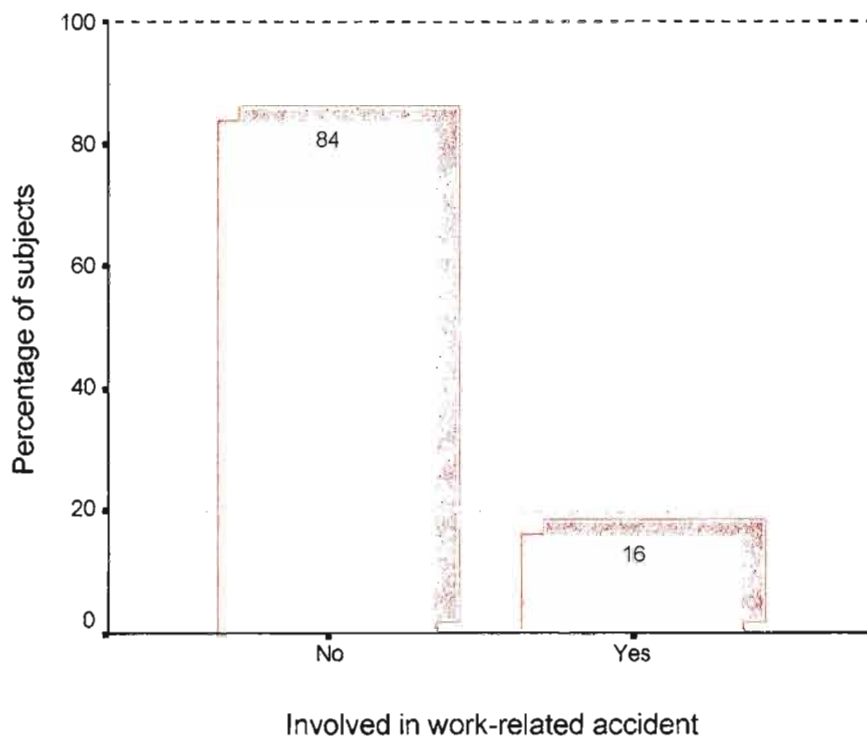


Figure 5.16 represents the percentage of subjects who have been involved in a work-related accident. More than three-quarters of the subjects ( $N = 235$  or 83.9%) have never been involved in a work-related accident, whilst this has happened to the remaining 45 subjects (16.1%).



FIGURE 5.17

**BAR GRAPH : PERCENTAGE OF SUBJECTS WHO WERE INVOLVED IN A  
WORK-RELATED ACCIDENT OVER THE PAST 12 MONTHS**

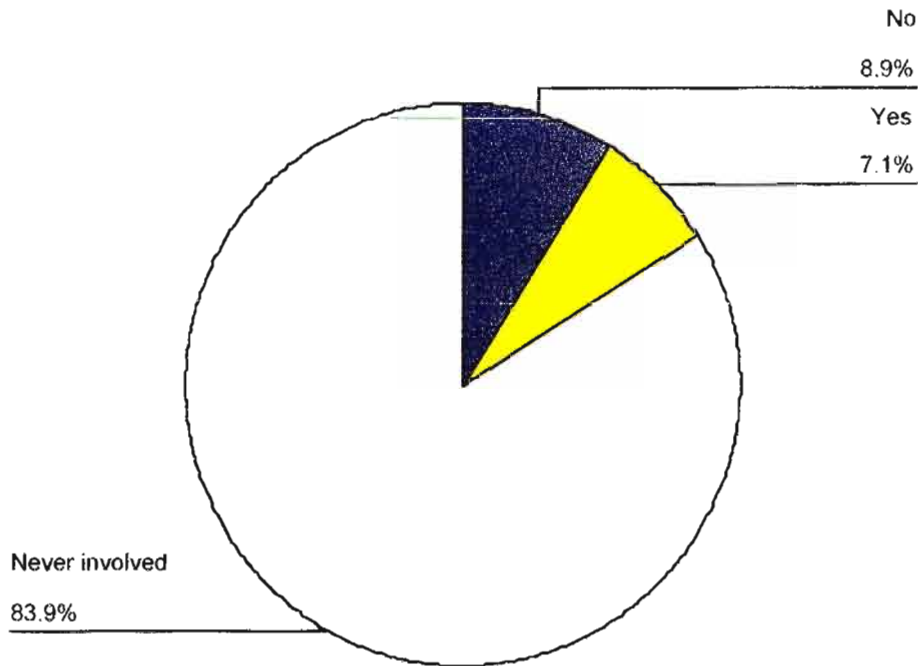


Figure 5.17 illustrates the percentage of subjects who were involved in work-related accidents during the past 12 months. Of the 45 subjects who previously said they were involved in a work-related accident, 20 subjects (7.1%) said the accident occurred over the past 12 months, whilst 25 (8.9%) indicated this happened prior to this period. The remaining 83.9% or 235 subjects indicated that they were never involved in a work-related accident.

**FIGURE 5.18**

**PIE CHART : PERCENTAGE OF SUBJECTS WHO WERE REQUIRED TO  
TAKE AN ALCOHOL OR DRUG TEST**

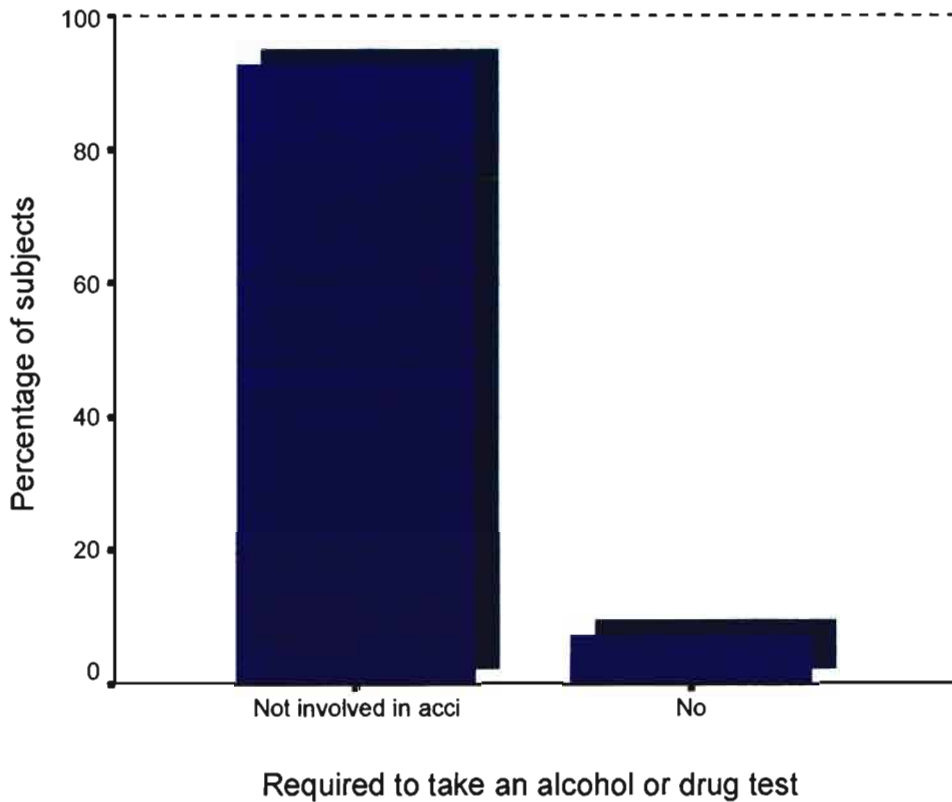


Figure 5.18 depicts the percentage of subjects who were required to take an alcohol or drug test due to their involvement in a work-related accident during the past 12 months. Of the 20 subjects (7.1%) who were involved in a work-related accident during this period, none of them were required to take a test. The remaining 260 (92.9%) were those subjects who were not involved in such an accident during the past 12 months.

**FIGURE 5.19**

**LINE CHART : SUBJECTS' PERCEPTION OF SAFETY IN THEIR JOBS**

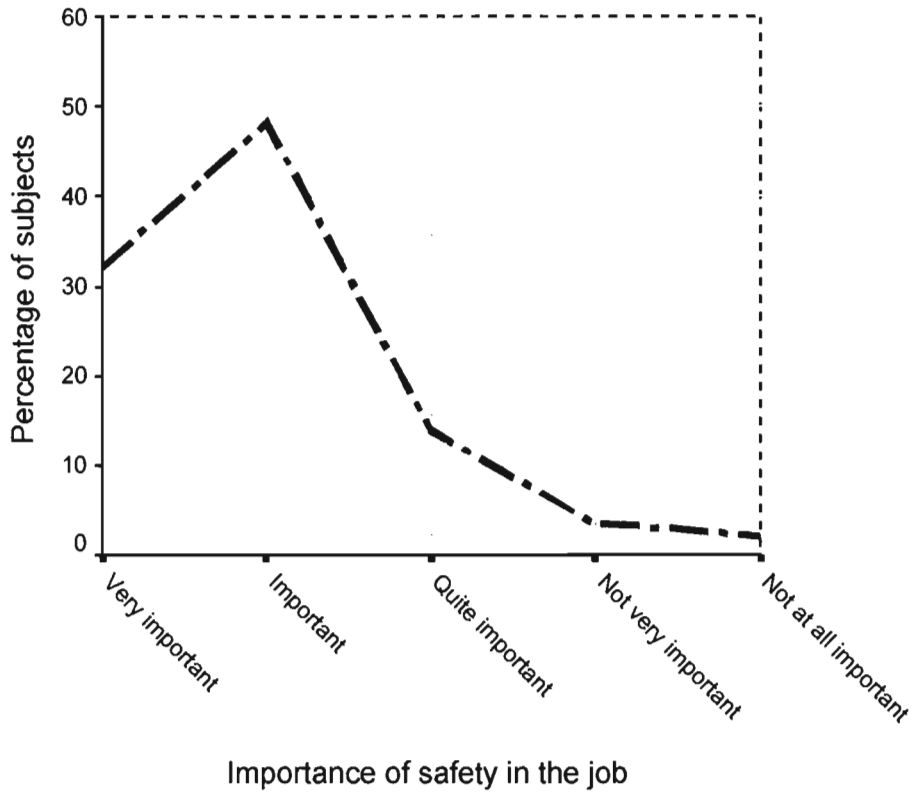


Figure 5.19 represents the importance of safety in their jobs to the subjects. Close to half of the subjects (N = 135 or 48.2%) felt that safety is important in their jobs. There were 90 or 32.1% of the subjects who considered this to be very important and 39 (13.9%) said that this was quite important. There were 10 subjects (3.6%) who felt that safety in their jobs was not very important, whilst the remaining 6 subjects (2.1%) indicated that this was not at all important to them.

**FIGURE 5.20**

**BAR GRAPH : FREQUENCY OF WHICH SAFETY AT WORK IS PUT AT RISK DUE TO THE EMPLOYEES' DRINKING**

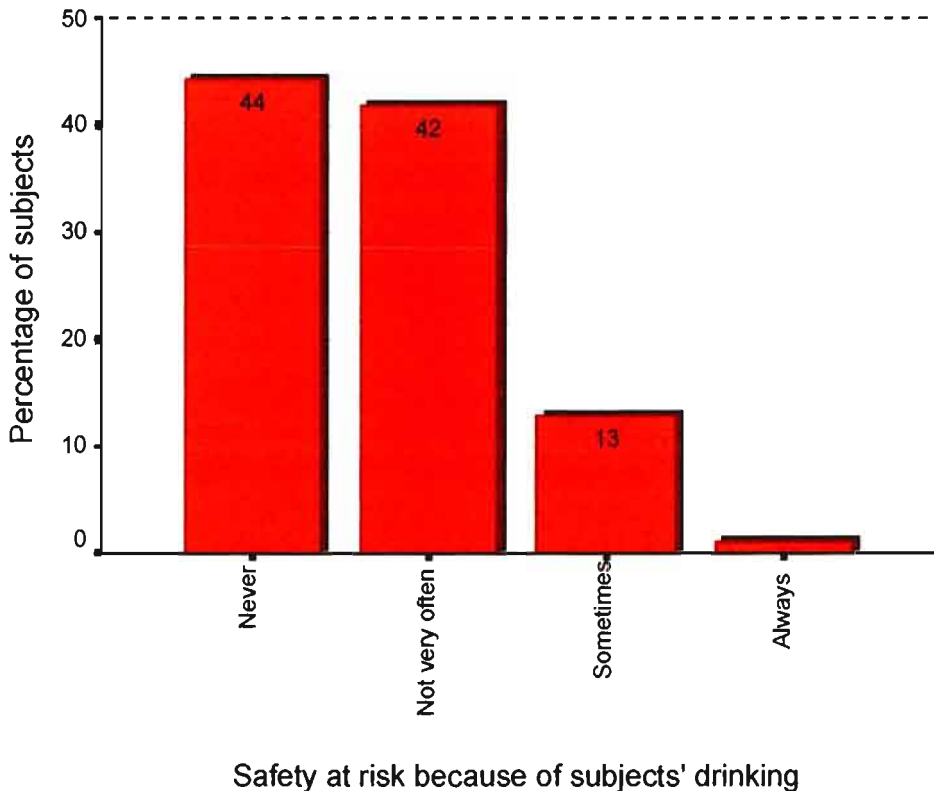


Figure 5.20 depicts the frequency at which the subjects and colleagues' safety is put at risk due to the employees' consumption of alcohol. The majority of the subjects (N = 124 or 44.3% and N = 117 or 41.8%) agreed that their safety and that of their colleagues was never at risk or seldom at risk because of their drinking, respectively. Thirty six subjects (12.9%) indicated that their safety and that of their colleagues were sometimes at risk due to their drinking. The remaining 3 subjects (1.1%) said their safety and that of their colleagues was always at risk due to the employees' consumption of alcohol.

**FIGURE 5.21**

**PIE CHART : IS ALCOHOL A THREAT TO SAFETY AT WORK?**

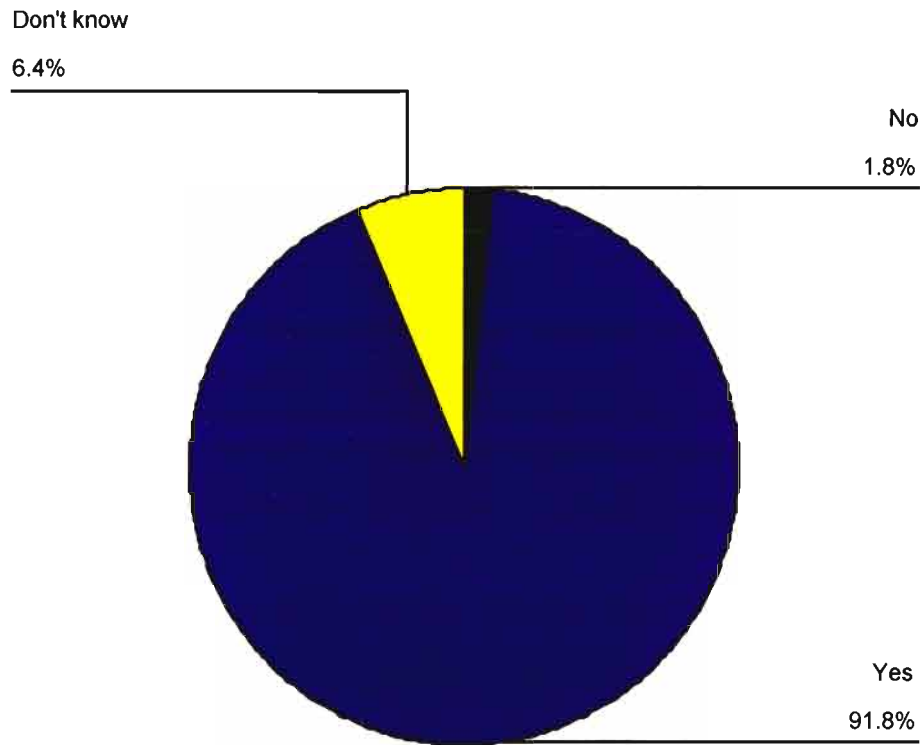


Figure 5.21 illustrates perceptions of alcohol being a threat to safety at work. The majority of subjects (N = 257 or 91.8%) believe alcohol is a threat to their safety at work. There were 18 subjects (6.4%) who were uncertain about this issue, whilst 5 subjects (1.8%) felt that alcohol is not a threat to their safety at work.

**Hypothesis 6:**

There is a significant relationship between the importance of safety in the job and each of the biographical variables (age, gender, marital status, number of children, highest educational level, occupation, tenure, income, organisation and location) respectively.

**TABLE 5.6****CHI-SQUARE : IMPORTANCE OF SAFETY IN THE JOB**

<b>VARIABLE</b>	<b>CHI-SQUARE</b>	<b>DF</b>	<b>SIGN</b>
Age	240.15	16	<b>0.000*</b>
Gender	54.90	4	<b>0.000*</b>
Marital status	106.71	16	<b>0.000*</b>
Children	68.44	8	<b>0.000*</b>
Education	97.77	16	<b>0.000*</b>
Occupation	57.99	20	<b>0.000*</b>
Tenure	133.37	16	<b>0.000*</b>
Income	177.73	16	<b>0.000*</b>
Organisation	21.59	8	<b>0.006*</b>
Location	13.75	4	<b>0.008*</b>

**\* p < 0.01**

Table 5.6 denotes a significant relationship between the importance of safety in the job and each of the biographical variables (age, gender, marital status, number of children, highest educational level, occupation, tenure, income, organisation and location) respectively. The null hypotheses can be rejected at the 5% level of significance.

**Hypothesis 7:**

There is a significant relationship between the frequency at which safety at work is put at risk due to the employees' drinking and each of the biographical variables (age, gender, marital status, number of children, highest educational level, occupation, tenure, income, organisation and location) respectively.

**TABLE 5.7**

**CHI-SQUARE : FREQUENCY OF WHICH SAFETY AT WORK IS PUT AT RISK DUE TO THE EMPLOYEES' DRINKING**

<b>VARIABLE</b>	<b>CHI-SQUARE</b>	<b>DF</b>	<b>SIGN</b>
Age	138.75	12	<b>0.000*</b>
Gender	4.30	3	0.231
Marital status	128.78	12	<b>0.000*</b>
Children	103.13	6	<b>0.000*</b>
Education	101.97	12	<b>0.000*</b>
Occupation	39.15	15	<b>0.001*</b>
Tenure	163.09	12	<b>0.000*</b>
Income	164.46	12	<b>0.000*</b>
Organisation	25.93	6	<b>0.000*</b>
Location	19.54	3	<b>0.000*</b>

**\* p < 0.01**

From Table 5.7, it is evident that there is a significant relationship between the frequency at which safety at work is put at risk due to the employees' drinking and each of the biographical variables (age, marital status, number of children, highest educational level, occupation, tenure, income, organisation and location) respectively. However, the null hypotheses can be accepted at the 0.05 level of significance, where there is no significant relationship between the frequency at which safety at work is put at risk due to the employees' drinking and gender ( $p = 0.231$ ).

## 5.2.4 ABSENTEEISM AND TARDINESS

FIGURE 5.22

BAR GRAPH : NUMBER OF DAYS ABSENT FROM WORK DURING PAST 12 MONTHS DUE TO ILLNESS

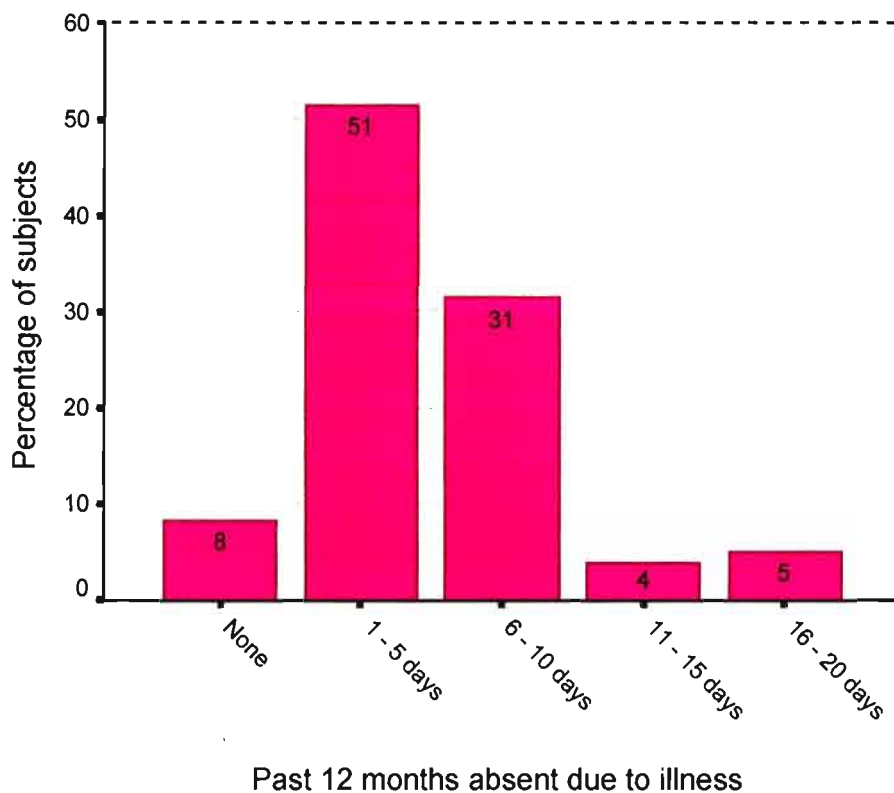


Figure 5.22 represents the number of days the subjects were absent during the past year due to illness. The majority of subjects ( $N = 144$  or 51.4%) were absent between 1 – 5 days in the past 12 months. There were 31.4% of the subjects ( $N = 88$ ) who stayed away from work for 6 – 10 days, and 23 or 8.2% of the subjects who were not absent at all from work during this period. There were also 14 (5%) and 11 (3.9%) of the subjects who stayed away from work due to illness for 16 – 20 days and 1 – 15 days respectively. None of the subjects were absent for over 20 days.



**FIGURE 5.23**

**PIE CHART : DAYS OFF WORK DUE TO ALCOHOL CONSUMPTION**

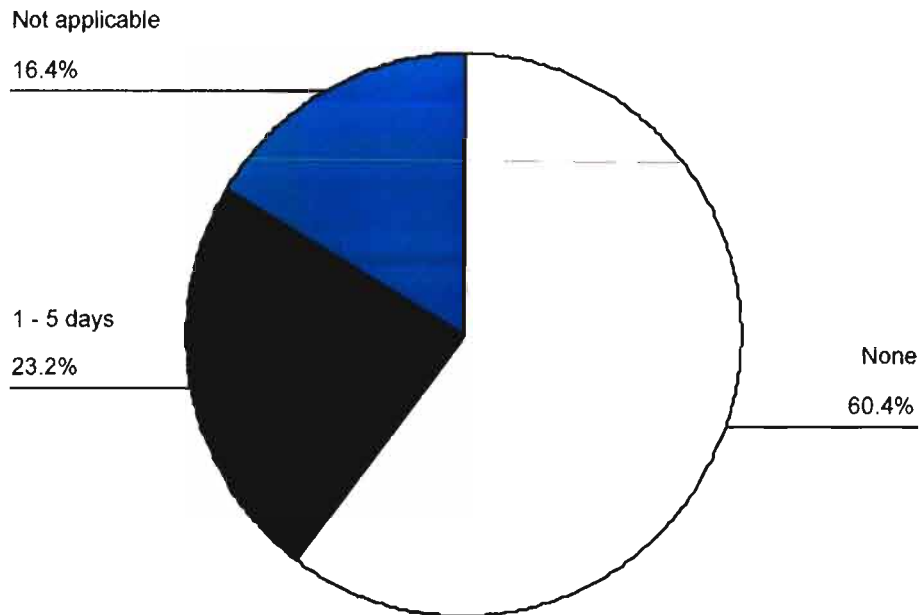


Figure 5.23 represents the number of days the subjects were off work due to alcohol consumption. More than half of the subjects (N = 169 or 60.4%) said that none of their days off work in the past year were due to alcohol consumption. However, 65 subjects (23.2%) said that in the past 12 months, they were off work for between 1 – 5 days due to alcohol consumption. This question was not applicable to the remaining 46 subjects (16.4%).

**FIGURE 5.24**

**LINE CHART : SUBJECTS' ARRIVAL AT AND DEPARTURE FROM WORK  
IN THE PAST YEAR DUE TO ALCOHOL CONSUMPTION**

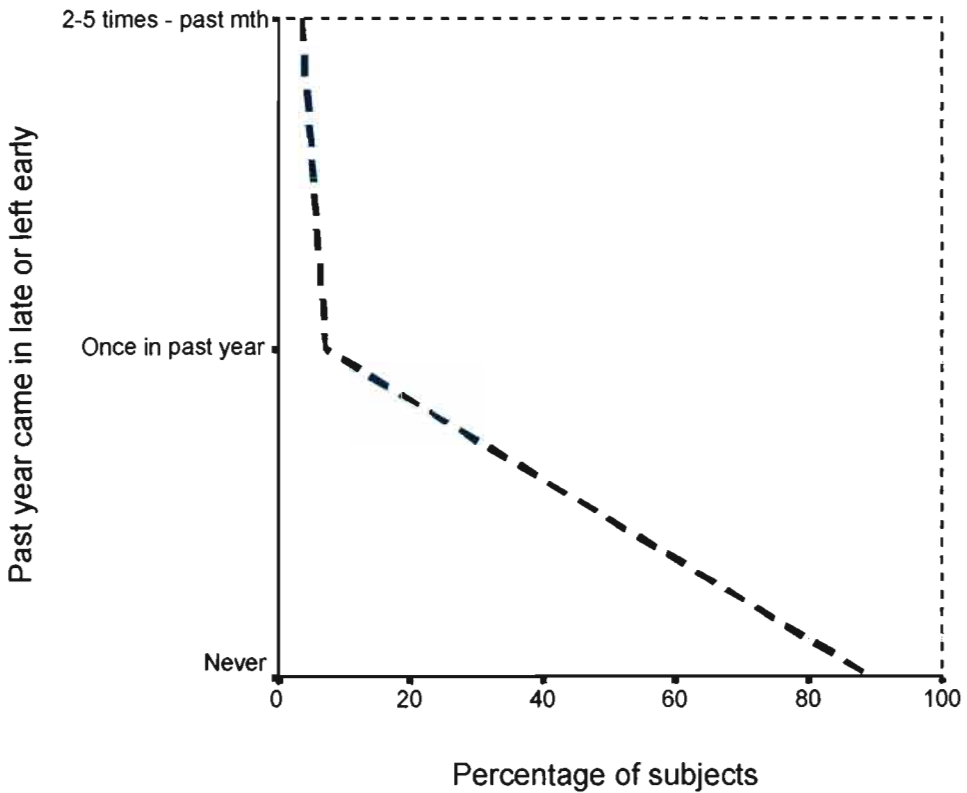


Figure 5.24 illustrates the number of times the subjects either came to work late or left early due to their alcohol consumption. A substantial proportion of subjects (N = 250 or 89.3%) indicated that in the past year they never came in late to work or left work early because of their alcohol consumption. There were 20 subjects (7.1%) who said this happened only once in the past year, whilst the remaining 10 subjects (3.6%) indicated that this occurrence took place between 2 – 5 times in the past year.

**FIGURE 5.25**

**BAR GRAPH : NUMBER OF DAYS ABSENT IN THE PAST YEAR DUE TO ALCOHOL CONSUMPTION**

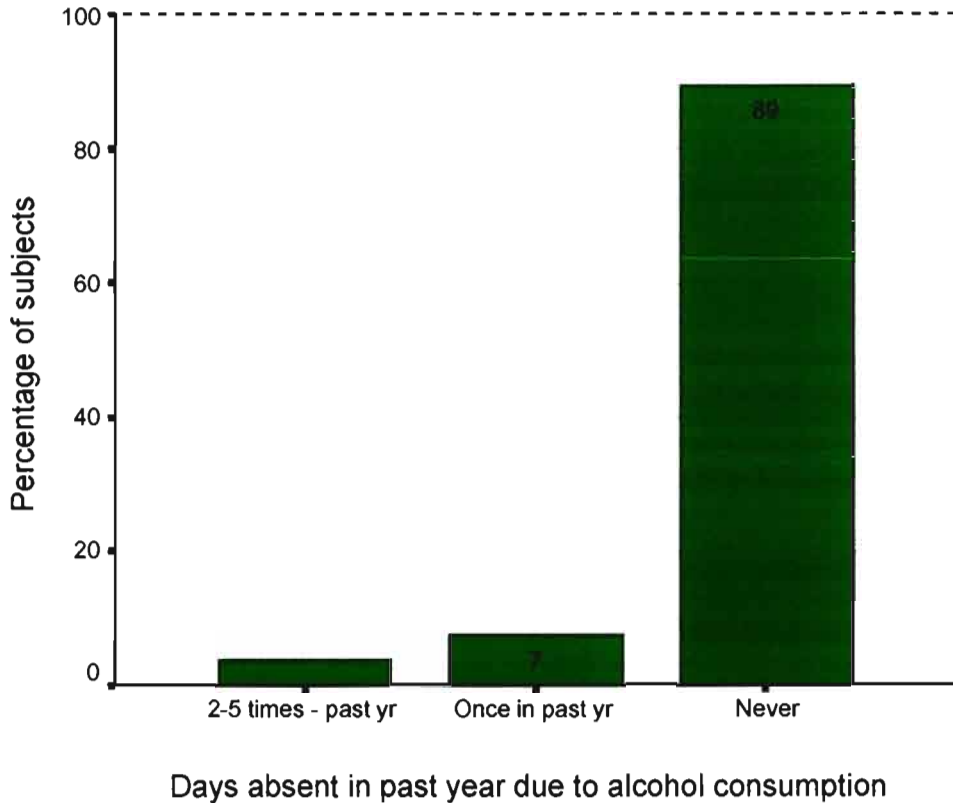


Figure 5.25 is an indication of the number of days the subjects was absent in the past year due to the effects of their alcohol consumption. The majority of subjects, that is, 250 (89.3%) were never absent in the past 12 months due to alcohol consumption. There were 20 subjects (7.1%) who indicated that only once in the past year they were absent from work for this reason. The remaining 10 subjects (3.6%) said they did not come to work between 2 – 5 times during the past year due to the effects of their alcohol consumption. None of the subjects indicated this happened more than 2 – 5 times in the past year.

**FIGURE 5.26**

**AREA CHART : PERCENTAGE OF EMPLOYEES TAKING LONGER LUNCH BREAKS THAN USUAL**

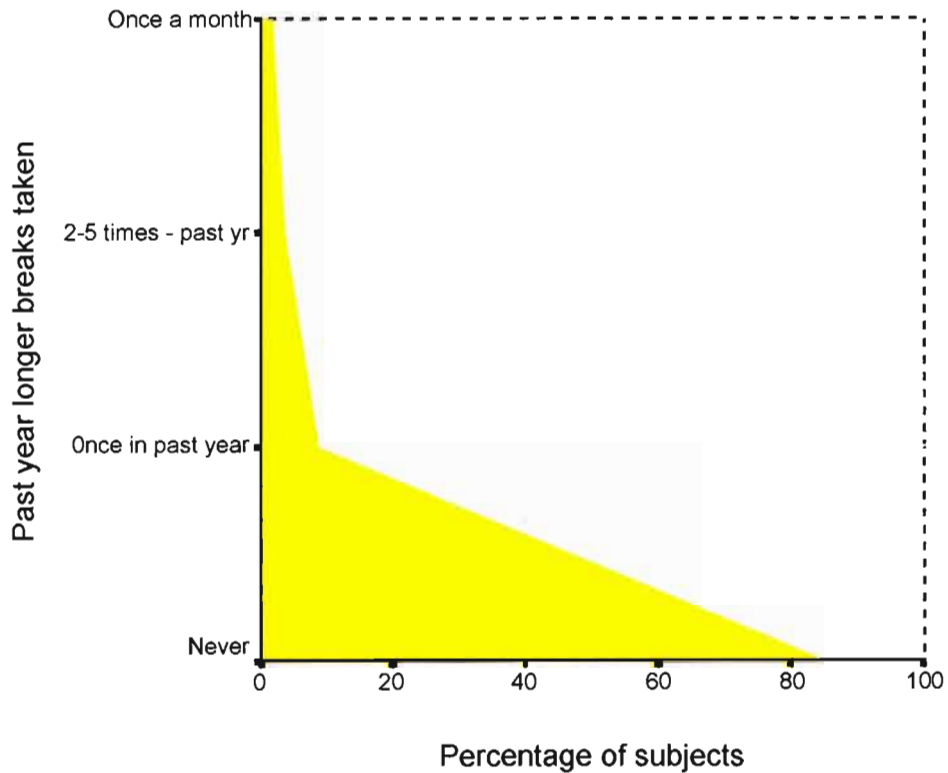


Figure 5.26 represents the percentage of subjects who have taken longer lunch hours or breaks in the past year because of the effects of their alcohol consumption. More than three quarters of the subjects, that is, 85.4% or 239 indicated that they have never taken longer lunch hours or breaks due to alcohol consumption. There were 25 subjects (8.9%) who said that they did so only once in the past 12 months, whilst 11 (3.9%) indicated that this happened between 2 – 5 times during this period. The remaining 5 subjects (1.8%) took longer lunch breaks around once a month in the past year due to their alcohol consumption. There were no subjects who did so more than once a month.

**Hypothesis 8:**

There is a significant relationship between absenteeism from work in various forms over the past 12 months (due to illness, due to alcohol consumption, due to late arrival at work and early departure and due to longer breaks) and each of the biographical variables (age, gender, marital status, number of children, highest educational level, occupation, tenure, income, organisation and location) respectively.

**TABLE 5.8**

**CHI-SQUARE : THE NUMBER OF DAYS ABSENT FROM WORK IN THE  
PAST 12 MONTHS DUE TO ILLNESS**

<b>VARIABLE</b>	<b>CHI-SQUARE</b>	<b>DF</b>	<b>SIGN</b>
Age	169.58	16	<b>0.000*</b>
Gender	58.21	4	<b>0.000*</b>
Marital status	208.69	16	<b>0.000*</b>
Children	45.67	8	<b>0.000*</b>
Education	200.63	16	<b>0.000*</b>
Occupation	214.54	20	<b>0.000*</b>
Tenure	125.46	16	<b>0.000*</b>
Income	218.80	16	<b>0.000*</b>
Organisation	30.48	8	<b>0.000*</b>
Location	9.18	4	0.057

**\* p < 0.01**

Table 5.8 indicates that there is a significant relationship between the number of days absent from work in the past 12 months due to illness and each of the biographical variables (age, gender, marital status, number of children, highest educational level, occupation, tenure, income and organisation) respectively. However, the null hypotheses may be accepted at the 95% confidence interval, that there is no significant relationship between the number of days absent from work in the past 12 months due to illness and the location of the organisation (p = 0.057).

**TABLE 5.9****CHI-SQUARE : THE NUMBER OF DAYS ABSENT FROM WORK DUE TO  
ALCOHOL CONSUMPTION**

<b>VARIABLE</b>	<b>CHI-SQUARE</b>	<b>DF</b>	<b>SIGN</b>
Age	90.81	8	<b>0.000*</b>
Gender	22.14	2	<b>0.000*</b>
Marital status	115.31	8	<b>0.000*</b>
Children	111.15	4	<b>0.000*</b>
Education	115.19	8	<b>0.000*</b>
Occupation	38.67	10	<b>0.000*</b>
Tenure	78.15	8	<b>0.000*</b>
Income	237.01	8	<b>0.000*</b>
Organisation	21.02	4	<b>0.000*</b>
Location	7.52	2	<b>0.023**</b>

**\* p < 0.01****\*\* p < 0.05**

From Table 5.9, it is evident that there is a significant relationship between the number of days absent from work due to alcohol consumption and each of the biographical variables (age, gender, marital status, number of children, highest educational level, occupation, tenure, income, organisation and location) respectively, at 5% level of significance. Hence, the null hypotheses may be rejected.

**TABLE 5.10**

**CHI-SQUARE : THE ARRIVAL AT WORK LATE OR DEPARTURE FROM WORK EARLY IN THE PAST YEAR DUE TO ALCOHOL CONSUMPTION**

<b>VARIABLE</b>	<b>CHI-SQUARE</b>	<b>DF</b>	<b>SIGN</b>
Age	25.39	8	<b>0.001*</b>
Gender	11.59	2	<b>0.003*</b>
Marital status	52.09	8	<b>0.000*</b>
Children	19.33	4	<b>0.001*</b>
Education	57.59	8	<b>0.000*</b>
Occupation	48.62	10	<b>0.000*</b>
Tenure	87.69	8	<b>0.000*</b>
Income	91.46	8	<b>0.000*</b>
Organisation	63.71	4	<b>0.000*</b>
Location	21.28	2	<b>0.000*</b>

**\* p < 0.01**

The chi-square test in Table 5.10 denotes a significant relationship between the subjects' arrival at work late or departure from work early in the past year due to alcohol consumption and each of the biographical variables (age, gender, marital status, number of children, highest educational level, occupation, tenure, income, organisation and location) respectively, at the 5% level of significance.

**TABLE 5.11****CHI-SQUARE : NUMBER OF DAYS ABSENT FROM WORK IN THE PAST  
YEAR DUE TO ALCOHOL CONSUMPTION**

<b>VARIABLE</b>	<b>CHI-SQUARE</b>	<b>DF</b>	<b>SIGN</b>
Age	25.39	8	<b>0.001*</b>
Gender	11.59	2	<b>0.003*</b>
Marital status	52.09	8	<b>0.000*</b>
Children	19.33	4	<b>0.001*</b>
Education	57.59	8	<b>0.000*</b>
Occupation	48.62	10	<b>0.000*</b>
Tenure	87.69	8	<b>0.000*</b>
Income	91.46	8	<b>0.000*</b>
Organisation	63.71	4	<b>0.000*</b>
Location	21.28	2	<b>0.000*</b>

**\* p < 0.01**

From Table 5.11, it is evident that there are significant relationships between the number of days absent from work in the past year due to alcohol consumption and each of the biographical variables (age, gender, marital status, number of children, highest educational level, occupation, tenure, income, organisation and location) respectively, at the 5% level of significance. Hence, the null hypothesis may be rejected.



**TABLE 5.12**

**CHI-SQUARE : NUMBER OF TIMES IN THE PAST YEAR LONGER  
BREAKS WERE TAKEN DUE TO ALCOHOL CONSUMPTION**

<b>VARIABLE</b>	<b>CHI-SQUARE</b>	<b>DF</b>	<b>SIGN</b>
Age	50.61	12	<b>0.000*</b>
Gender	16.22	3	<b>0.001*</b>
Marital status	57.12	12	<b>0.000*</b>
Children	28.85	6	<b>0.000*</b>
Education	47.07	12	<b>0.000*</b>
Occupation	69.84	15	<b>0.000*</b>
Tenure	71.90	12	<b>0.000*</b>
Income	121.07	12	<b>0.000*</b>
Organisation	40.42	6	<b>0.000*</b>
Location	11.16	3	<b>0.011**</b>

**\* p < 0.01**

**\*\* p < 0.05**

The chi-square test in Table 5.12 indicates that significant relationships exist between the number of times in the past year longer breaks were taken due to alcohol consumption and each of the biographical variables (age, gender, marital status, number of children, highest educational level, occupation, tenure, income, organisation and location) respectively. Hence, the null hypothesis may be rejected at the 5% level of significance.

**Hypothesis 9:**

There is a significant relationship between the number of days absent in past 12 months due to illness and the number of these days absenteeism was due to other reasons (due to alcohol consumption and a dislike for attending work) respectively.

**TABLE 5.13****CHI-SQUARE : NUMBER OF DAYS ABSENT IN PAST 12 MONTHS DUE TO ILLNESS**

<b>VARIABLE</b>	<b>VALUE</b>	<b>DF</b>	<b>SIGN</b>
Number of days due to alcohol consumption	133.70	8	<b>0.000*</b>
Dislike going to work	45.58	8	<b>0.000*</b>

**\* p < 0.01**

The chi-square test in Table 5.13 indicates that there is a significant relationship between the number of days absent in the past 12 months due to illness and:-

- (i) The number of these days absent which were due to alcohol consumption (p = 0.000).
- (ii) Whether the subject dislikes going to work (p = 0.000), respectively.

The null hypothesis is therefore, rejected at the 5% level of significance.

**Hypothesis 10:**

There is a significant relationship between alcohol consumption at work in the past year and absenteeism and tardiness related issues (the number of times the subject came in late or left early, the number of times the subject was absent due to alcohol consumption, and the number of times the subject took longer lunch breaks due to the effects of alcohol consumption) respectively.

**TABLE 5.14****CHI-SQUARE : NUMBER OF TIMES IN PAST YEAR THE SUBJECT CAME  
IN LATE OR LEFT EARLY DUE TO ALCOHOL CONSUMPTION**

<b>VARIABLE</b>	<b>VALUE</b>	<b>DF</b>	<b>SIGN</b>
Number of times absent due to alcohol consumption	840.00	9	<b>0.000*</b>
Number of times taken longer lunch breaks	528.00	9	<b>0.000*</b>

**\* p < 0.01**

From the chi-square test in Table 5.14, there is a significant relationship between the number of times in the past year the subject came in late or left early due to alcohol consumption and:

- (i) The number of times in the past year the subject was absent due to alcohol consumption ( $p = 0.000$ ), and
- (ii) The number of times in the past year the subject took longer lunch breaks due to the effects of alcohol consumption ( $p = 0.000$ ), respectively.

Hence, the null hypothesis is not substantiated at the 5% level of significance.

**TABLE 5.15**

**CHI-SQUARE : NUMBER OF DAYS IN PAST YEAR THE SUBJECT WAS  
ABSENT DUE TO ALCOHOL CONSUMPTION**

<b>VARIABLE</b>	<b>VALUE</b>	<b>DF</b>	<b>SIGN</b>
Number of times taken longer lunch breaks	528.00	9	<b>0.000*</b>

**\*  $p < 0.01$**

There is a significant relationship between the number of days in the past year the subject was absent due to alcohol consumption and the number of days during this period that the subject took longer lunch breaks due to the effects of alcohol consumption ( $p = 0.000$ ). The null hypothesis is therefore rejected, at the 5% level of significance.

### 5.2.5 PRODUCTIVITY

FIGURE 5.27

LINE CHART : THE NUMBER OF TIMES THE WORK HAS NOT BEEN DONE AS EFFICIENTLY AS USUAL, DUE TO ALCOHOL CONSUMPTION

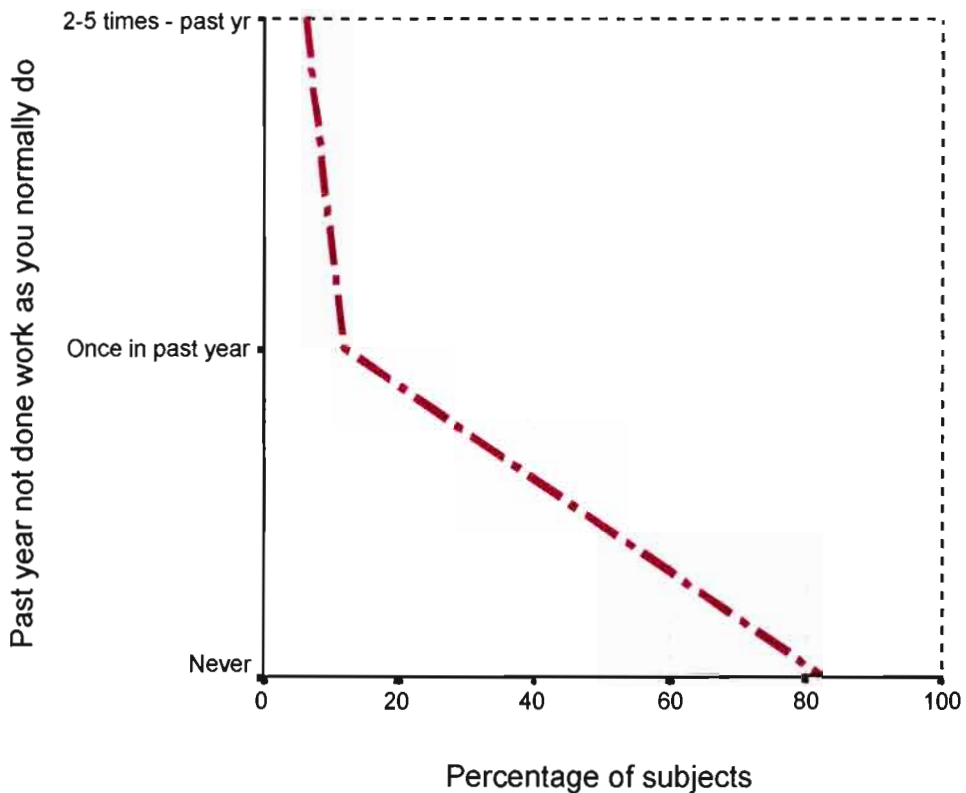


Figure 5.27 represents the number of subjects who have not done their work as efficiently as usual in the past year, due to alcohol consumption. The majority of subjects (N = 230 or 82.1%) said that during this period there were no days when their work was not done as efficiently as they usually do. There were 33 subjects (11.8%) who indicated that only once in the past year their work was not done as efficiently as they usually do due to alcohol consumption, whilst the remaining 17 subjects (6.1%) said this happened 2 – 5 times in the past year. None of the subjects indicated this happened more than 2 – 5 times in the past year.

**FIGURE 5.28**

**BAR GRAPH : QUALITY OF WORK WHICH IS NOT GOOD DUE TO ALCOHOL CONSUMPTION**

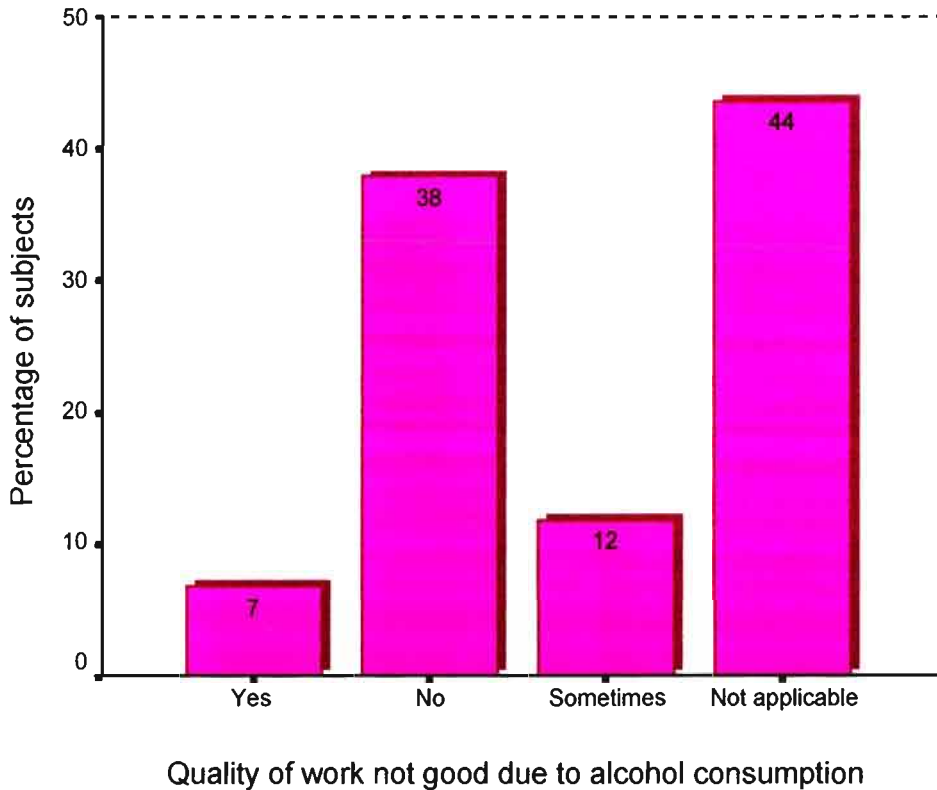


Figure 5.28 is an illustration of the number of subjects who felt the quality of their work was not good due to their alcohol consumption. There were 106 subjects (37.9%) who indicated that the quality of their work was not affected due to alcohol consumption. Thirty-three (11.8%) felt that sometimes the quality of their work was not very good due to their alcohol consumption, whilst 19 subjects or 6.8% agreed that this was always the case. The remaining 122 subjects (43.6%) indicated that this question was not applicable to them.

FIGURE 5.29

PIE CHART : WORK WHICH IS INCOMPLETE DUE TO ALCOHOL  
CONSUMPTION

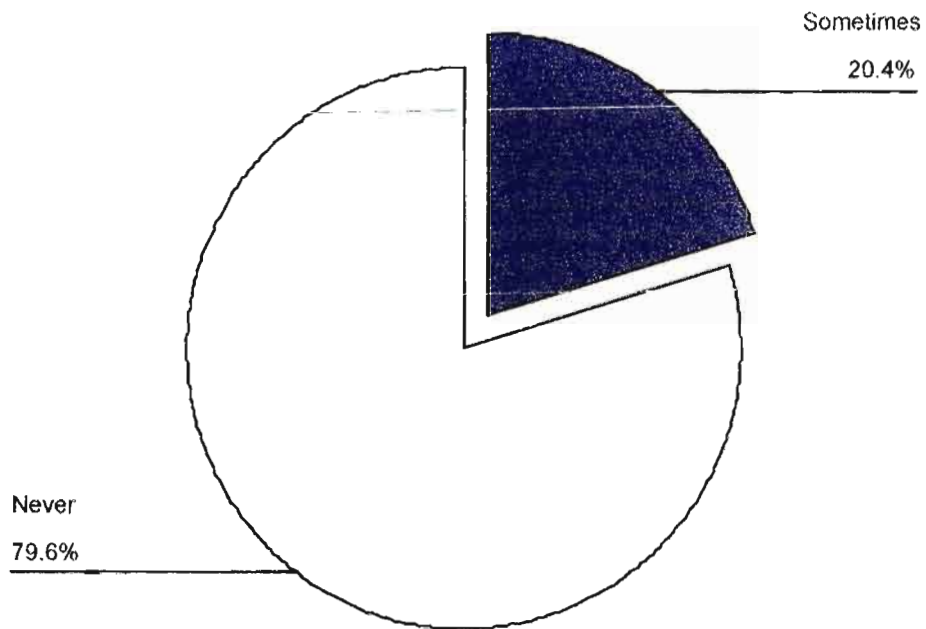


Figure 5.29 represents the amount of work which is incomplete due to alcohol consumption. More than three-quarters of the subjects (79.6% or N = 223) maintained that there were no times when the work assigned to them was incomplete due to alcohol consumption, whilst the 57 subjects (20.4%) said this occurred sometimes.

**FIGURE 5.30**

**AREA CHART : QUALITY OF WORK**

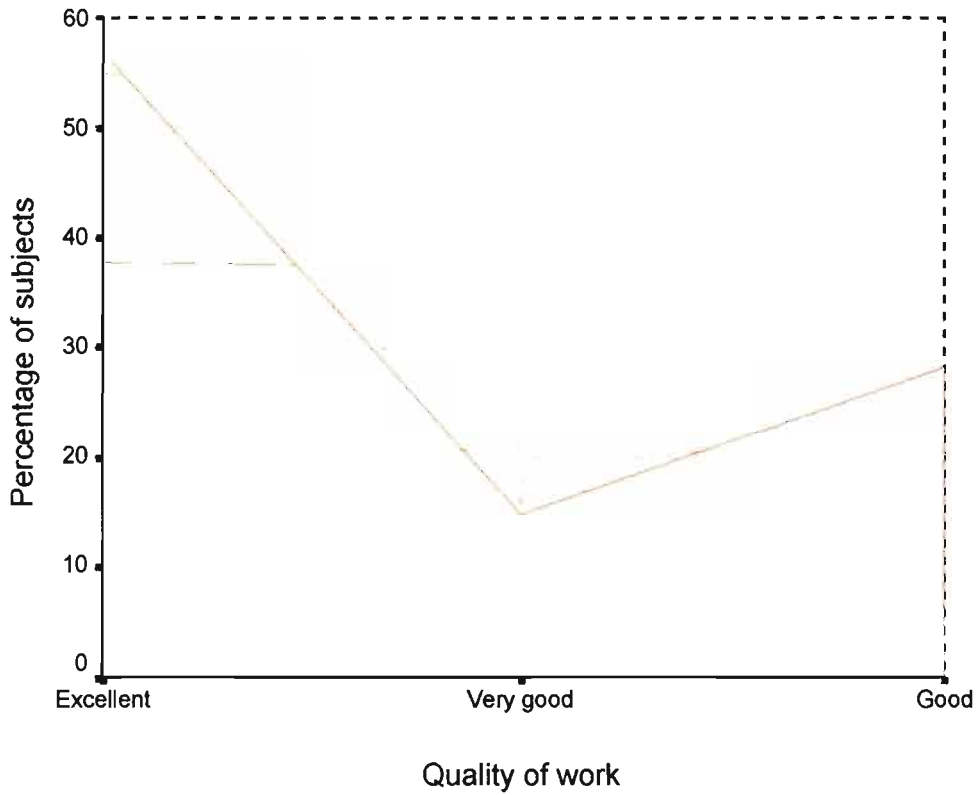


Figure 5.30 illustrates the quality of work of the subjects. More than half of those surveyed ( $N = 159$  or 56.8%) rated the quality of their work as excellent, whilst 79 subjects (28.2%) gave it a rating of good. The remaining 42 or 15% of the subjects said the quality of their work is generally very good. None of the subjects rated their work quality as poor or very poor.



**FIGURE 5.31**

**BAR GRAPH : EXTENT TO WHICH GOOD WORK CAN BE DELIVERED  
WITHOUT CONTINUOUS SUPERVISION**

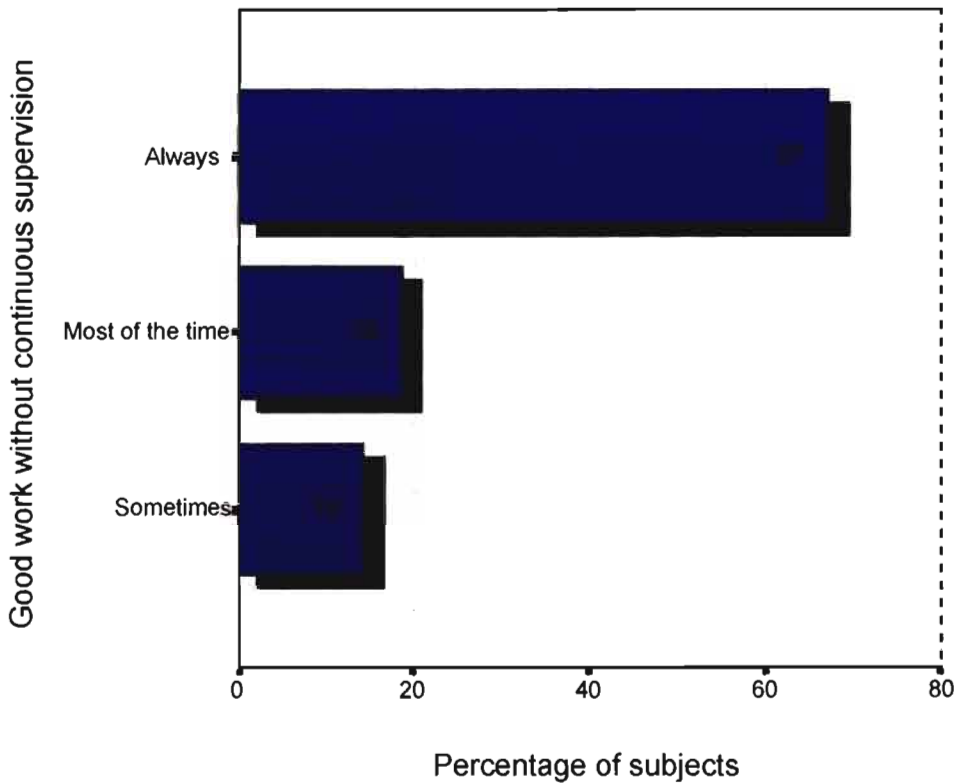


Figure 5.31 represents the extent to which the subjects can deliver good work without continuous supervision. Over two-thirds of the subjects, that is, 67.1% or 188 indicated that they can always deliver good work without continuous supervision. The remaining subjects believed that this happened either most of the time (N = 52 or 18.6%) or sometimes (N = 40 or 14.3%).

FIGURE 5.32

LINE CHART : DOES ALCOHOL USE REDUCES WORK OUTPUT?

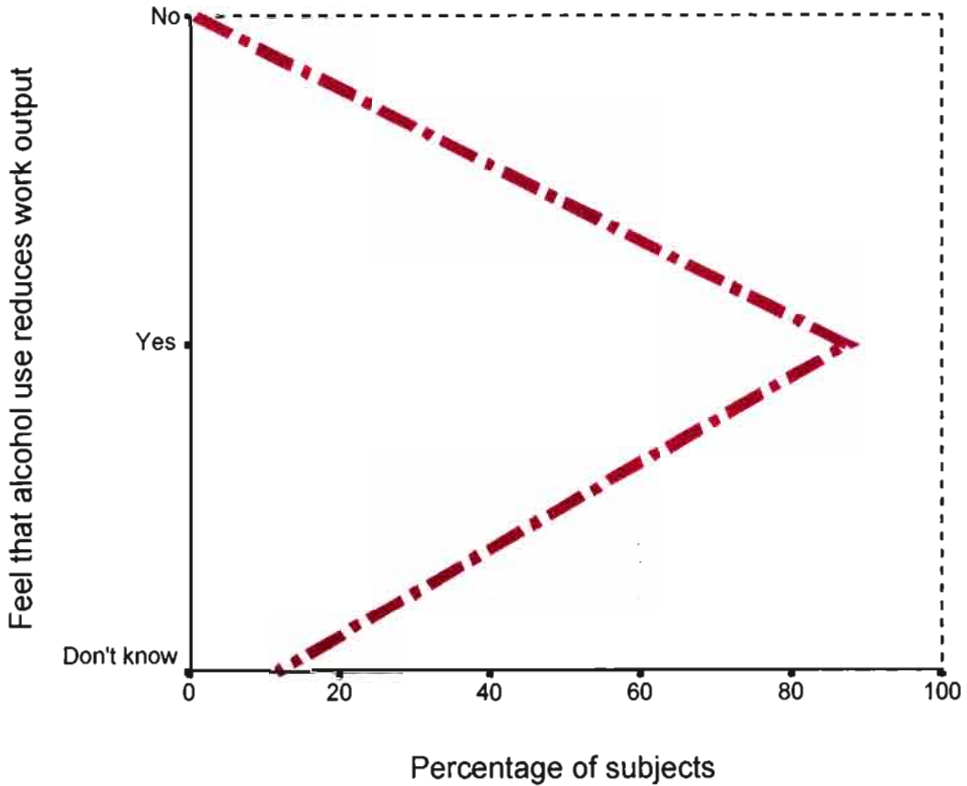


Figure 5.32 is a indication of whether alcohol reduces work output. The majority of subjects, that is, 245 or 87.5% agreed that the use of alcohol at work reduces work output. There were 33 or 11.8% of the subjects who were uncertain about this issue, whilst only 2 subjects (0.7%) felt that alcohol use does not reduce work output.

### Hypothesis 11:

There is a significant relationship between each of the biographical variables (age, gender, marital status, number of children, highest educational level, occupation, tenure, income, organisation and location) and the issues relating to productivity and alcohol consumption in the past year (the number of times the work has not been done efficiently, the quality of work which is not good and how often work is incomplete) respectively.

**TABLE 5.16**

**CHI-SQUARE : NUMBER OF TIMES IN THE PAST YEAR THE WORK HAS NOT BEEN DONE EFFICIENTLY DUE TO ALCOHOL CONSUMPTION**

<b>VARIABLE</b>	<b>CHI-SQUARE</b>	<b>DF</b>	<b>SIGN</b>
Age	25.09	8	<b>0.002*</b>
Gender	0.103	2	0.950
Marital status	96.92	8	<b>0.000*</b>
Children	25.93	4	<b>0.000*</b>
Education	32.25	8	<b>0.000*</b>
Occupation	73.84	10	<b>0.000*</b>
Tenure	65.30	8	<b>0.000*</b>
Income	138.38	8	<b>0.000*</b>
Organisation	25.21	4	<b>0.000*</b>
Location	5.51	2	0.064

\*  $p < 0.01$

The chi-square test in Table 5.16 denotes a significant relationship between the number of times in the past year the work has not been done efficiently and each of the biographical variables (age, marital status, number of children, highest educational level, occupation, tenure, income and organisation) respectively. However, there is no significant relationship between the number of times in the past year the work has not been done efficiently and the biographical variables gender and location respectively, and therefore, the null hypothesis can be substantiated in these cases.

**TABLE 5.17****CHI-SQUARE : QUALITY OF WORK WHICH IS NOT GOOD DUE TO  
ALCOHOL CONSUMPTION**

<b>VARIABLE</b>	<b>CHI-SQUARE</b>	<b>DF</b>	<b>SIGN</b>
Age	55.07	12	<b>0.000*</b>
Gender	37.19	3	<b>0.000*</b>
Marital status	113.37	12	<b>0.000*</b>
Children	55.81	6	<b>0.000*</b>
Education	88.91	12	<b>0.000*</b>
Occupation	110.58	15	<b>0.000*</b>
Tenure	175.35	12	<b>0.000*</b>
Income	212.54	12	<b>0.000*</b>
Organisation	32.73	6	<b>0.000*</b>
Location	8.06	3	<b>0.045**</b>

**\* p < 0.01****\*\* p < 0.05**

From Table 5.17 it is evident that there is a significant relationship between the quality of work which is not good due to alcohol consumption and each of the biographical variables (age, gender, marital status, number of children, highest educational level, occupation, tenure, income, organisation and location) respectively. Hence, the null hypothesis is not substantiated at the 5% level of significance.

**TABLE 5.18****CHI-SQUARE : HOW OFTEN WORK IS INCOMPLETE AS A RESULT OF ALCOHOL CONSUMPTION**

<b>VARIABLE</b>	<b>CHI-SQUARE</b>	<b>DF</b>	<b>SIGN</b>
Age	17.24	4	<b>0.002*</b>
Gender	17.96	1	<b>0.000*</b>
Marital status	122.07	4	<b>0.000*</b>
Children	45.07	2	<b>0.000*</b>
Education	40.95	4	<b>0.000*</b>
Occupation	64.80	5	<b>0.000*</b>
Tenure	151.52	4	<b>0.000*</b>
Income	100.44	4	<b>0.000*</b>
Organisation	9.08	2	<b>0.011**</b>
Location	8.92	1	<b>0.003*</b>

**\* p < 0.01****\*\* p < 0.05**

The chi-square test in Table 5.18 indicates that there is a significant relationship between how often work is incomplete as a result of alcohol consumption and each of the biographical variables (age, gender, marital status, number of children, highest educational level, occupation, tenure, income, organisation and location) respectively. Hence, the null hypothesis is rejected at the 5% level of significance.

### Hypothesis 12:

There is a significant relationship between subject's work efficiency and absenteeism and tardiness related factors (absenteeism due to alcohol consumption, the frequency of coming in late or leaving early and the number of times in the past year the subject took longer breaks due to the effects of alcohol consumption) respectively.

**TABLE 5.19**

**CHI-SQUARE : WORK NOT DONE AS EFFICIENTLY AS USUAL, DUE TO ALCOHOL CONSUMPTION**

<b>VARIABLE</b>	<b>VALUE</b>	<b>DF</b>	<b>SIGN</b>
Number of times come in late or left early	216.97	4	<b>0.000*</b>
Number of times absent due to alcohol consumption	216.97	4	<b>0.000*</b>
Number of times taken longer breaks due to alcohol consumption	217.20	6	<b>0.000*</b>

**\*  $p < 0.01$**

Table 5.19 denotes a significant relationship between whether the subject has not done his or work as efficiently as usual, due to alcohol consumption and:

- (i) The number of times in the past year the subject came in late or left early due to alcohol consumption ( $p = 0.000$ ),
- (ii) The number of times in the past year the subject was absent due to alcohol consumption ( $p = 0.000$ ), and
- (iii) The number of times in the past year the subject took longer breaks due to the effects of alcohol consumption ( $p = 0.000$ ), respectively.

Hence, the null hypothesis may be rejected at the 5% level of significance.

## 5.2.6 JOB SATISFACTION

FIGURE 5.33

BAR GRAPH : FEELINGS ABOUT PRESENT WORK SITUATION

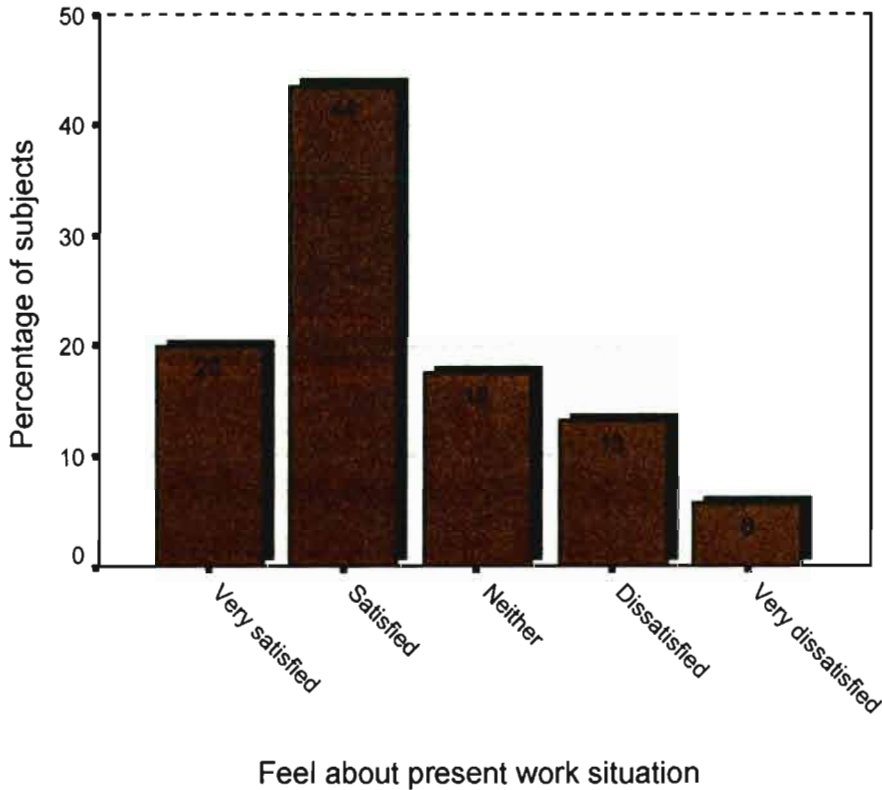


Figure 5.33 represents the subjects' feelings about their present work situation. The majority of subjects ( $N = 122$  or 43.6%) were satisfied with their present work situation, whilst 56 or 20% of the subjects indicated that they were very satisfied. There were 49 subjects (17.5%) who said they were neither satisfied nor dissatisfied at work. The remaining subjects indicated that they were either dissatisfied ( $N = 37$  or 13.2%) or very dissatisfied ( $N = 16$  or 5.7%) with their present work situation.

**FIGURE 5.34**

**PIE CHART : PROBLEMS EXPERIENCED WITH PEOPLE AT WORK**

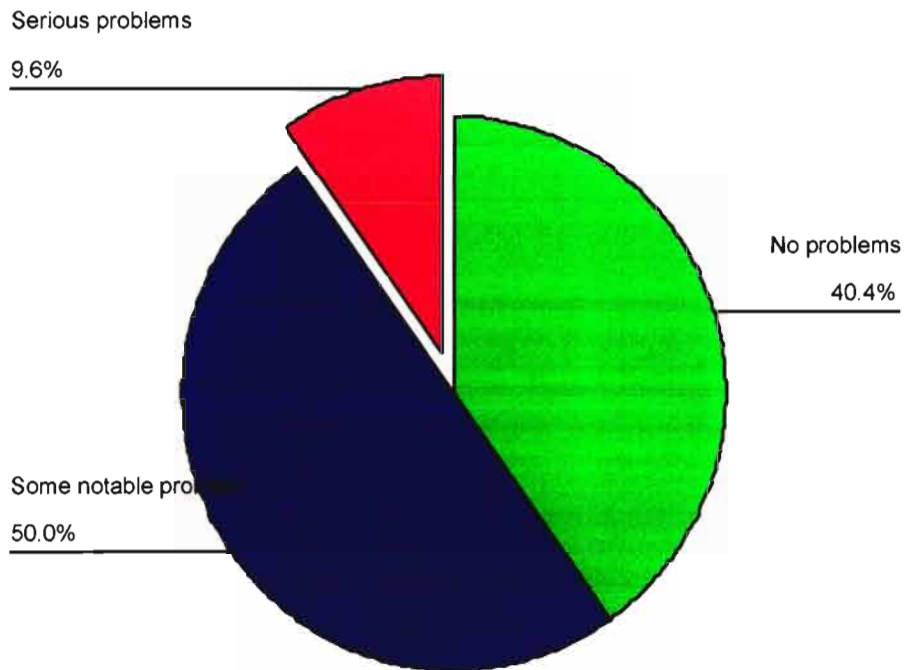


Figure 5.34 illustrates the number of subjects experiencing problems with the people they work with. Half of the subjects (N = 140 or 50%) experienced some notable problems with the people they work with or for. There were 113 subjects (40.4%) who indicated that there were no problems, whilst the remaining 27 subjects or 9.6% said serious problems existed with the people they worked with or for.



**FIGURE 5.35**

**AREA CHART : VOLUNTARY WORK DONE**

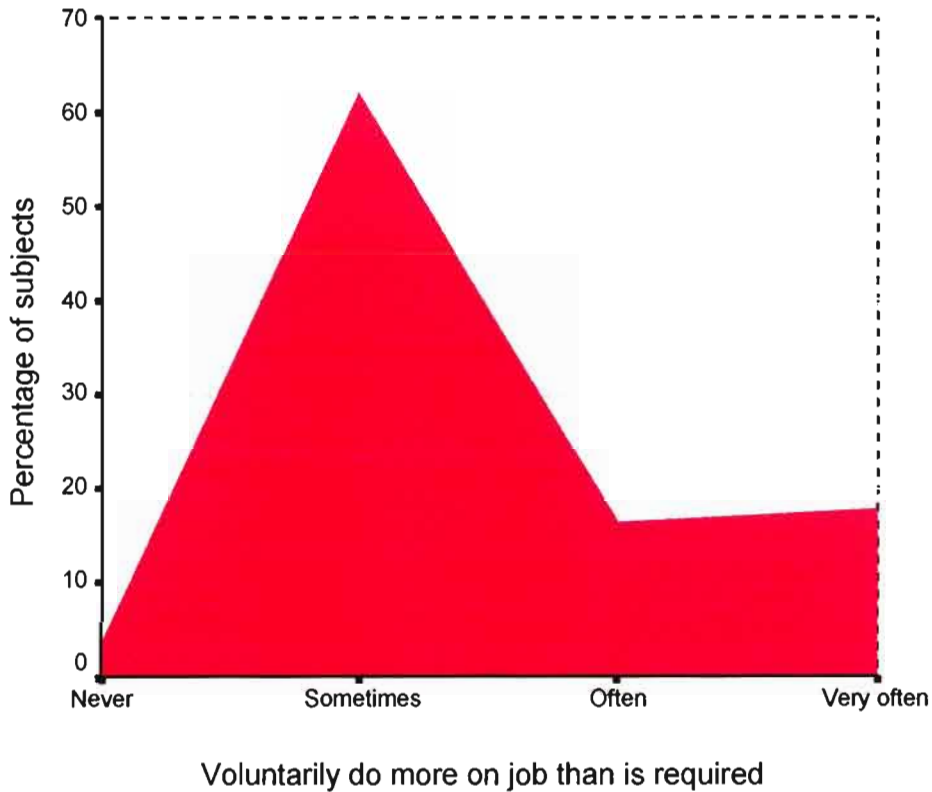


Figure 5.35 represents the number of subjects who voluntarily do more on their jobs than is required. The majority of those surveyed, that is, 62.1% or 174 subjects maintained that they sometimes voluntarily did more on the job than was required. There were 50 subjects (17.9%) who claim that they very often did more work voluntarily, whilst 46 subjects (16.4%) believed that they often did so. Only 10 subjects (3.6%) expressed that they never voluntarily did more on the job than was required of them.

FIGURE 5.36

BAR CHART : TIME DEVOTED TO IMPROVING SKILLS OR EMPLOYMENT

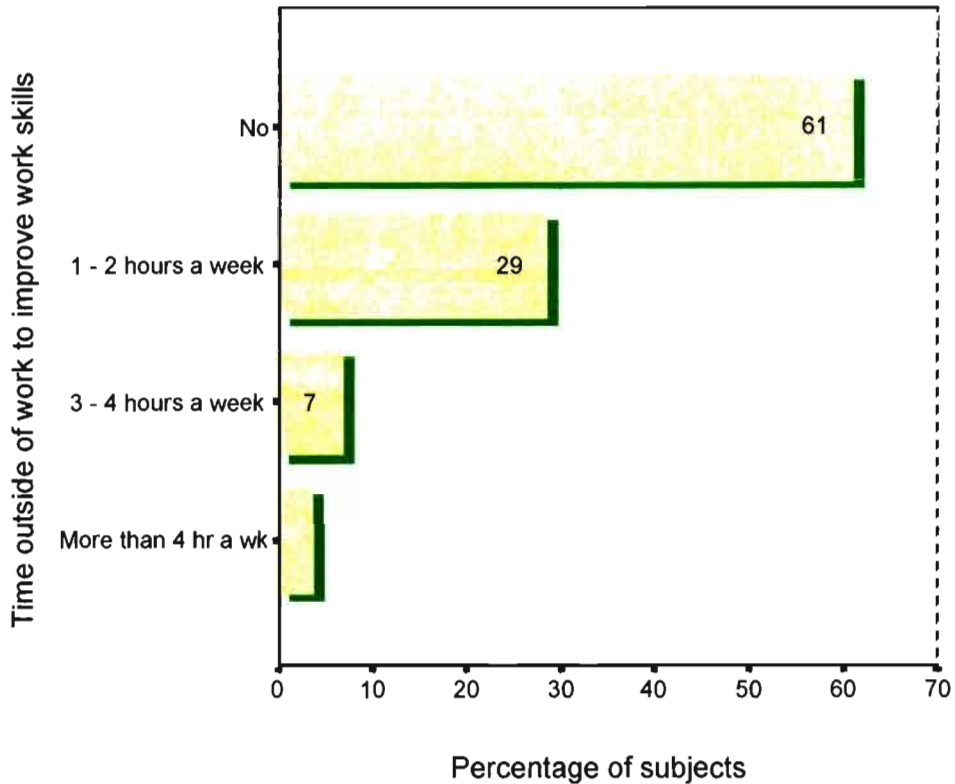


Figure 5.36 is an indication of the time spent by subjects to devote time outside of work to improve their skills or employment. More than half of the subjects, that is, 171 or 61.1%, indicated that they are not devoting any time outside of work to improve their skills or employment. There were 80 subjects (28.6%) who devoted 1 – 2 hours per week for this purpose. The remaining subjects devoted 3 – 4 hours per week (N = 19 or 6.8%) and more than 4 hours per week (N = 10 or 3.6%) to improve their skills.

**FIGURE 5.37**

**LINE CHART : WHETHER THE SUBJECTS DISLIKE GOING TO WORK**

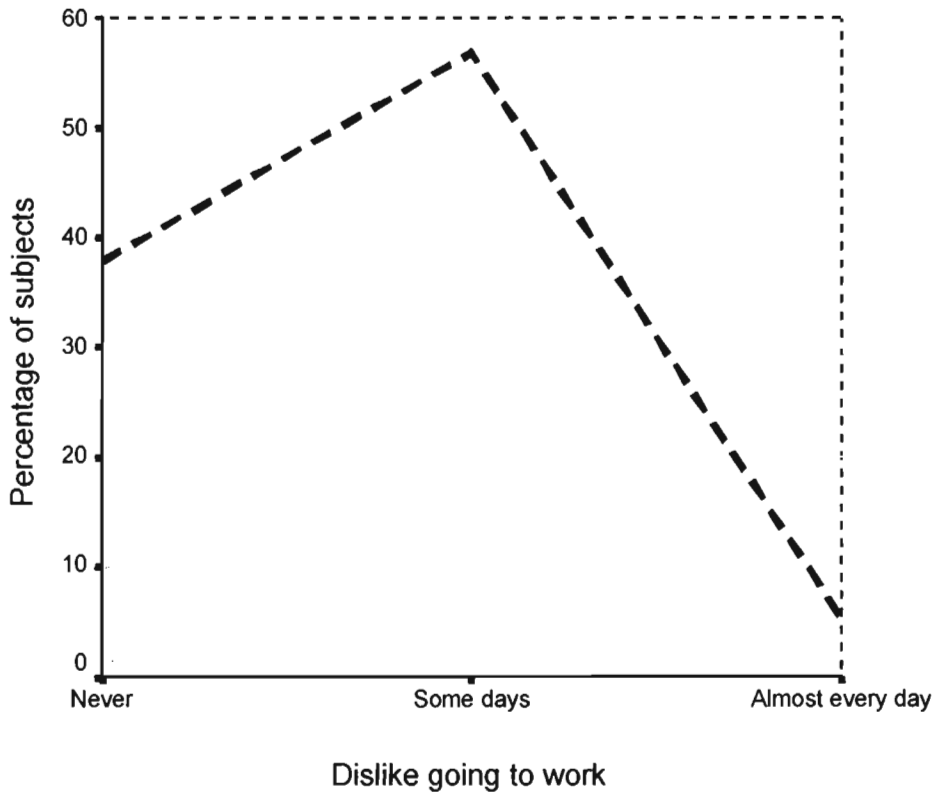


Figure 5.37 is an indication of the number of subjects who dislike going to work. More than half of the subjects, that is, 159 or 56.8%, said that they disliked going to work on some days. There were 106 subjects (37.9%) who indicated that this was never the case. The remaining 15 subjects (5.4%) indicated that they disliked going to work almost every day.

**Hypothesis 13:**

There is a significant relationship between each of the biographical variables (age, gender, marital status, number of children, highest educational level, occupation, tenure, income, organisation and location) and issues relating to job satisfaction (employees' perceptions of the present work situation and whether problems were experienced with the people at work) respectively.

**TABLE 5.20****CHI-SQUARE : PRESENT WORK SITUATION**

<b>VARIABLE</b>	<b>CHI-SQUARE</b>	<b>DF</b>	<b>SIGN</b>
Age	197.49	16	<b>0.000*</b>
Gender	15.00	4	<b>0.005*</b>
Marital status	268.69	16	<b>0.000*</b>
Children	199.12	8	<b>0.000*</b>
Education	138.42	16	<b>0.000*</b>
Occupation	107.00	20	<b>0.000*</b>
Tenure	215.59	16	<b>0.000*</b>
Income	274.51	16	<b>0.000*</b>
Organisation	53.80	8	<b>0.000*</b>
Location	22.60	4	<b>0.000*</b>

**\* p < 0.01**

From Table 5.20, it is evident that there is a significant relationship between the employees' perception of the present work situation and each of the biographical variables (age, gender, marital status, number of children, highest educational level, occupation, tenure, income, organisation and location) respectively. Hence, the null hypothesis is not substantiated at the 5% level of significance.

**TABLE 5.21****CHI-SQUARE : PROBLEMS EXPERIENCED WITH THE PEOPLE AT  
WORK**

<b>VARIABLE</b>	<b>CHI-SQUARE</b>	<b>DF</b>	<b>SIGN</b>
Age	70.82	8	<b>0.000*</b>
Gender	5.82	2	0.055
Marital status	34.57	8	<b>0.000*</b>
Children	18.09	4	<b>0.001*</b>
Education	150.29	8	<b>0.000*</b>
Occupation	48.11	10	<b>0.000*</b>
Tenure	157.66	8	<b>0.000*</b>
Income	148.49	8	<b>0.000*</b>
Organisation	29.16	4	<b>0.000*</b>
Location	4.26	2	0.119

\*  $p < 0.01$

The chi-square test in Table 5.21 indicates that there is a significant relationship between problems experienced with the people at work and each of the biographical variables (age, marital status, number of children, highest educational level, occupation, tenure, income and organisation) respectively. However, no significant relationships exist between the problems experienced with the people at work, and the biographical variables gender ( $p = 0.055$ ) and location ( $p = 0.119$ ) respectively. Hence, the null hypothesis is substantiated at the 5% level of significance in these two instances.

**Hypothesis 14:**

There is a significant relationship between the dislike of going to work and each of the biographical variables (age, gender, marital status, number of children, highest educational level, occupation, tenure, income, organisation and location) respectively.

**TABLE 5.22****CHI-SQUARE : THE DISLIKE OF GOING TO WORK**

<b>VARIABLE</b>	<b>CHI-SQUARE</b>	<b>DF</b>	<b>SIGN</b>
Age	31.58	8	<b>0.000*</b>
Gender	0.52	2	0.773
Marital status	48.55	8	<b>0.000*</b>
Children	27.72	4	<b>0.000*</b>
Education	46.12	8	<b>0.000*</b>
Occupation	32.07	10	<b>0.000*</b>
Tenure	44.61	8	<b>0.000*</b>
Income	113.23	8	<b>0.000*</b>
Organisation	6.53	4	0.163
Location	1.45	2	0.484

\*  $p < 0.01$

Table 5.22 indicates that there is a significant relationship between the dislike of going to work and each of the biographical variables (age, marital status, number of children, highest educational level, occupation, tenure and income) respectively. However, there is no significant relationship between the dislike of going to work and the biographical variables gender ( $p = 0.773$ ), organisation ( $p = 0.163$ ) and location ( $p = 0.484$ ). Hence, the null hypothesis is substantiated at the 5% level of significance for these results.

**Hypothesis 15:**

There is a significant relationship between the subjects' perception of the present work situation and the number of days absent in the past 12 months due to various reasons.

**TABLE 5.23**

**CHI-SQUARE : THE SUBJECTS' PERCEPTION OF THE PRESENT WORK SITUATION**

<b>VARIABLE</b>	<b>VALUE</b>	<b>DF</b>	<b>SIGN</b>
Days absent in past 12 months due to illness	164.71	16	<b>0.000*</b>
Days absent due to alcohol consumption	276.18	8	<b>0.000*</b>
Number of times in past year came in late or left early	134.13	8	<b>0.000*</b>
Number of times in past year absent due to alcohol consumption	134.13	8	<b>0.000*</b>
Number of times in past year taken longer breaks	86.92	12	<b>0.000*</b>

**\* p < 0.01**

From Table 5.23, it is evident that there is a significant relationship between the subjects' perception of the present work situation and:

- (i) The number of days absent in the past 12 months due to illness ( $p = 0.000$ ),
- (ii) The number of days absent due to alcohol consumption ( $p = 0.000$ ),
- (iii) The number of times in the past year the subject came in late or left early due to alcohol consumption ( $p = 0.000$ ),
- (iv) The number of times in the past year the subject was absent due to alcohol consumption ( $p = 0.000$ ), and
- (v) The number of times in the past year the subject took longer breaks due to the effects of alcohol consumption ( $p = 0.000$ ), respectively.

Therefore, the null hypothesis is rejected at the 5% level of significance.

**5.2.7 ORGANISATIONS' RULES AND POLICIES ON ALCOHOL CONSUMPTION**

**FIGURE 5.38**

**BAR GRAPH : WHETHER SUBJECTS WERE ALERTED TO THE PROBLEMS OF ALCOHOL ABUSE IN THE WORKPLACE**

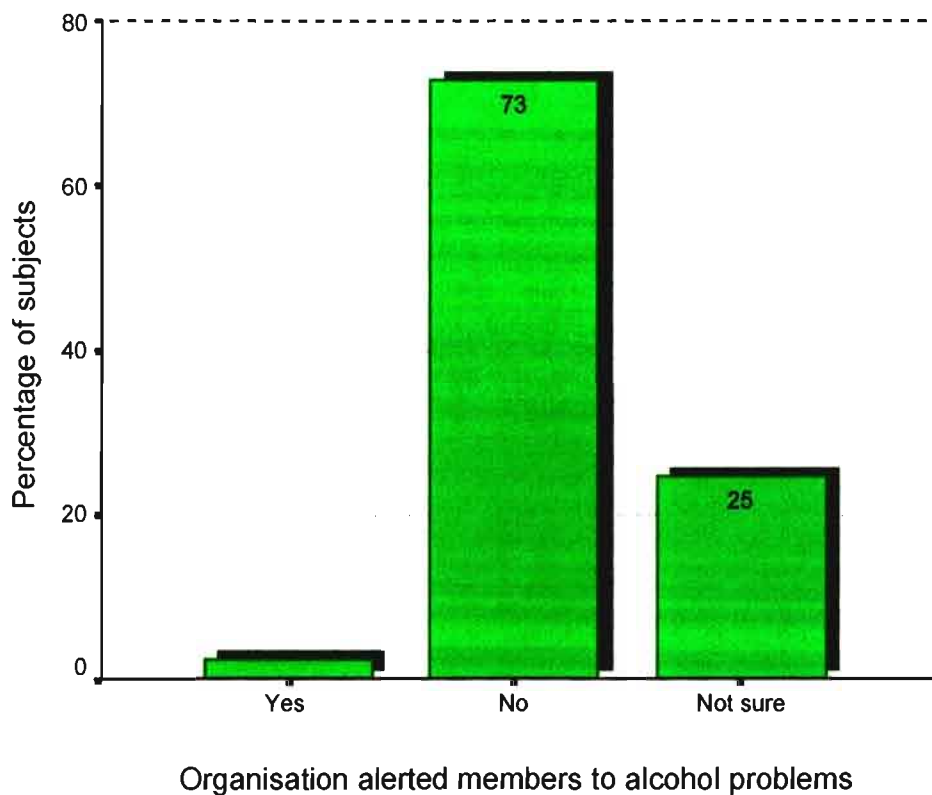


Figure 5.38 indicates the number of subjects whose organisations alerted them to the problems of alcohol abuse in the workplace. The majority of subjects (N = 209 or 72.9%) were not alerted by their organisations to these problems, whilst 69 or 24.6% of the subjects were unsure. There were only 7 subjects (2.5%) of those surveyed



whose organisations had notified them of this issue. Of these 7 subjects, 4 were from Organisation B and 3 from Organisation C.

**FIGURE 5.39**

**PIE CHART : WAYS IN WHICH ALCOHOL ABUSE INFORMATION WAS  
DISSEMINATED**

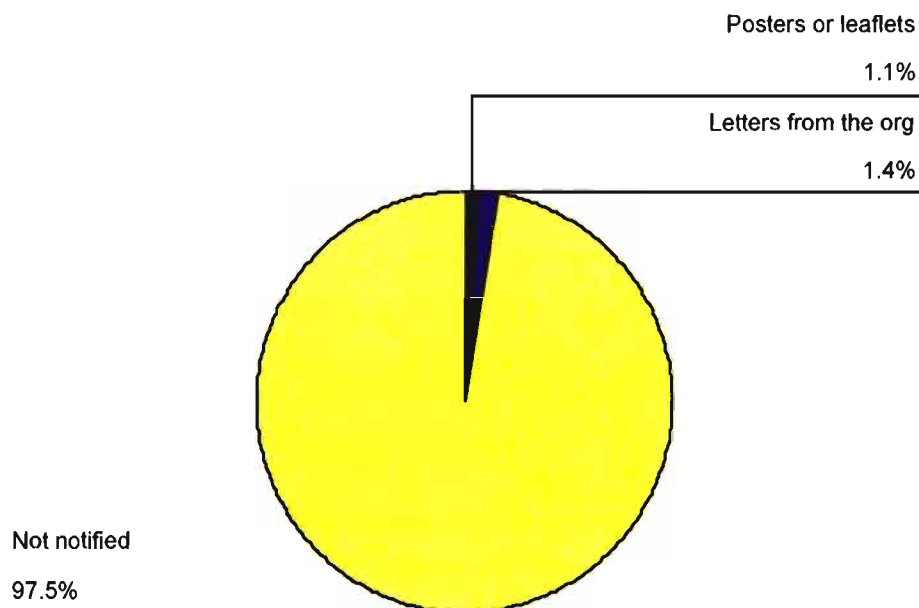


Figure 5.39 illustrates the ways in which the organisations notified its members about the effects of alcohol abuse in the workplace. Of the 7 subjects who were alerted to the problems of alcohol abuse in the workplace, 3 subjects (1.1%) were notified through posters or leaflets, whilst 4 subjects (1.4%) by letters from the organisation.

**FIGURE 5.40**

**BAR GRAPH : WHETHER THE INFORMATION ON ALCOHOL ABUSE IN  
THE WORKPLACE WAS HELPFUL**

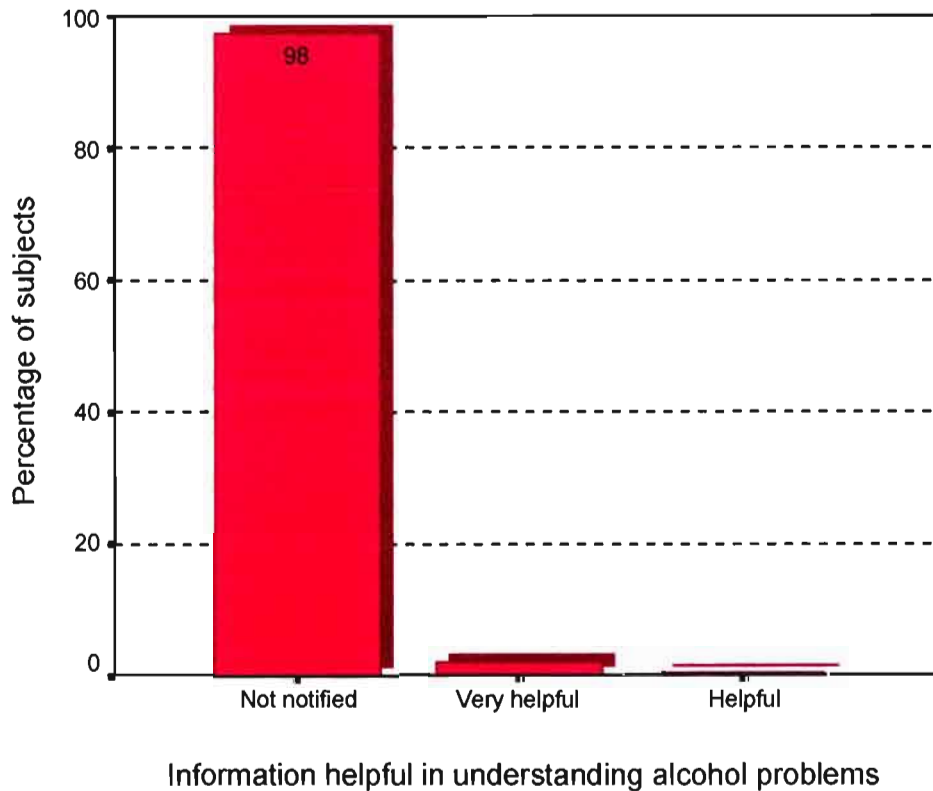


Figure 5.40 indicates whether the information on alcohol abuse was helpful in understanding related problems in the workplace. Of the 7 subjects who were notified of such problems, 6 of them (2.1%) found such information to be very helpful, whilst 1 subject (0.4%) said it was helpful.

**Hypothesis 16:**

There is a significant relationship between whether subjects were alerted to the problems of alcohol abuse in the workplace and each of the biographical variables (age, gender, marital status, number of children, highest educational level, occupation, tenure, income, organisation and location) respectively.

**TABLE 5.24**

**CHI-SQUARE : WHETHER SUBJECTS WERE ALERTED TO THE  
PROBLEMS OF ALCOHOL ABUSE IN THE WORKPLACE**

<b>VARIABLE</b>	<b>CHI-SQUARE</b>	<b>DF</b>	<b>SIGN</b>
Age	53.11	8	<b>0.000*</b>
Gender	8.15	2	<b>0.017**</b>
Marital status	37.83	8	<b>0.000*</b>
Children	47.62	4	<b>0.000*</b>
Education	84.23	8	<b>0.000*</b>
Occupation	41.47	10	<b>0.000*</b>
Tenure	31.71	8	<b>0.000*</b>
Income	101.02	8	<b>0.000*</b>
Organisation	17.89	4	<b>0.001*</b>
Location	16.50	2	<b>0.000*</b>

\*  $p < 0.01$ \*\*  $p < 0.05$ 

From Table 5.24, it is evident that there is a significant relationship between whether subjects were alerted to the problems of alcohol abuse in the workplace and each of the biographical variables (age, gender, marital status, number of children, highest educational level, occupation, tenure, income, organisation and location) respectively.

Hence, the null hypothesis is not substantiated at the 5% level of significance.

**Hypothesis 17:**

There is a significant difference in the perception of employees differing in each of the respective biographical variables (age, marital status, number of children, highest educational qualification, occupation, tenure, income, organisation and location) regarding the organisations' rules and policies on alcohol consumption.

**TABLE 5.25**

**t-TEST : ORGANISATIONS' RULES AND POLICIES ON ALCOHOL  
CONSUMPTION AND GENDER**

<b>VARIABLE</b>	<b>VALUE</b>	<b>DF</b>	<b>SIGN</b>
Gender	-64.05	279	<b>0.000*</b>

**\* p < 0.01**

From Table 5.25, it can be deduced that there exists significant differences at the 95% level of confidence, between males and females regarding the organisations' rules and policies on alcohol consumption at work.

**TABLE 5.26**

**ANOVA : ORGANISATIONS' RULES AND POLICIES ON ALCOHOL  
CONSUMPTION**

<b>BIOGRAPHICAL VARIABLE</b>	<b>SOURCE</b>	<b>SUM OF SQUARES</b>	<b>DF</b>	<b>MEAN SQUARE</b>	<b>F</b>	<b>P</b>
Age	Between groups	105.983	19	5.578	13.159	<b>0.000*</b>
	Within groups	110.214	260	0.424		
	<b>Total</b>	<b>216.196</b>	<b>279</b>			
Marital status	Between groups	412.583	19	21.715	27.154	<b>0.000*</b>
	Within groups	207.917	260	0.800		
	<b>Total</b>	<b>620.500</b>	<b>279</b>			
Number of children	Between groups	108.253	19	5.698	36.004	<b>0.000*</b>
	Within groups	41.144	260	0.158		
	<b>Total</b>	<b>149.396</b>	<b>279</b>			
Education	Between groups	104.544	19	5.502	14.859	<b>0.000*</b>
	Within groups	96.281	260	0.370		
	<b>Total</b>	<b>200.825</b>	<b>279</b>			
Occupation	Between groups	385.628	19	20.296	50.622	<b>0.000*</b>
	Within groups	104.244	260	0.401		
	<b>Total</b>	<b>489.871</b>	<b>279</b>			
Tenure	Between groups	252.860	19	13.308	20.632	<b>0.000*</b>
	Within groups	167.711	260	0.412		
	<b>Total</b>	<b>444.571</b>	<b>279</b>			
Income	Between groups	337.519	19	17.764	43.144	<b>0.000*</b>
	Within groups	107.780	260	0.412		
	<b>Total</b>	<b>444.571</b>	<b>279</b>			
Organisation	Between groups	51.163	19	2.693	6.557	<b>0.000*</b>
	Within groups	106.780	260	0.411		
	<b>Total</b>	<b>157.943</b>	<b>279</b>			
Location	Between groups	15.300	19	0.805	4.274	<b>0.000*</b>
	Within groups	48.986	260	0.188		
	<b>Total</b>	<b>64.286</b>	<b>279</b>			

**\* p < 0.01**

From the analysis of variance in Table 5.26, it is evident that there is a significant difference in the perceptions of employees differing in each of the respective biographical variables (age, marital status, number of children, highest educational qualification, occupation, tenure, income, organisation and location) respectively, regarding the organisations' rules and policies on alcohol consumption.. Hence, the null hypothesis may be rejected at the 5% level of significance.

## **5.3 STATISTICAL ANALYSIS OF THE QUESTIONNAIRE**

### **5.3.1 VALIDITY**

#### **5.3.1.1 FACTOR ANALYSIS**

A factor analysis was conducted on the organisation's rules and policies on alcohol consumption at work. A set of correlations was initially developed between all combinations of the variables 8.1.1 to 8.1.14. From this correlation matrix, a set of initial factors were extracted, using the principal components analysis method. Finally, the initial factors were rotated to yield a final solution of five factors, of which three are explained in the study. The rotated component matrix, together with the eigenvalues and percentage of total variance explained by each factor is illustrated in Table 5.27. Items with loadings greater than 0.5 were regarded as significant. In cases where items were significantly loaded on more than one factor, the factor with the highest scoring was chosen.

**TABLE 5.27**

**ROTATED COMPONENT MATRIX**

ITEMS		FACTOR		
		1	2	3
8.1.1	Organisation does not allow alcohol on its premises	<b>0.614</b>	0.414	0.226
8.1.2	Organisation does not allow alcohol consumption during breaks	<b>0.565</b>	0.514	0.428
8.1.3	Organisation provides alcohol-free food facilities	<b>0.873</b>	0.140	
8.1.4	Organisation allows expense claims for alcohol consumption			
8.1.5	There is a no-alcohol clause in contract of employment			-0.110
8.1.6	Organisation tests employees for alcohol	<b>0.757</b>	0.205	0.287
8.1.7	Not allowed to carry alcohol while on duty	<b>0.805</b>	0.208	
8.1.8	Organisation has a formal policy on alcohol consumption at work	<b>0.681</b>	-0.104	-0.246
8.1.9	Formal policy on alcohol consumption at work is necessary		<b>0.779</b>	
8.1.10	Organisation is doing enough to address the issue of alcohol abuse in the workplace		0.139	
8.1.11	Some form of alcohol testing in organisation is necessary	0.355	<b>0.692</b>	0.200
8.1.12	Testing for alcohol levels has a negative effect on staff and management relations			<b>0.856</b>
8.1.13	Have objections to the testing for alcohol levels at work	-0.128	<b>-0.556</b>	0.463
8.1.14	If organisation tests for alcohol levels, worried to be exposed		0.161	<b>0.737</b>
<b>EIGENVALUES</b>		<b>4.364</b>	<b>2.000</b>	<b>1.766</b>
<b>PERCENTAGE OF TOTAL VARIANCE</b>		<b>31.17</b>	<b>14.29</b>	<b>12.62</b>

**TABLE 5.28**

**FACTORS RESULTING FROM THE ROTATED COMPONENT MATRIX**

<b>Factor 1: Knowledge of the organisational rules and policies on alcohol consumption</b>		
<b>Variable</b>	<b>Attribute</b>	<b>Varimax</b>
8.1.1	Organisation does not allow alcohol on its' premises	0.614
8.1.2	Organisation does not allow alcohol consumption during breaks	0.565
8.1.3	Organisation provides alcohol-free food facilities	0.873
8.1.6	Organisation tests employees for alcohol	0.757
8.1.7	Not allowed to carry alcohol while on duty	0.805
8.1.8	Organisation has a formal policy on alcohol consumption at work	0.681
<b>Factor 2: Opinion on the organisational rules and policies on alcohol consumption</b>		
<b>Variable</b>	<b>Attribute</b>	<b>Varimax</b>
8.1.9	Formal policy on alcohol consumption at work is necessary	0.779
8.1.11	Some form of alcohol testing in the organisation is necessary	0.692
8.1.13	Have objections to the testing for alcohol levels at work	0.463
<b>Factor 3: Opinion on testing for alcohol levels at work</b>		
<b>Variable</b>	<b>Attribute</b>	<b>Varimax</b>
8.1.12	Testing for alcohol levels has a negative effect on staff and management relations	0.856
8.1.14	If organisation tests for alcohol levels, worried to be exposed	0.737

From Table 5.28, it is apparent that the resulting factors are:-

- Knowledge of the organisational rules and policies on alcohol consumption,
- Opinion on the organisational rules and policies on alcohol consumption, and
- Opinion on testing for alcohol levels at work.



### 5.3.1.2 ISSUES NOT COVERED IN QUESTIONNAIRE

FIGURE 5.41

BAR GRAPH : ALCOHOL-RELATED ISSUES NOT COVERED IN QUESTIONNAIRE

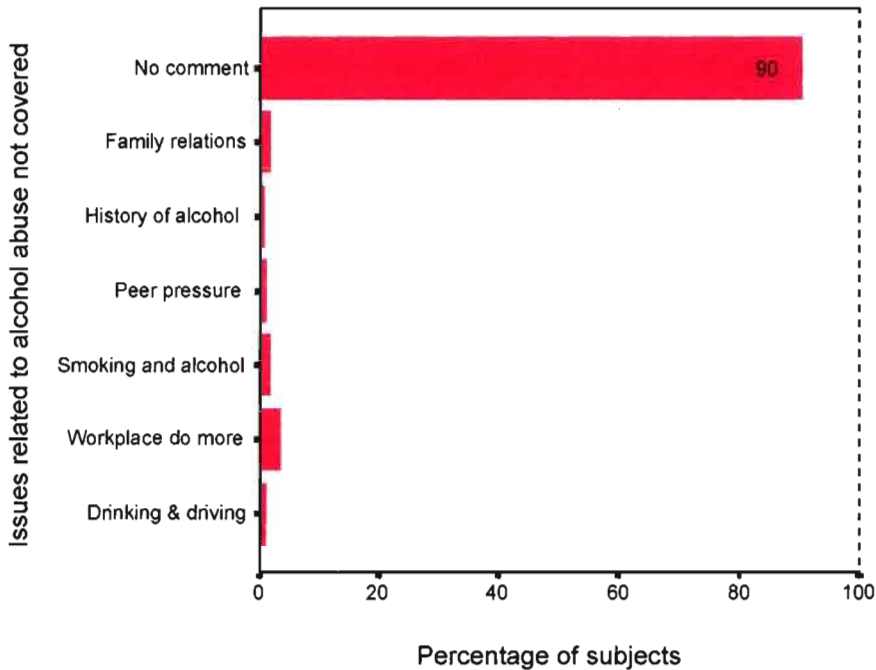


Figure 5.31 indicates the issues which subjects felt were not covered in the questionnaire. The majority of subjects, that is, 9 or 3.2%, felt that the workplace should do more to address the problem of alcohol abuse in the workplace. There were an equal number of 5 subjects (1.8%) who indicated that the questionnaire did not cover issues on the effects of alcohol in family relations and the relationship between alcohol and smoking. Peer pressure resulting in alcohol abuse, as well as the effects of drinking and driving during work hours were other items not included in the questionnaire (N = 3 or 1.1%). Finally, 2 subjects (0.7%) felt issues relating to employees having a history of alcohol abuse should have been accommodated in the questionnaire.

### 5.3.2 CRONBACH'S COEFFICIENT ALPHA

The reliability of the questionnaire was tested using Cronbach's Coefficient Alpha (Table 5.29).

**TABLE 5.29**  
**RELIABILITY ESTIMATE : CRONBACH'S COEFFICIENT ALPHA**

<b>Variables</b>	<b>Attributes</b>	<b>Cronbach's Alpha</b>
2.1 – 2.3	Consumption patterns	0.89
3.1 – 3.12	Consumption at work	0.74
4.1 – 4.6	Workplace safety	0.15
5.1 – 5.5	Absenteeism and tardiness	0.26
6.1 – 6.6	Productivity	0.59
7.1 – 7.5	Job satisfaction	0.68
8.1.1 – 8.1.14	Organisation's rules and policies	0.61

The values for the consumption patterns (0.89) and consumption at work (0.74) are good indicators of the internal consistency or reliability of the questionnaire, whilst that for job satisfaction (0.68), organisational rule's and policies (0.61) and productivity can be considered as acceptable measures.

The remaining alpha's for absenteeism and tardiness (0.26) and workplace safety (0.15) indicates a very low measure of internal consistency or reliability of the scale. This can be attributed to the mixture of scales used in the questionnaire, or to the possibility of subjects' answering the questions on workplace safety and absenteeism in a socially desirable manner.

#### **5.4 CONCLUSION**

The results obtained regarding alcohol consumption and the work-related factors of workplace safety, absenteeism and tardiness, productivity and job satisfaction were established through the use of statistical tests, which quantitatively analysed the data obtained from the responses. The value of these results will be enhanced by comparing and contrasting them with research findings from previous studies in the field of alcohol abuse in the workplace.

## **CHAPTER SIX**

### **DISCUSSION OF RESULTS**

#### **6.1 INTRODUCTION**

Alcohol and other substance use among workers has been associated with a host of economic, social and public health problems. The use of these substances have serious repercussions for employers in terms of a loss of productivity, higher absenteeism rates, increased workplace accidents, and it can adversely affect worker morale and job satisfaction.

The results in Chapter 5 provided information on alcohol consumption at work, the impact of alcohol on workplace safety, absenteeism and tardiness, productivity, job satisfaction and the subjects' awareness of organisational rules and policies on alcohol consumption. These results will now be compared and contrasted to other past and present research findings in the field of alcohol abuse in the workplace.

#### **6.2 DISCUSSION OF RESULTS**

The results of the study will be presented according to the alcohol consumption patterns, alcohol consumption at work, factors relating to alcohol abuse in the workplace (workplace safety, absenteeism and tardiness, productivity and job satisfaction) and the organisations' rules and policies regarding alcohol consumption.

### **6.2.1 ALCOHOL CONSUMPTION PATTERNS**

One of the ways of understanding the battery of problems associated with alcohol use among workers is to understand their alcohol consumption patterns – both the current prevalence, and that of a recent period, such as 12 months.

- **CONSUMPTION OF ALCOHOL DURING THE SUBJECTS' LIFE-TIME**

Close to two-thirds of the subjects (64.29%) in the study indicated that they had consumed alcohol on 20 or more occasions during their life-time, whilst 17.5% had never consumed alcohol.

The Addiction Research Foundation (1991) reports that in a 1990 nation-wide Gallup poll, 79% of the adults reported they had at some point in their lives consumed alcohol. They further report that in a 1989 survey of adults in Ontario, Canada, 83% of adults reported ever having used alcohol, with 55% indicating they have had five drinks or more at a single sitting, and 10% reporting daily drinking.

The results from the study indicate that there were significant relationships between alcohol consumption levels and the biographical variables age, gender and marital status, respectively. Males were likely to consume more alcohol during their life-time than females. Further results indicate that both males and females aged 35 – 44 years are more likely to drink over the recommended limits than those subjects aged 55 years and older. Marital status also influences consumption patterns. Females who were widowed, separated or divorced are likely to consume alcohol more frequently than those females who were married or single.

Wilsnack, Wilsnack & Klassen (1984) maintain that general population studies indicate that there are fewer women drinkers than men, and that a woman's drinking behaviour differs with age, life role and marital status. However, according to a study conducted by the Centre on Addiction and Substance Abuse (CASA) in America, women are catching up to men in the consumption of alcohol and the use of drugs (Franklin County Prevention Institute:1996).

A British study on women and alcohol indicated that the heaviest drinkers among women are those in the 16 – 24 and 35 – 44 age groups. Twenty percent of women in the 16 – 24 age group are drinking over 14 units of alcohol per week as compared to 11% in the late 1980's, whilst 19% of women aged 35 – 44 are drinking over the limits as compared to 10% in the late 1980's. It was also found in the survey that divorced, widowed or separated women who are in the 16 – 44 age range are more likely to drink over the recommended limits than their married or cohabiting counterparts (Institute on Alcohol Studies:1997b).

Similarly, additional studies report that women who are single, as well as those divorced or separated are more likely to drink heavily and experience alcohol-related problems than women who are married or widowed (Wilsnack & Cheloha:1987; Heath, Jardine & Martin:1989).

- **CONSUMPTION OF ALCOHOL OVER THE PAST 30 DAYS**

Over the past 30 days, 5.7% of the subjects indicated that they had consumed alcohol on 20 or more occasions, whilst 32.5% said they never consumed alcohol during this period.

Through the National Household Surveys on Drug Abuse (NHSDA) conducted by the Substance Abuse and Mental Health Services Administration (SAMHSA) in 1994 and 1997 respectively, 8.3% of the United States labour force reported the current use of alcohol (past 30 days) in 1994, whilst 7.7% reported this in 1994.

Subjects who were aged 35 – 44 years, males and who had primary school as their highest educational qualification were more likely to have consumed alcohol over the past 30 days than those subjects in other age categories, females and those who had a higher educational qualification than primary school, respectively.

In contrast, the 1997 NHSDA revealed that the current rate of alcohol use was higher among 18 – 25 year olds, than among older workers. However, it was similarly found that males and those with less than a high school education had a higher rate of current alcohol use than females and those with an education achievement of high school or greater (SAMHSA:1997a).

- **CONSUMPTION OF ALCOHOL OVER THE PAST 12 MONTHS**

During the past 12 months, 23.2% of the subjects consumed an alcoholic beverage on 1 or 2 days a week, whilst 20.4% had done so several times a month.

Delaney and Ames (1995) researched the relationship between work team attitudes, drinking norms and workplace drinking in a large assembly line factory in the U.S. It was revealed that 72% of those subjects who were paid hourly reported some form of alcohol consumption, whilst 17.3% reported heavy drinking (having 10 or more drinks at one time) at least once in the past year.

Results from the study indicated that there were significant relationships between alcohol consumption levels and the biographical variables age and gender, respectively.

During the past 12 months, males and subjects aged 15 – 24 years were likely to consume alcohol more frequently than females or subjects who are 55 years and older, respectively.

The Substance Abuse and Mental Health Services Administration of the U.S. Department of Health and Human Services (1997b) estimates that the number of women in the United States who drink has increased significantly over the last 40 years and that heavy drinking has increased among young, employed women. As many as 16% of these women may be consuming three to five drinks per day.



## **6.2.2 ALCOHOL CONSUMPTION WITH COLLEAGUES AT WORK, AND ITS EFFECTS**

Subjects were generally questioned on their consumption of alcohol at work, whether such consumption affects their work performance, and the consumption of alcohol by and with their co-workers.

- **CO-WORKERS**

The majority of subjects (44.3%) stated that over the past six months their co-workers had never gone drinking together after work, whilst 3.6% of the subjects maintained that this occurred once every fortnight, and 2.5% did so on a daily basis. There were 128 subjects (45.7%) who indicated that they never joined their co-workers to go drinking together off-the-job, whilst 13.9% said this usually occurred.

More than half of the subjects (56.8%) maintained that over the past six months their friends had never consumed alcohol at work, whilst 32.5% of the subjects indicated that this happened only once in the past six months. Yet, 26.4% of the subjects believed that their colleagues have a drinking problem.

However, in their research study focusing on workplace drinking, Delaney and Ames (1995) reported a higher prevalence of co-workers who consume alcohol at work. They report that among those subjects who were paid hourly, 69.9% reported that at least one of their co-workers drank four or more drinks during working hours, on at least one occasion during the past 12 months.

As compared to the people they work with, the majority of the subjects (42.9%) indicated that they consume the same amount of alcohol as their co-workers, whilst 24.3% indicated that they drink less when compared to their co-workers. Only 1.4% of those surveyed indicated that they consume more alcohol than their co-workers.

- **SUBJECTS CONSUMPTION OF ALCOHOL**

Close to three-quarters of the subjects, that is, 72.1% indicated that during a week they do not consume any alcohol at work (including lunch and other breaks). The remaining 27.9% of the subjects consumed between 1 – 10 units of alcohol at work during this period.

Similarly, Delaney and Ames (1995) report that in their workplace drinking study 23.5% of the subjects maintained they had at least one drink during working hours, including lunch and breaks. In contrast, the Institute on Alcohol Studies (1995) reports on a major Scottish company which found that 23% of its male workers regularly drank between 21 and 50 units of alcohol a week, and 18% of women drank 14 to 35 units. Eleven per cent of male workers drank more than 50 units a week and 2.5% of women drank more than 35 units. For women in the 17 – 30 age group, this percentage doubled to 5%.

Further results from the study indicate that there are significant relationships between alcohol consumption at work during a week and the biographical variables age, gender and marital status, respectively. Subjects who are 25 – 54 years and female are likely to consume more alcohol at work during a week than subjects who are younger than 25 or older than 54 years or male, respectively.

In contrast, Delaney & Ames (1995) found in their study on workplace drinking that younger workers were likely to consume more alcohol in the workplace than older workers, but consistent with the present study they also found that women were likely to consume more alcohol at work, as compared to men.

### **6.2.3 WORKPLACE SAFETY**

Subjects were surveyed on their experiences of workplace safety and accidents, which the intention of drawing associations between the use of alcohol and adverse workplace outcomes.

The results indicated that more than three-quarters of the subjects (83.9%) were never involved in a work-related accident, whilst the remaining 45 or 16.1% of the subjects indicated that this happened to them. Of these 45 subjects, 7.1% said that the accident occurred over the past 12 months, whilst 8.9% indicated this happened prior to this period. However, none of the subjects who were involved in a work-related accident during the past 12 months were required to take an alcohol or drug test.

In contrast, the 1997 NHSDA indicated that 8.5% of subjects who used alcohol were involved in a workplace accident during the past year, whilst in 1994 the rate was lower at 7.7% (SAMHSA:1997a).

At a 1995 safety and health conference sponsored by the Congress of South African Trade Unions (COSATU), it was revealed for every day in South African industry on average five people die from injuries received, 430 people are injured and 52 people

are permanently disabled. Studies indicate that between 20% and 40% of industrial accidents are alcohol related (Sartor:1996). Similarly, research conducted by Bernstein & Mahoney (1989) reveals that up to 40% of industrial fatalities and 47% of industrial injuries can be linked to alcohol consumption or alcoholism.

According to Backer (1987), alcohol or drug-using employees are 3.6 times more likely to be involved in a workplace accident than non-alcohol or drug-using employees. The U.S. Department of Labour (1998) report on employees who were tested for the use of alcohol and other substances at the Utah Power and Light company in the USA. Employees who tested positive on pre-employment drug tests were 5 times more likely to be involved in a workplace accident than those who tested negative.

With regards to the importance of safety in their jobs, almost half of the subjects (48.2%) felt that safety is important in their jobs, whilst 6 subjects (2.1%) indicated that this was not at all important to them. Close to 13% of the subjects felt that their safety and that of their colleagues were sometimes at risk due to their alcohol consumption. The general consensus among the subjects was that alcohol is a threat to their safety at work (91.8%).

Furthermore, there were significant relationships between the importance of safety in the job and the biographical variables age, gender and marital status, respectively. Subjects who are 55 years and older, male and married are likely to place more

emphasis on the importance of safety in the job than subjects younger than 55 years, female, and who are divorced, widowed or separated.

#### **6.2.4 ABSENTEEISM AND TARDINESS**

Absenteeism, which is the failure of workers to report on the job when they are scheduled to work, is in some instances caused by alcohol-related problems either in the work or family environment. Alcoholism creates “lost-weekends”, destroys physical health and causes financial crisis, resulting in the employee eventually having to stay away from work. Hence the alcoholic does not find sufficient time to drink, to solve his or her problems and to keep working as steadily as before alcoholism set in (Sternhagen:1986).

- **ABSENTEEISM DUE TO ILLNESS**

In the present study, it was found that more than half of the subjects (51.4%) were absent from work between 1 – 5 days in the past 12 months due to illness, whilst 5% of the subjects were absent for 16 – 20 days during this period. Over 60% of the subjects (60.4%) said that none of their days off work in the past year were due to alcohol consumption. However, 23.2% indicated that in the past 12 months, they were absent from work for between 1 – 5 days due to alcohol consumption.

Sternhagen (1986) found that 2 – 4% of employees in the United States are usually absent from work due to illness, depending on the type of industry. However, higher rates of absenteeism due to illness are reported in the National Household Surveys on Drug Abuse (NHSDA). In 1994, the NHSDA indicated that 9.5% of employees

surveyed who consume alcohol missed more than 20 days of work in the past year due to illness or injury, whilst in the 1997 survey, this figure increased to 12.4% (SAMHSA:1994).

There were significant relationships between the number of days absent from work in the past 12 months due to illness and each of the biographical variables (age, gender, marital status and occupation), respectively. Significant relationships also existed between the number of days the subject was absent from work in the past 12 months due to illness and the number of these days absent which were due to alcohol consumption, and whether the subject dislikes going to work, respectively.

Females, unskilled or manual labourers and subjects aged 45 – 54 years were more likely to be absent from work in the past year due to illness, as compared with males, employees in other occupational categories and subjects aged younger than 45 or older than 54 years. Widowed and married females were also more likely to stay away from work during this period, than single, divorced or separated females.

Similarly, Sternhagen (1986) reports in his study that in the United States that women have higher rates of absenteeism than men, absenteeism is 30% higher in married than unmarried women, about 50% higher in non-management positions, and higher under female supervisors.

- **TARDINESS AND ALCOHOL CONSUMPTION**

With respect to tardiness during the past year, 7.1% of the subjects said that they came in late or left early due to alcohol consumption only once in the past year, whilst 3.6% indicated that this occurrence took place between 2 – 5 times during this period.

Backer (1987) found in his study that alcohol or drug-using employees are 2.2 times more likely to request early dismissal or time off, and 3 times more likely to be late for work than non-alcohol or drug-using employees.

- **ABSENTEEISM DUE TO ALCOHOL CONSUMPTION**

When asked directly about the number of days they were absent from work in the past year due to the effects of their alcohol consumption, the majority of subjects (89.3%), indicated that they were never absent due to this factor. However, 7.1% indicated that this occurred only once in the past year, whilst 3.6% of the subjects said they did not come to work between 2 – 5 times during this period as a result of the effects of their alcohol consumption.

Backer (1987) reports that alcohol or drug-using employees are 2.5 times more likely to have absences of 8 days or more than non-alcohol or drug-using employees. In addition, the 1997 NHSDA indicates that employees who reported alcohol use were twice as likely than employees who did not report alcohol use to have skipped one or more days of work in the past month (SAMHSA:1997a).

Jones, Casswell & Zhang (1995) evaluated the economic costs of alcohol-related alcoholism and reduced productivity among the working population in New Zealand. Data were collected from 4 surveys of 4 662 people, aged 14 – 65 years. Alcohol consumption was measured by multiplying the estimated amount of alcohol consumption at 14 different locations and the frequency of consumption, and absenteeism was recorded as the number of times the subjects were away from work because of drinking. Nearly 4% of the subjects reported an alcohol-related absenteeism. There was a significant difference in the number and cost of absenteeism and reduced efficiency days, between the top and the bottom 10% drinkers.

However, Casswell, Gilmore & Ashton (1988) found no clear relationship between heavy drinking and overall absenteeism, in their 1986 study based on the general population of New Zealand. The aim of the study, which was based on over three thousand people, was to identify those days of reported absence which were likely to be alcohol related.

According to the U.S. Department of Labour (1998 & 1990), alcoholism costs 500 million lost workdays each year in the United States, whilst absenteeism rates among alcoholics or problem drinkers is 16 times greater among all employees with alcohol and other drug-related problems. However, Bernstein & Mahoney (1989) report absenteeism rates among alcoholics or problem drinkers to be a lower figure of 3.8 to 8.3 times greater than normal.



Similarly, Romelsjo (1995) researched the effects of alcohol consumption on absenteeism, and concluded that the duration of absence of an alcoholic employee is on average 3.3 times longer than the whole workforce. During the year the average rate of absenteeism is 20 days for non drinking employees, but is 32 days for confirmed alcoholics, 39 days for those with physical problems and 89 days for those alcoholics with mental problems. Research conducted by the U.S. Department of Labour (1998) reported that alcohol-using employees at General Motors average 40 sick days leave per year compared to 4.5 days for non-users.

### **6.2.5 PRODUCTIVITY**

The excessive use of alcohol is responsible for incurring a significant loss of productivity in industrial and commercial organisations, resulting in the lack of attention, loss of time, repeated lateness and frequent stoppages (Romelsjo:1995; Wilcocks:1986).

In the present study, more than half of the subjects rated their work quality to be excellent (56.8%) or good (28.2%), whilst none of the subjects felt that their work quality was poor or very poor. Over two-thirds of the subjects, that is, 67.1% indicated that they can always deliver good work without continuous supervision.

There were 33 subjects (11.8%) who indicated that only once in the past year their work was not done as efficiently as usual, due to alcohol consumption, whilst 6.1% of them said this happened 2 – 5 times in the past year. None of the subjects indicated that

this happened on more than 5 occasions in the past year. More than three-quarters of subjects (87.5%) agreed that the use of alcohol at work reduces work output.

In the study conducted by Jones et. al. (1995), which evaluated the economic costs of alcohol-related alcoholism and reduced productivity among the working population in New Zealand, two of the four surveys provided information on perceived decreased work performance. Results indicate that there was a 25% reduction in work performance among heavy alcohol users and 12% felt their drinking had detrimental effects on their work performance.

The National Institutes of Health (1998) report on a 1992 study conducted in the U.S. on the economic costs of alcohol and drug abuse. They estimated that two-thirds of the costs of alcohol abuse are related to lost productivity, either due to alcohol-related illness (45.7%) or premature death (21.2%).

The Substance Abuse and Mental Health Services Administration (SAMHSA) (1995) established that problems resulting from the use of alcohol and other drugs during 1990 cost American businesses an estimated \$81.6 billion dollars in lost productivity due to premature death (\$37 billion) and illnesses (\$44 billion). Eighty six percent of these combined costs were attributed to alcohol. The Addiction Research Foundation (1989) estimated that in Ontario, Canada, the total value of reduced labour productivity due to alcohol and other drug abuse was \$2.3 billion in 1986 – 1987.

Wiebe, Vinje & Sawka (1995) determined the extent to which alcohol and drugs are used by workers on-the-job, investigated the impact of substance abuse, examined variations among industries in the magnitude of the problem and determined workplace responses to these issues. It was found that the largest impact of substance use, particularly alcohol, on the workplace was in terms of absenteeism and reduced productivity.

### **6.2.6 JOB SATISFACTION**

Romelsjo (1995) declares that low job satisfaction has been associated with alcohol consumption and other alcohol-related problems. In the present study, the majority of subjects (43.6%) were satisfied with their present work situation, whilst only 5.7% were very dissatisfied at work.

Evans & Nohenshil (1997) conducted a study on 505 substance abuse counsellors engaged on full-time counselling practice, and examined the levels and sources of job satisfaction. They found that the participants were least satisfied with the opportunities for advancement and most satisfied with the opportunity to be of help to others.

Significant relationships also exist between the subjects' perception of the present work situation and the number of days absent due to alcohol consumption, and the number of times in the past year the subject took longer breaks due to the effects of alcohol consumption, respectively.

Martin & Roman (1996) researched the influences of job conditions on the patterns of workers' alcohol abuse and examined the role of self-reported job satisfaction on these behaviours, using a large national probability sample of 5 733 full-time workers. They concluded that satisfied workers are less likely to consume excessive amounts of alcohol than those employees who are dissatisfied with their jobs.

In this study, subjects were also asked to indicate whether they experienced problems with the people they work with or for. Fifty percent of the subjects indicated that they experienced some notable problems with the people they work with or for, 40.4% indicated that there were no problems and 9.6% said that serious problems existed with the people they worked with or for.

Furthermore, the majority of the subjects surveyed, that is, 62.1% maintained that they sometimes voluntarily did more on the job than was required. With regards to the time spent by subjects outside of work to improve their skills or employment, 61.1% indicated that they were not devoting any time outside of work for this purpose. However, 28.6% of the subjects devoted 1 – 2 hours per week outside of work to improve their skills of employment.

Subjects were further asked to indicate whether they dislike going to work. More than half of the subjects (56.8%) said that they disliked going to work on some days, whilst 37.9% indicated that this was never the case and 5.4% of the subjects indicated they disliked going to work almost every day. Subjects who were 55 years and older, employed by the organisation for 6 – 8 years and earning between R40 000 and

R59 999 per annum were more likely to dislike going to work, as compared with their counterparts.

Seeman & Anderson (1983) conducted a study in which they attempted to measure the correlation between low control (lack of opportunities for leadership or little leadership ability), job satisfaction and high social involvement and problem drinking. There was a significant interaction between work experience, job satisfaction and powerlessness. These combined to yield distinctive drinking patterns. The sense of low control was consistently associated with heavier drinking.

However, Archer (1981) found no evidence in his study with blue collar workers to suggest that alcoholic workers are less able than non-alcoholics to tolerate monotonous, routinised jobs offering little opportunity for self-exploration and self-actualisation.

## **6.2.7 ORGANISATIONS' RULES AND POLICIES ON ALCOHOL CONSUMPTION**

Subjects were asked to indicate the extent to which they agreed or disagreed with a series of statements on their organisations' rules and policies on alcohol consumption. A rating of "1" indicated that the subject strongly agreed with the statement, whilst a rating of "5" meant a strong disagreement with the statement.

Three factors were thereafter calculated using the Factor Analysis method: knowledge of the organisational rules and policies on alcohol consumption, opinion on the

organisational rules and policies on alcohol consumption and opinion on testing for alcohol levels at work.

Subjects agreed with the rules or policies that the organisation does not allow alcohol on its' premises (mean = 1.50), that alcohol consumption during breaks are not allowed (mean = 1.50) and that they are not allowed to carry alcohol while on duty (mean = 1.56). They however disagreed that their organisation has a formal policy on alcohol consumption at work (mean = 2.55).

With regards to the policy on testing for alcohol levels at work, nearly half of the employees (49%) in the 1994 NHSDA reported that their workplaces had any type of drug testing programme (whether it was at hiring, randomly, upon suspicion or post-accident). Employees at large workplaces reported that their workplace had some type of drug testing programme more frequently than those at small or medium establishments had reported (28% for small, 58% for medium and 74% for large) (SAMHSA:1994).

Furthermore, workers were more likely to report that their workplaces provided information about drug and alcohol use or had a written policy about drug and alcohol use, than to report that their workplaces had access to Employment Assistance Programmes (EAPs).

It was agreed that both a formal policy on alcohol consumption at work (mean = 1.79) and some form of alcohol testing in the organisation (mean = 1.83) is necessary.

With respect to testing for alcohol levels at work, subjects disagreed that if their organisation tests for alcohol levels, they were worried to be exposed (mean = 4.25). The 1994 NHSDA further found in their workplace study that there were 15% of alcohol users in medium and 7% in large establishments who said they would be less likely to work for an employer who tests for alcohol and drugs at hiring, whilst 25% in medium and 13% in large establishments said they would be less likely to work for an employer who tests for alcohol and drugs randomly (SAMHSA:1994).

Taylor (1989) reports that a 1988 survey by the Bureau of Labour Statistics in the USA found only 3.2% of businesses surveyed have drug testing programmes, and of those who had programmes, 64% tested current employees. A decade later, according to the American Management Association's annual Survey on Workplace Drug Testing and Drug Abuse Policies (1996), it was found that more than 81% of businesses surveyed in 1998 were conducting some form of applicant or employee drug testing.

Furthermore, subjects were asked to provide details, based on their knowledge, on the information disseminated by management on the problems of alcohol abuse in the workplace.

It was found that the majority of subjects (72.9%) were not alerted by their organisations to the problems of alcohol abuse in the workplace, whilst 24.6% of the subjects were unsure about this issue. There were only 7 subjects (2.5%) of those surveyed whose organisations had notified them of this issue.

The 1994 and 1997 NHSDA both report that employees at medium-size (25 - 499 employees) or large (500 or more employees) workplaces were least likely to report having information or a written policy about drug and alcohol use at the workplaces (SAMHSA:1997a). Similarly, in the present study, none of the employees from Organisation A, which has a population of 1 100 employees, reported having received any information on alcohol-related problems in the workplace. However, Organisations B and C, which have 150 and 100 employees respectively, noted receiving information on this issue.

Of the 7 subjects who were alerted to the problems of alcohol abuse in the workplace, 3 subjects (1.1%) were notified through posters or leaflets, whilst 4 subjects (1.4%) by letters from the organisation. The results also indicated that there was a significant relationship between whether subjects were alerted to the problems of alcohol abuse in the workplace and gender. Females were more likely than males to find such information helpful.

### **6.3 CONCLUSION**

This chapter focused on the findings of the study, its interpretations, as well as its comparison with other research findings on alcohol consumption and abuse in the workplace. From these findings, recommendations have been generated for assessing and managing the use and effects of alcohol abuse in the workplace.



## **CHAPTER SEVEN**

### **RECOMMENDATIONS AND CONCLUSION**

#### **7.1 INTRODUCTION**

The prevention of alcohol abuse in the workplace is, to a large extent, a management responsibility, where every manager must be knowledgeable about the guidelines available on how to handle alcohol problems at work. In organisations where alcohol and drug use is prevalent, management must ensure it enforces an alcohol and drug policy and also contemplates implementing a programme, such as an EAP, to assist employees.

The recommendations are intended to guide management and employees on ways in which to handle alcohol-related problems in the workplace. The successful implementation and maintenance of these recommendations would result in an efficient, alcohol and drug-free workplace.

#### **7.2 RECOMMENDATIONS**

Recommendations based on the literature review and findings from the research, are delineated below.

##### **7.2.1 RECOMMENDATIONS BASED ON RESEARCH DESIGN**

- Additional research should be conducted on how the workplace is affected by other substances, such as drugs (for example, cocaine, marijuana, ecstasy and heroin), inhalants (for example, glues, aerosols, butane, ether and solvents) and tobacco.

The relationships between alcohol and smoking and alcohol and other substances, and their consequences on work performance should also be examined.

- The study was based in only two of the nine provinces in South Africa. It is recommended that future studies be composed of equal representatives from all provinces. It should also constitute an equal representation of males and females.
- Due to the illicit nature of recreational alcohol and other substance abuse, many substance-use trends remain hidden or inadequately understood. The data collected in the study is also self-reported, for example, whether or not the subject has consumed alcohol, and hence possibly biased. Finally, the data does not include information on where the alcohol use occurred – whether it was on-the-job or off-the-job. It is also possible that more employees are intoxicated on-the-job, due to alcohol ingestion before work, during breaks and at lunch, than those who report only using alcohol while technically at work. Consequently, the research instrument should be refined in a manner to capture these trends or other pertinent information.
- The majority of people who abuse alcohol and other substances either terminate or significantly reduce their alcohol and drug use over time, with or without professional intervention. Organisations should therefore, conduct surveys periodically to ensure that they have updated information on the use of alcohol and other substances in the workplace.

- Future studies should endeavor to examine the impact and effectiveness of workplace programmes, such as Employment Assistance Programmes, on alcohol and drug abuse, as well as the subjects awareness or attitude towards such programmes.
- The reliability of the questions on the factors of workplace safety, and absenteeism and tardiness resulted in low Cronbach's Alpha coefficients. These questions should be reconstructed to ensure that in future studies, the measuring instrument contains more stringent reliability, as well as face and content validity.

## **7.2.2 RECOMMENDATIONS BASED ON RESULTS**

It was found in the study that a mere 2.5% of the sample were alerted to the problems of alcohol abuse in the workplace by their organisations. This was brought about in the form of letters or posters and leaflets. Furthermore, subjects strongly believed that the employer should do more to address the problem of alcohol abuse in the workplace.

The following recommendations emphasize ways in which the management of the sample organisations can effectively deal with and supervise alcohol-related problems in their workplaces, and how they can educate their employees on options which are available to them if they have an alcohol problem.

### **7.2.2.1 ALCOHOL AND DRUG ABUSE PROGRAMME**

It is strongly recommended that organisations should implement an alcohol and drug abuse programme. Such a programme should ideally consist of a written policy on

alcohol consumption, information to train the supervisors on how to handle alcohol-related problems, ways to educate employees on these problems, and what is available to them, advice on the availability of Employment Assistance Programmes (EAPs), and information on testing for alcohol levels at work.

- **ALCOHOL POLICY**

The policy should include an explanation of why the company is implementing a programme, for example, for the safety of its employees, clients and the general public. It should include a clear description of alcohol and other substance abuse-related behaviours that are prohibited. Finally, the policy should include a thorough explanation of the consequences for violations of the policy.

For example, the policy can state that the organisation does not allow alcohol consumption during lunch or tea breaks and that employees are not permitted to carry alcohol while on duty.

- **TRAINING OF SUPERVISORS**

The supervisors are responsible for identifying and addressing performance problems when they occur and which, on occasion, may be the result of alcohol and other substance abuse. They have to be trained to understand the organisation's substance abuse policy and procedures, to identify and resolve employee performance problems and to know how to refer employees to available assistance so that any personal problems that may be affecting job performance can be addressed.

- **EDUCATING THE EMPLOYEES**

Management should explain in detail to every employee of the company how the workplace policy applies to them and the consequences for violations of the policy. The information should also be based on the Employee Assistance Programme (EAP) and alcohol and drug testing, if these are part of the programme.

- **PROVIDING EMPLOYEE ASSISTANCE**

Rather than to fire an employee who has an alcohol-related problem, the organisation should attempt to help employees overcome personal problems. An Employee Assistance Programme (EAP) is intended to assist workers whose job performance is being negatively affected by personal problems, including alcohol and other substance abuse.

It is recommended that if an organisation is contemplating including employee assistance as part of its programmes, they should contact other organisations in the area that provide some type of employee assistance and learn about their programmes – what they offer, how the service is provided and the costs and results that they are getting from the programme. They should also determine whether there is an EAP consortium available in the community which local businesses can join to receive EAP services at prices typically only available to larger organisations.

- **DRUG AND ALCOHOL TESTING**

The drug and alcohol testing part of the programme should focus on issues, such as, who will be tested, when will they be tested, for which substances they will be tested,

what consequences will employees and job applicants face if they test positive and who will administer the testing programme.

There should be effective communication between management and employees during the implementation of the programme. This will ensure that variations across the different occupational categories are considered.

Furthermore, large organisations should consider the following alcohol and drug testing options, when handling workplace accidents:-

- Post-accident alcohol and drug testing should be implemented to offset increasing workplace accidents.
- Managers should review the adequacy of their safety inspections as well as their safety and job training interventions.
- Unions should offer less resistance to post-accident alcohol and drug testing, especially when it involves the use of existing counselling, rehabilitation and Employee Assistance Programmes.

#### **7.2.2.2 WORKSHOPS OR CAMPAIGNS**

It is recommended that the sample organisations host workshops or campaigns on alcohol and drug-related issues. In instances where this is not feasible or practical, employees should be encouraged to attend such workshops elsewhere. Such programmes can be run in conjunction with other role players addressing alcohol and drug abuse issues, such as government departments, religious organisations,

occupational health personnel and medical aid representatives. Significant areas to be attended to during these sessions include:-

- The dangers of alcohol and other drugs and how they affect individuals and families, as well as the effects of alcohol in family relations, which has an impact on the work environment.
- The impact that alcohol and other drug abuse can have on safety at work as well as the organisation's productivity, product quality, absenteeism, health care costs and accident rates.
- The effects and consequences of drinking and driving during work hours.
- The effects of smoking and alcohol.
- How to handle peer pressure relating to alcohol consumption.

### **7.2.2.3 INFORMATION**

Of the 7 subjects in the study who were alerted to the problems of alcohol abuse in the workplace, 3 subjects (1.1%) were notified through posters or leaflets, whilst 4 subjects (1.4%) by letters from the organisation.

From the above figures, it is evident that employees are poorly informed. Thus, organisations should publish pamphlets, brochures, leaflets, posters and newsletters on alcohol related issues, focusing on how employees can handle alcohol-related problems in the workplace, and what is available to assist those employees in need. An organisation can also set up a link on its web site to address these issues. This information should be distributed to all employees, and the organisation should ensure that new employees are also notified of all existing material.

#### **7.2.2.4 OFFICE PARTIES**

In the study conducted, 30.4% of the sample consumed alcohol at work once over the past six months to celebrate an occasion. During this period, 4.6% and 1.8% of the subjects drank at work to celebrate something between 2 – 5 times and around once a month respectively.

If organisations decide to provide alcohol at an office event, they must make sure all employees are aware that they are welcome to attend and have a good time, but that they are expected to act responsibly. The following recommendations are made to minimise any negative consequences of alcohol consumption:-

- Ensure that employees are aware at all times of the organisational policy on alcohol consumption. Prior to an office party, use break-room bulletin boards, office e-mail and pay cheque envelopes to communicate the policy.
- Allow for alternative, non-alcoholic beverages.
- Serve the correct type of food. Avoid serving too much of salty, greasy or sweet foods which tend to make people thirsty. Instead, serve foods rich in starch and protein which stay in the stomach longer and slow the absorption of alcohol in the bloodstream.
- Managers should be reminded that even at the office party, they have responsibilities for implementing the organisation's alcohol and substance abuse policy.
- Provide alternative transportation for all party goers and make special transportation arrangements in advance of the party. Employees should be encouraged to make use of this option if they have any alcohol.



### 7.3 CONCLUSION

The workplace is the greatest national asset of any country. More than technology, capital, plant and equipment or natural resources, the workplace makes possible all of the social and economic progress a country may enjoy. For several decades, the use of alcohol has headed the list of substances which adversely impact employees' health, work output and public safety.

Results from the study indicate that a significant relationship exists between alcohol consumption in the workplace during the week and gender. Females are likely to consume more alcohol at work during the week than males. The general consensus among the subjects is that alcohol is a threat to their safety at work (91.8%). Furthermore, it was found that males and married subjects are likely to place more emphasis on the importance of safety in their jobs, than females and subjects who are widowed or separated.

More than three-quarters of the subjects agreed that the use of alcohol at work reduces work output. Finally, only 2.5% of the subjects were notified by their organisations of the problems created by alcohol abuse in the workplace.

The response to the problem of alcohol abuse in the workplace must be based on co-operation, communication and trust, and should focus on promoting the fullest consultation and co-operation between employers, workers and their representatives, safety personnel, occupational health personnel, medical personnel, the government and specialists in alcohol and drug problems.

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## APPENDIX 1: QUESTIONNAIRE

Kindly complete the following questions, marking a tick (✓) in one block only.

### 1. GENERAL

#### 1.1 Age

- <sup>1</sup> 15 - 24 years
- <sup>2</sup> 25 - 34 years
- <sup>3</sup> 35 - 44 years
- <sup>4</sup> 45 - 54 years
- <sup>5</sup> 55 years and over

#### 1.2 Gender

- <sup>1</sup> Male
- <sup>2</sup> Female

#### 1.3 Marital Status

- <sup>1</sup> Married
- <sup>2</sup> Separated
- <sup>3</sup> Divorced
- <sup>4</sup> Single
- <sup>5</sup> Widowed

#### 1.4 Number of children

- <sup>1</sup> No children
- <sup>2</sup> 1 - 3
- <sup>3</sup> 4 - 6
- <sup>4</sup> 7 and more

#### 1.5 Highest Educational Qualification

- <sup>1</sup> Primary school
- <sup>2</sup> High school
- <sup>3</sup> University degree/diploma
- <sup>4</sup> Technikon degree/diploma
- <sup>5</sup> Other

#### 1.6 Profession / occupation

- <sup>1</sup> Professional
- <sup>2</sup> Clerical / Administration
- <sup>3</sup> Skilled manual
- <sup>4</sup> Supervisory
- <sup>5</sup> Unskilled manual, labourers
- <sup>6</sup> Other

#### 1.7 Years employed by company

- <sup>1</sup> 0 - 2 years
- <sup>2</sup> 3 - 5 years
- <sup>3</sup> 6 - 8 years
- <sup>4</sup> 9 - 11 years
- <sup>5</sup> 12 years and over

#### 1.8 Gross income per annum

- <sup>1</sup> Less than R20 000
- <sup>2</sup> R20 000 - R39 999
- <sup>3</sup> R40 000 - R59 999
- <sup>4</sup> R60 000 - R79 999
- <sup>5</sup> R80 000 and over

#### 1.9 Name of organisation

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#### 1.10 City

- <sup>1</sup> Pretoria
- <sup>2</sup> Durban
- <sup>3</sup> Johannesburg
- <sup>4</sup> Cape Town
- <sup>5</sup> Other

## 2. CONSUMPTION PATTERNS

2.1 During your life-time, have you consumed alcohol?

- <sup>1</sup> No
- <sup>2</sup> Yes, once or twice
- <sup>3</sup> Yes, 3-5 times
- <sup>4</sup> Yes, 6-9 times
- <sup>5</sup> Yes, 10-19 times
- <sup>6</sup> Yes, 20 times or more

2.2 On about how many different days did you have one or more drinks of beer, wine or liquor during the past 30 days?

- <sup>1</sup> Never
- <sup>2</sup> Once or twice
- <sup>3</sup> 3-5 times
- <sup>4</sup> 6-9 times
- <sup>5</sup> 10-19 times
- <sup>6</sup> 20 times or more

2.3 On average, how often in the past 12 months have you had any alcoholic beverage, that is, beer, wine or liquor?

- <sup>1</sup> Daily in the past 12 months
- <sup>2</sup> 3-6 days a week
- <sup>3</sup> About 1 or 2 days a week
- <sup>4</sup> Several times a month
- <sup>5</sup> 1-2 times a month
- <sup>6</sup> Every other month or so
- <sup>7</sup> 3-5 days in the past 12 months
- <sup>8</sup> 1-2 days in the past 12 months
- <sup>9</sup> Used alcohol in my life, but did not drink any alcohol in the past 12 months
- <sup>10</sup> Never had a drink of beer, wine or liquor in my life

## 3. CONSUMPTION AT WORK

3.1 How many times in the past six months have some of your co-workers gone drinking together off the job?

*(Co-workers are people you know and work with, not those in other departments or locations that you would only know about but not associate with. This may include your boss, if you would associate with him/her off the job.)*

- <sup>1</sup> About daily
- <sup>2</sup> 2-4 times a week
- <sup>3</sup> About once a week
- <sup>4</sup> About once every 2 weeks
- <sup>5</sup> Around once a month
- <sup>6</sup> 2-5 times in the past 6 months
- <sup>7</sup> Only once in the past 6 months
- <sup>8</sup> Never

3.2 How often did you go with them?

- <sup>1</sup> Always
- <sup>2</sup> Usually
- <sup>3</sup> Sometimes
- <sup>4</sup> Rarely
- <sup>5</sup> Never

3.3 How much of the talk at work is about drinking or activities involving drinking?

- <sup>1</sup> Never talk to others at work
- <sup>2</sup> None of it
- <sup>3</sup> Only a small portion (1 - 10%)
- <sup>4</sup> Some of it (11 - 25%)
- <sup>5</sup> A lot of it (26 - 50%)
- <sup>6</sup> Most of it (More than 50%)
- <sup>7</sup> All of it

3.4 In some jobs, you are not supposed to drink during working hours, or on breaks or at lunchtime, but some employees drink anyway. How many times in the past six months have your friends at work done this?

- <sup>1</sup> About daily
- <sup>2</sup> 2-4 times a week
- <sup>3</sup> About once a week
- <sup>4</sup> About once every 2 weeks
- <sup>5</sup> Around once a month
- <sup>6</sup> 2-5 times in the past 6 months
- <sup>7</sup> Only once in the past 6 months
- <sup>8</sup> Never

3.5 In some jobs, you might be expected to drink, for example to celebrate something. How many times has this happened in the past six months.

- <sup>1</sup> About daily
- <sup>2</sup> 2-4 times a week
- <sup>3</sup> About once a week
- <sup>4</sup> About once every 2 weeks
- <sup>5</sup> Around once a month
- <sup>6</sup> 2-5 times in the past 6 months
- <sup>7</sup> Only once in the past 6 months
- <sup>8</sup> Never

3.6 During a typical week, how much of alcohol do you drink whilst at work, including lunch and other breaks?

*One UNIT of alcohol*  
*= Half a pint of beer*  
*= One single measure of spirit*  
*= One standard glass of table wine*

- <sup>1</sup> 0 units
- <sup>2</sup> 1 - 10 units
- <sup>3</sup> 11 - 20 units
- <sup>4</sup> 21 to 30 units
- <sup>5</sup> 31 to 40 units
- <sup>6</sup> Over 40 units

3.7 How do you feel your drinking of alcohol generally compares to the people you work with?

- <sup>1</sup> I drink more
- <sup>2</sup> I drink less
- <sup>3</sup> I drink the same
- <sup>4</sup> I never drink

3.8 Have you ever felt the effects of alcohol whilst at work?

- <sup>1</sup> No
- <sup>2</sup> Yes

3.9 If **yes** to 3.8, how often would you say you felt the effects of alcohol at work?

- <sup>1</sup> On most days
- <sup>2</sup> Few times a week
- <sup>3</sup> About once a week
- <sup>4</sup> About once a month
- <sup>5</sup> Less than monthly

3.10 Have you ever noticed a colleague feeling the effects of alcohol whilst at work?

- <sup>1</sup> No
- <sup>2</sup> Yes

3.11 If **yes** to 3.10, how often would you say you noticed a colleague feeling the effects of alcohol whilst at work?

- <sup>1</sup> On most days
- <sup>2</sup> Few times a week
- <sup>3</sup> About once a week
- <sup>4</sup> About once a month
- <sup>5</sup> Less than monthly

3.12 Do you believe any of your colleagues to have a drinking problem?

- <sup>1</sup> No  
<sup>2</sup> Yes

4.4 How important is safety in your job?

- <sup>1</sup> Very important  
<sup>2</sup> Important  
<sup>3</sup> Quite important  
<sup>4</sup> Not very important  
<sup>5</sup> Not at all important

#### 4 SAFETY IN THE WORKPLACE

The following questions are about work-related accidents which you may have been involved in. When we refer to your involvement in work-related accidents, we mean you were part of an accident at the time it took place while you were working, and that this accident resulted in any or all of the following:

- Damage to property or equipment
- An injury to yourself
- An injury to another person.

4.1 Have you **ever** been involved in a work-related accident?

- <sup>1</sup> No  
<sup>2</sup> Yes

4.2 If **yes** to 4.1,

4.2.1 Have you been involved in a work-related accident during the past 12 months?

- <sup>1</sup> No  
<sup>2</sup> Yes

4.3 If **yes** to 4.2.1,

4.3.1 Were you required to take an alcohol or drug test?

- <sup>1</sup> No  
<sup>2</sup> Yes

4.5 How often would you say your safety or the safety of your colleagues are put at risk because of your drinking?

- <sup>1</sup> Never  
<sup>2</sup> Not very often  
<sup>3</sup> Sometimes  
<sup>4</sup> Often  
<sup>5</sup> Always

4.6 Do you think that alcohol is a threat to safety at work?

- <sup>1</sup> No  
<sup>2</sup> Yes  
<sup>3</sup> Don't know/uncertain

#### 5 ABSENTEEISM & TARDINESS

5.1 About how many days were you absent from work in the past 12 months as a result of illness?

- <sup>1</sup> None  
<sup>2</sup> 1 - 5 days  
<sup>3</sup> 6 - 10 days  
<sup>4</sup> 11 - 15 days  
<sup>5</sup> 16 - 20 days  
<sup>6</sup> Over 20 days

5.2 How many of these days off sick would you say were due to alcohol consumption?

- <sup>1</sup> None
- <sup>2</sup> 1 - 5 days
- <sup>3</sup> 6 - 10 days
- <sup>4</sup> 11 - 15 days
- <sup>5</sup> 16 - 20 days
- <sup>6</sup> Over 20 days
- <sup>7</sup> Not applicable

5.3 How many times in the past year have you come in late or left early because of your alcohol consumption?

- <sup>1</sup> About daily
- <sup>2</sup> 2 - 4 times a week
- <sup>3</sup> About once a week
- <sup>4</sup> About once every 2 weeks
- <sup>5</sup> About once a month
- <sup>6</sup> 2 - 5 times in the past year
- <sup>7</sup> Only once in the past year
- <sup>8</sup> Never

5.4 How many times in the past year did you not come in to work because of the effects of your alcohol consumption?

- <sup>1</sup> About daily
- <sup>2</sup> 2 - 4 times a week
- <sup>3</sup> About once a week
- <sup>4</sup> About once every 2 weeks
- <sup>5</sup> About once a month
- <sup>6</sup> 2 - 5 times in the past year
- <sup>7</sup> Only once in the past year
- <sup>8</sup> Never

5.5 How many times in the past year have you taken longer lunch hours or breaks than you usually do because of the effects of your alcohol consumption?

- <sup>1</sup> About daily
- <sup>2</sup> 2 - 4 times a week
- <sup>3</sup> About once a week
- <sup>4</sup> About once every 2 weeks
- <sup>5</sup> About once a month
- <sup>6</sup> 2 - 5 times in the past year
- <sup>7</sup> Only once in the past year
- <sup>8</sup> Never

## 6. PRODUCTIVITY

6.1 How many times in the past year have you not done your work as well as you usually do because of your alcohol consumption?

- <sup>1</sup> About daily
- <sup>2</sup> 2 - 4 times a week
- <sup>3</sup> About once a week
- <sup>4</sup> About once every 2 weeks
- <sup>5</sup> About once a month
- <sup>6</sup> 2 - 5 times in the past year
- <sup>7</sup> Only once in the past year
- <sup>8</sup> Never

6.2 Do you feel that the quality of your work is not very good due to your alcohol consumption?

- <sup>1</sup> Yes
- <sup>2</sup> No
- <sup>3</sup> Sometimes
- <sup>4</sup> Not applicable

6.3 How often is the work that is assigned to you incomplete as a result of alcohol consumption?

- <sup>1</sup> Always
- <sup>2</sup> Most of the time
- <sup>3</sup> Sometimes
- <sup>4</sup> Never

6.4 How would you rate the quality of your work generally?

- <sup>1</sup> Excellent
- <sup>2</sup> Very good
- <sup>3</sup> Good
- <sup>4</sup> Neither good nor poor
- <sup>5</sup> Poor
- <sup>6</sup> Very poor

6.5 To what extent can you deliver good work without continuous supervision?

- <sup>1</sup> Always
- <sup>2</sup> Most of the time
- <sup>3</sup> Sometimes
- <sup>4</sup> Never

6.6 Do you feel that alcohol use reduces work output?

- <sup>1</sup> No
- <sup>2</sup> Yes
- <sup>3</sup> Don't know/uncertain

## 7. JOB SATISFACTION

7.1 How do you feel about your present work situation?

- <sup>1</sup> Very Satisfied
- <sup>2</sup> Satisfied
- <sup>3</sup> Neither Satisfied nor Dissatisfied
- <sup>4</sup> Dissatisfied
- <sup>5</sup> Very Dissatisfied

7.2 Do you experience any problems with the people you work with (for)?

- <sup>1</sup> No problems
- <sup>2</sup> Some notable problems
- <sup>3</sup> Serious problems

7.3 Do you voluntarily do more on your job than is required?

- <sup>1</sup> Never
- <sup>2</sup> Sometimes
- <sup>3</sup> Often
- <sup>4</sup> Very often

7.4 Are you devoting time outside of work to improve your work skills and/or employment?

- <sup>1</sup> No
- <sup>2</sup> 1 - 2 hours a week
- <sup>3</sup> 3 - 4 hours a week
- <sup>4</sup> More than 4 hours a week

7.5 Do you dislike going to work?

- <sup>1</sup> Never
- <sup>2</sup> Some days
- <sup>3</sup> Most days
- <sup>4</sup> Almost every day



## 8. ORGANISATIONS' RULES & POLICIES

8.1 For each of the following, indicate the extent to which you agree or disagree with the statements, using the scale below:

- 1- Strongly Agree  
 2- Agree  
 3- Neither Agree nor Disagree  
 4- Disagree  
 5- Strongly Disagree

		Strongly Agree	Agree	Neither	Disagree	Strongly Disagree
8.1.1	My organisation does not allow alcohol on its' premises	1	2	3	4	5
8.1.2	My organisation does not allow alcohol consumption during breaks	1	2	3	4	5
8.1.3	My organisation provides alcohol-free food facilities	1	2	3	4	5
8.1.4	My organisation allows expense claims for alcohol consumption	1	2	3	4	5
8.1.5	There is a no-alcohol clause in my contract of employment	1	2	3	4	5
8.1.6	My organisation tests employees for alcohol	1	2	3	4	5
8.1.7	I am not allowed to carry alcohol while on duty	1	2	3	4	5
8.1.8	My organisation has a formal policy on alcohol consumption at work	1	2	3	4	5
8.1.9	I feel that a formal policy on alcohol consumption at work is necessary	1	2	3	4	5
8.1.10	My organisation is doing enough to address the issue of alcohol abuse in the workplace	1	2	3	4	5
8.1.11	I feel that some form of alcohol testing in my organisation is necessary	1	2	3	4	5
8.1.12	I feel that testing for alcohol levels has a negative effect or could negatively affect staff and management relations	1	2	3	4	5
8.1.13	I would have objections to the testing for alcohol levels at work	1	2	3	4	5
8.1.14	If my organisation tests for alcohol levels or had to test for alcohol levels at work, I am worried that one day I may be exposed	1	2	3	4	5

8.2 Has your organisation alerted its members as to the problems of alcohol abuse in the workplace?

- <sup>1</sup> Yes
- <sup>2</sup> No
- <sup>3</sup> Not sure

8.3 If yes to 8.2,

8.3.1 How did your organisation put across such information?

- <sup>1</sup> Posters or leaflets
- <sup>2</sup> Seminars or courses
- <sup>3</sup> Letters from the organisation
- <sup>4</sup> Other

8.3.2 To what extent do you find the information referred to in 8.3.1 above as helpful in understanding alcohol related problems in the workplace?

- <sup>1</sup> Very helpful
- <sup>2</sup> Helpful
- <sup>3</sup> Neither helpful nor unhelpful
- <sup>4</sup> Not helpful
- <sup>5</sup> Not very helpful

## 9. GENERAL COMMENTS

9.1 Please indicate any issues related to alcohol and alcohol abuse that you think this questionnaire does not accommodate?

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**THANK YOU FOR YOUR CO-OPERATION!**

- Individual factors: Personality, education, intelligence and abilities, age, marital status and orientation to work.
- Social factors: Relationships with co-workers, group working and norms, opportunities for interaction and an informal organisation.
- Cultural factors: Underlying attitudes and beliefs and values.
- Organisational factors: Nature and size, formal structure, personnel policies and procedures, employee relations, technology, supervision and styles of leadership, management systems and working conditions.
- Environmental factors: Economic, social, technical and governmental influences (Mullins:1996).

#### **3.8.4.2 RESEARCH FINDINGS**

Martin & Roman (1996) tested a model of the influences of job conditions on the patterns of employees' alcohol abuse and examined the role of self-reported satisfaction with work on these behaviours. Data from a large national probability sample of 5733 full-time employees indicated a complex interplay of stressors, rewards and work-related effects which influence the employee's problematic drinking behaviours. They concluded that satisfied employees are less likely to consume excessive alcohol than those employees who are dissatisfied with their jobs.

Seeman & Anderson (1983) conducted a study in which they attempted to measure the correlation between low control (lack of opportunities for leadership or little leadership ability), job satisfaction and high social involvement and problem drinking. There was a significant interaction between work experience, job satisfaction and powerlessness