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Factors influencing substance abuse and risk for HIV infection among Black adolescents

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Antoinette Lindi Rikhotso

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Abstract

The HIV/AIDS epidemic is a major nemesis in South Africa. The rates of infection among adolescents is increasing at an alarming rate and one of the key factors identified as increasing risk for infection is substance abuse. This paper is aimed at reviewing studies that have been conducted on international and national levels, regarding the theories and factors that increase risk for substance abuse and HIV infection. Although the review by Parry et al (2002) documents the incidence and trends of substance abuse in South Africa, this paper was predominantly quantitative in nature and is indicative of the dire need for intervention and prevention strategies. A qualitative analysis however would guide prevention and intervention programs. Thus it is imperative to explore those factors that increase risk for substance abuse and HIV infection among adolescents. Moving beyond this there is even greater need to investigate these factors among Black adolescents since Rocha- Silva (1998) has reported that heavy drug use has spread to poor, rural, disadvantaged communities and most local studies have focused on White adolescents.

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1. Introduction

"Since the installation of a democratically elected government in 1994, South Africa has also seen a substantial increase in the trafficking and use of harder drugs such as crack, cocaine and heroin. In this country, substance abuse and HIV/AIDS have largely been handled independently vis-à-vis research and policy. The most likely reason for this is that the link between substance use and HIV is seen as less direct than in many other parts of the world" (Parry, 1999, p.1).

The use of substances is a daily occurrence and reality for many people. However, for some individuals the use of substances can become overwhelming and become the focus of their lives and their existence (Wessels, 2002). Recent statistics indicate that drug or substance abuse is on the increase worldwide and it can be anticipated that the adolescent will be more prone to drug abuse because of the fact that this is a period of enormous change. Among all the abused substances, alcohol remains the dominant substance of abuse across sites (Parry, Pluddemann, Bhana et al. 2002). In Cape Town, 46% of patients (who were the sample) abuse alcohol, while 69% of patients report alcohol as their primary substance of abuse.

On the other hand, the risk for HIV infection is another huge problem among adolescents of all races and cultures in South Africa. According to Swarns (2001), the new statistics show that 4.7 million people are infected with the virus in South Africa. One in nine South Africans and one in four adults are now believed to be living with HIV. The National Clearinghouse for Alcohol and Drug Information (1995) show that there is a strong link

between alcohol and other drugs and HIV infection. In addition, the use of alcohol and other drugs can affect judgement and lead to taking serious sexual risks. Adolescents are less likely to use condoms when having sex after consuming alcohol and they believe that it is acceptable for a boy to force sex if the girl is drunk (National Clearinghouse for Alcohol and Drug Information, 1995).

In essence, the focus of this paper is to examine the factors associated with substance abuse and the risk for HIV contraction among Black South African adolescents. This chapter will attempt to define adolescence and trace major developmental changes. A brief report of the statistics will be provided in order to indicate the degree of the problem of substance abuse and HIV infection rates, thereby emphasising the need to explore factors that increase risk for these behaviors.

2. Definition of Terms

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2.1 Adolescence: Western and African definitions

The African and Western definition of adolescence will be given to show their views on this developmental stage. These views are important as they have a lot to do with who the adolescent grows up to be.

Western definition: Feldman (1996) defines adolescence as the developmental stage between childhood and adulthood and is a critical period. It is a time of profound changes and occasionally, turmoil. Considerable biological change occurs and adolescents attain sexual and physical maturity.

At the same time, these physiological changes are rivaled by important sociological, emotional and cognitive changes that occur as adolescents strive for independence and move toward adulthood. No longer children but considered by society to be not quite adults, adolescents face a period of rapid physical, cognitive and social change that affects them for the rest of their lives (Feldman, 1996).

African definition: Peltzer and Ebigbo (1989) define adolescence as a way of life and a span of time in the physical and psychological development of an individual. It represents a period of growth and change in nearly all aspects of the child’s physical, mental, social and emotional life. It is a time of new experiences, new responsibilities and new relationships with adults as well as peers.

In addition, adolescence is that period in every person’s life, which lies between the end of childhood and the beginning of adulthood. It may be a long or short one, and it varies in length from one family to another, from socioeconomic level to another and from culture to culture. Some societies mature their children into adults almost overnight and practically eliminate the adolescent period. For example, a traditional Gussi girl in Kenya is initiated when she is eight or nine years old, while the boy of ten or twelve attempts to behave in accordance with adult expectations (Peltzer and Ebigbo, 1989).

2.2 Substance abuse

According to Barlow and Durand (1999), substance abuse is associated with abusing of alcohol and other drugs that adolescents and other people take to alter the way they think, feel and behave. Many people start using

substances such as alcohol, cigarettes, marijuana/dagga and intravenous drugs as early as when they are adolescents and go on to abuse substances more in adulthood stage. Substance abuse can interfere with normal cognitive and psychological development and is associated with poor decision making, poor educational and job performance, problematic relationships and economic instability (Akinade, 2001).

2.3 HIV/AIDS.

According to Goldstein (2002), AIDS may be defined as a syndrome of opportunistic diseases, infections and certain cancers occurring in people with Acquired Immune Deficiency due to infection with the Human Immunodeficiency Virus (HIV). HIV therefore refers to a person who has contracted the virus and who tests positive for antibodies to HIV. At this stage the person has not yet contracted any of the opportunistic infections (Goldstein, 2002). The HIV is transmitted through the exchange of bodily fluids like blood, semen and vaginal fluids. Infection transpires through sexual intercourse, transfusions of contaminated blood, sharing or re-using contaminated syringes, pregnancy and childbirth.

Van Dyk (2001) contends that there are two viruses associated with AIDS, and they are HIV-1 and HIV-2. HIV-1 is associated with infections in central, East and Southern Africa, North and South America, Europe and the rest of the world. HIV-2 was discovered in West Africa in 1986 and it is mostly restricted to West Africa. All current indications are that while HIV-2 is as dangerous a virus as HIV-1, it acts more slowly. This only means that it takes longer for the symptoms of infection to develop in an HIV-2 infected person.

3. Literature review

3.1 Adolescent development

Adolescents' physical and psychological developmental milestones and accompanying issues will be discussed.

3.1.1 Physical development

Kaplan, Sadock and Crebb (1994) are of the opinion that the age of onset varies, with girls entering puberty 12 to 18 months earlier than boys. The average age is 11 for girls and 13 for boys. The onset of puberty is triggered by the maturation of the hypothalamic-pituitary-adrenal-gonadal axes, leading to sex steroids. Furthermore, the hormonal activity produces the manifestations of puberty, which are traditionally categorised as primary and secondary sex characteristics.

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The primary sex characteristics are those directly involved in coitus and reproduction: the reproductive organs and the external genitalia. The secondary sex characteristics include enlarged breasts and hips in girls and facial hair and lowered voices in boys. The increase in height and weight occurs earlier in girls than in boys, by age 12, girls are generally both taller and heavier than boys (Kaplan, Sadock and Crebb, 1994).

Sex hormones increase slowly throughout adolescence and correspond to bodily changes. Follicle-stimulating hormone (FSH) and luteinizing hormone (LH) also increase throughout adolescence, but LH is frequently elevated above adult values between age 17 and 18. In adolescent boys, testosterone levels correlate with libido and are manifested by sex drives, masturbation and the drive for

coitus. Adolescent girls are also influenced by androgens but to a much smaller extent than in boys. Sexual intercourse in girls is determined almost entirely by psychosocial factors, hormones have much less influence on girls than on boys (Kaplan, Sadock and Crebb, 1994).

In many cultures, the onset of adolescence is clearly signaled by puberty rites, which usually involve the adolescent's performance of feats of strength and courage. In technologically advanced societies however, the end of childhood and the requirements for adulthood are not clearly defined, the adolescent undergoes a more prolonged and in some cases, confused struggle to attain independent adult status (Kaplan, Sadock and Crebb, 1994).

When European American adolescents reach puberty i.e. 11-13 years, they become less close to their parents and become more independent. One possible reason for the conflicts with parents, moodiness, bouts of depression and restless could be due to hormonal changes (Shaffer, 2002).

According to Peltzer and Ebigbo (1989), the puberty rites for African adolescents as practiced in some cultures, signify to the new adult as well as to his or her family and community, the end of childhood and the beginning of adulthood. Among other ethnic groups of Africa, every male of the tribe belongs to a named age set, a group consisting of all males of a particular age. The group plays an important part in the social and political organizations in the community. An individual remains in his or her given age set throughout life, but may also belong to successive age grades within the set.

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The end of adolescence for both girls and boys is marked by social changes and criteria and determines when his transition from childhood to adulthood is accomplished, such as when an adolescent leaves home, gets a job, can vote or obtain a vehicle driving license. The Western society lacks definitive passage rites clearly distinguishing childhood from adulthood, to mark either the beginning or the end of adolescence as in some of the African communities (Peltzer and Ebigbo, 1989).

3.2.2 Psychological development

Psychological development of adolescents will be discussed based on psychoanalytic theory, cognitive and personality development theory, identity development theory, moral development and field theory.

a. Psychoanalytic theory and adolescence

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According to Sternberg (1994), psychoanalytic accounts of adolescence share two underlying assumptions. First, adolescence is a period during which personality is exceptionally vulnerable. Secondly, if one cannot cope psychologically with inner conflicts and tensions then maladaptive behavior is likely to occur.

According to psychoanalysis, stages of psychosexual development are genetically determined and are relatively independent of environmental factors. At puberty, the child becomes interested in manipulating sex organs and the sexual impulses break through to produce the subordination of all sexual component instincts under the primacy of the genitals zone (Sternberg, 1994).

Pubescent personality is said to manifest itself in three different ways, firstly, through external stimulation of the erogenous zones, secondly, through interval tension and a physiological need to release sexual products and finally, through psychological "sexual excitation" which may be influenced by the former two. Despite awakening sexuality, puberty increases nervous excitement, anxiety, genital phobia and personality disturbances. Biological changes are said to bring about behavior changes and adjustment difficulties, and sexual maturity influences the total nervous system since it produces increased excitability and decreased resistance to the development of hysterical and neurotic symptoms (Peltzer and Ebigbo, 1989).

Sternberg (1994) assert that, due to this increased excitability, adolescents will therefore often experiment with drugs and alcohol as a means of releasing tension and this supplies an ingredient for unsafe sex. In other instances, adolescents indulge in substance use as a way of trying to channel their heightened energy of this developmental stage.

Mokoena (1998), who conducted a study on Black adolescents and their use of substances, has pointed out that most people tend to use drugs and alcohol during the adolescent stage and the prevalence and incidence of use peak in the late teens and early twenties. Adolescents experience difficulties in handling aggressive or sexual compulses or conflicts and may use drugs in an attempt to cope with these difficulties that result in feelings of rejection, low self esteem, hopelessness and anxiety. It is therefore important to analyse the relationship between theories that seek to explain the use of alcohol and drugs during adolescence.

b. Cognitive and personality development theory

According to Jean Piaget, at the beginning of adolescence, thinking becomes abstract, conceptual and future oriented. Piaget defines adolescence as the age at which the individual starts to assume adult roles. His formal operational stage, which starts from 11-12 years to adulthood, is a point at which a person is capable of abstract thinking, introspection, where a person is dealing with hypothetical situations and logical thinking. Adolescents also show a remarkable creativity, which they express in writing, music, art and poetry. Creativity is also expressed in sports and in the adolescent's interest in the world of ideas (Kaplan, Sadock and Crebb, 1994).

The ability to perform formal operational thinking has several impacts on the behavior and personality of adolescents (Kaplan, Sadock and Crebb, 1994). The adolescent's ability to distinguish the real from the possible enables them to grasp not only what the adult world is, but also what it might be like, especially under ideal circumstances. These make them rebels. Gouws (1994) in Mokoena (1998), argues that the adolescent's own inner turmoil is accountable for their own insecure psychological positions, they can easily identify with the weak, the poor, the oppressed, i.e., those who are perceived as victims of selfish society. Furthermore, the adolescent's ability to theorise and to examine values, norm roles, beliefs and political systems enables them to construct ideal families, ideologies and beliefs.

Gouws (1994) in Mokoena (1998) further argues that because adolescents are aware of alternatives, they

devise ideal ways for ending deprivation, poverty, social problems and false believes and they often lose sight of reality and suggest utopian solutions to the world's problems. Since this stage is characterised by formulation of hypotheses and experimentation, substance abuse for adolescents may be a way of trying to obtain solutions. The euphoria derived from indulging in drugs and alcohol then gives the adolescent the fact: "reality of knowing it all and being able to solve any problem" (Mokoena, p.32, 1998).

c. Identity development theory and adolescence

Adolescent's stage is best captured by Erikson's identity development theory where a need to establish a sense of personal identity is emphasised. Unlike other theories of adolescence, identity development theory emphasises the crises that face adolescents during this stage. According to Eriksonian theory, the main developmental objective of adolescence is the formation of a personal identity.

Erickson in Shaffer (2002) states that adolescent's identity status is classified into four identity statuses and they will be discussed below:

- Identity diffusion

Persons classified as diffuse have not yet thought about or resolved identity issues and have failed to chart future directions. For example, " I haven't really thought much about religion and I guess I do not know exactly what I believe".

- Foreclosure

Persons classified as foreclosed are committed to an identity but have made this commitment without experiencing the crisis of deciding what really suits them best. For example, "my parents are Baptists and so I'm a Baptist, it's just the way I grew up". The same applies to parent's use of alcohol where adolescents may consume alcohol because their parents do.

- ♦ Moratorium

Persons in this status are experiencing what Erikson called *identity crises* and are actively asking questions about life commitments and seeking answers. For example, "I'm evaluating my beliefs and hope that I will be able to decide what's right for me. I like many of my answers provided by my Catholic upbringing, but I'm skeptical about some teachings as well. I have been looking into Unitarianism to see if it might help me answer my questions".

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- ♦ Identity achievement

Identity-achieved individuals have resolved identity issues by making personal commitments to particular goals, beliefs and values. For example, " after a lot of soul-searching about my religion and other religions too, I finally know what I believe and what I don't".

As part of the process, adolescents may try various roles and as a consequence, may participate in risk taking behaviors. However, adolescents protect their ego from reality of danger by creating an illusion of personal invincibility (Hingson, Ralph, Strunin et al., 1990).

Erikson characterises adolescence as the period during which the individual must establish a sense of personal

identity and avoid the dangers of role diffusion and identity confusion (Peltzer and Ebigbo, 1989). This is said to depend on social feedback as to what others feel and how they react to the individual.

Peltzer and Ebigbo (1989), states that in the process of finding out "who am I", the importance of peer group cannot be underestimated. In addition, adolescents then goes through a period of compulsive peer group conformities as a means of testing roles to see whether and how they fit him or her.

The positive outcome of the identity crises depends on the adolescent's willingness to accept his past and establish continuity with previous experiences. Personality identity requires that the adolescent develop a commitment to the systems of value, religious beliefs, vocational goals and a philosophy of life and to accept his or her sexuality (Peltzer and Ebigbo, 1989).

These adolescents are best described as moratorium subjects who are involved in continual crises. Since they are actively searching for alternatives, they tend to be unstable and confused. Due to the crises they experience, there is a tendency to be anxious. (Mokoena, 1998).

Sternberg (1994) asserts that an adolescent who fails in his or her search for identity will experience self-doubt, role diffusion and role confusion and may indulge in self-destructive and one-sided preoccupation or activity. The adolescent will continue to be morbidly preoccupied with what others think of him or her, or may withdraw and no longer care about him/herself or others.

During the process of identity formation, young people develop aspirations. An adolescent who successfully

develops an identity will have high aspirations about his or her future away from substance using behavior. On the other hand, an identity-diffused adolescent will indulge in substance using bahavior as a means to counter negative feelings he/she experiences. Risk taking behavior can occur during this stage because of their fear of inadequacy, the need to affirm a masculine identity and group dynamics such as peer pressure. Kaplan, Sadock and Crebb (1994) further state that the behavior may also be a reflection of some adolescent's omnipotent fantasies, in which they view themselves as invulnerable to harm and injury. The risk-taking behavior involves the use of alcohol, tobacco and other substance use, unprotected sexual activity, which is significantly the risk for sexually transmitted disease.

❖ Identity formation and substance abuse.

Identity diffusion is explained as a kind of psychological chaos experienced by the adolescent. "It exists when the individual avoids crises and confrontation by means of drugs and alcohol" (Mokoena, 1998, p.29). During the period of identity formation, some adolescents, in attempting to define their independence from the family, present with symptoms of emotional turmoil and often use drugs to try to cope. They use drugs as a defensive measure to help maintain intrapsychic equilibrium, which increases the risk for them to engage in unprotected sexual activities and they can contract sexually transmitted diseases.

An identity-diffused adolescent may then indulge in alcohol and drugs as a coping mechanism. As it is used, this is far from helping one to cope with his or her frustration but a path of self-destruction, but for these

adolescents this may be a way of trying to fit in with the group or getting acceptance (Sternberg, 1994).

d. Moral development of adolescents

Kohlberg's theory of moral development and the differences that Black and White South African adolescents experience in terms of their moral development will be addressed.

The stages according to Feldman (1996) are as follows:

♦ Preconventional morality

At this level, the concrete interest of the individual are considered in terms of rewards and punishments. People stick to rules in order to avoid punishment, and obedience occurs for its own sake. Rules are followed only for a person's own benefit. Obedience occurs because of rewards that are received.

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♦ Conventional morality

People approach moral problems as members of society. They are interested in pleasing others by acting as good members of society. Individuals at this stage show an interest in maintaining the respect of others and doing what is expected of them. They also conform to society's rules and consider that "right" is what society defines as right.

♦ Postconventional morality

People use moral principles that are seen as broader than those of any particular society. They do what is right because of a sense of obligation to laws that are agreed upon within society. They perceive that laws can be modified as part of changes in an implicit social contract. They also follow laws because they are based on universal ethical principles. Laws that violate the principles are disobeyed.

Ferns, IIse, Thom et al. (2001), state that according to Kohlberg's cognitive approach to moral development, the developmental pattern in moral reasoning and judgement is cross culturally universal. Kohlberg is of the opinion that the development of moral reasoning follows the same invariant stages in all cultures.

Furthermore, the idea of cultural relativity is factually wrong, since reasoning concerning problems about justice develops in a similar manner in Western and non-Western cultures (Ferns et al. 2001). Kohlberg does accept, however, that the rate of development and the highest level of moral reasoning reached, namely moral reasoning according to universal ethical principles, may be characterised by systematic cultural differences.

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Morality is a concept that is relative to a specific culture, since it has to do with those values, norms, attitude and patterns of behavior that are laid down by a given society and which are, therefore, considered to be acceptable. Before the moral values and behavior of a culture can be understood and assumptions be made about it, the history, philosophy and language of that culture should first be examined and understood (Ferns et al. 2001).

Furthermore, moral development is therefore, formed by the unique social, cultural and historical context in which it takes place, since words, language and other forms of discourse are inherently sociocultural phenomena. Thus, the words that make an individual understand that his/her behavior is "correct/wrong or good/bad" come from a specific social, cultural and linguistic milieu.

Dreyer in Ferns et al. (2001), contend that black adolescents' moral reasoning is socialised according to traditional black African values and norms. Moosa, Moonsamy and Fridjhon in Ferns et al. (2001) found in their research that black students at the predominantly white University of the Witwatersrand showed a greater tendency to revitalize the traditional culture rather than to capitulate to the white Western culture. It is therefore possible that although black people live in the context of a "western" or "modern" environment, their traditional black cultural norms and values are still valued and could influence their moral norms and values.

According to Ferns et al. (2001), in the South African context, the apartheid policy before 1994 led to racial separation and discrimination. Black South Africans, especially, were affected, since they were exposed to separate residential areas, schools and public facilities, forced removals, job reservation for whites and a labour system characterised by migration. Differences in the educational experiences result in variations in moral reasoning, since education and the ability to think logically are associated with the level of moral reasoning.

Black South Africans were more exposed than white South Africans to political violence, which could also

influence the nature of their moral reasoning. The result as identified by Ferns et al. (2001), indicate that the moral development of white South African adolescent boys and girls take place progressively according to the stages Kohlberg described in his theory of moral development.

In contrast, black South African adolescents do not show the moral development pattern that Kohlberg has described. These adolescents develop from stage two to stage four of moral reasoning, which also seems to be the highest level of moral reasoning they reach as adolescents. This developmental pattern of moral reasoning among the black adolescents may be the result of socialising according to traditional black African values and norms which, are aimed at making the black adolescent an "ideal member of the community". In such traditional socio-cultural environments, emphasis is laid on the individual's confronting with the group, the welfare of the group and interdependent behavior rather than western values that emphasise self-actualisation, individualism and independent behavior.

Because in traditional socio-cultural environments, emphasis is laid on the individuals conforming with the group, these may lead adolescents to get involved in behaviors of substance abuse, which may increase the risk for them to engage in unprotected sex and it will jeopardize their chances of becoming 'ideal members of the community' (Ferns et al. 2001).

e. Field theory and adolescence

Kurt Lewin's theory of development views adolescence as a period of transition from childhood to adulthood. Lewin's core concept is that behavior is a function of the person

and of his environment. In order to understand the behavior of the adolescent, environmental factors and an individual's personality should be considered. The total of all personal factors and environmental factors is then referred to as the "life-space" which is considered to be the cause of and an individual's behavior (Mokoena, 1998).

While both the child and the adult life spaces are structured and clearly defined by what society has forbidden and what is beyond their ability, the adolescent finds him or herself in a situation where more paths are accessible but not clear on which ones to enter. The adolescent may no longer even be certain as to which path leads to the desired goal.

Thus, the adolescent is in a stage of social locomotion, a condition which necessarily makes him or her more dependent upon his own age group for support, inspiration and ideals. An adolescent in his situation is referred to as the "marginal man" who may at times behave more like a child and avoid adult responsibilities and at other times behave more like an adult and request adult privileges (Mokoena, 1998).

As already mentioned, the adolescent experiences continuous conflict among different attitudes, values, ideologies and lifestyles, since he is shifting his orientation from the childhood group to the adult group, but he really does not belong to either. These conflicts in values, attitudes and ideologies result in increased emotional tension. This emotional tension may predispose an individual to an escapist world where he or she might then use substances.

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4. Common substances abused by adolescents

4.1 Intravenous drugs

The first generation of AIDS was among the intravenous drug users (Akinade, 2001). The risk of HIV infection for any individual depends not only on the occurrence of risk behavior but also depends on the performance of it in an environment where HIV is present. For instance, nearness to the source of drugs or where intravenous drugs are used or where sharing of the paraphernalia of drugs is practiced could be very influential in this risky behavior.

Sharing of needles and syringes is an important method of transmission of HIV/AIDS because a tiny amount of blood left in needles or syringes just used by someone who is HIV positive can be passed on via injection directly into the blood stream of someone else. Simpson in Akinade (2001), found that the diffusion of drug injecting has been particularly pronounced in drug producing and transport in South East Asia, and drug users who smoked crack less than daily were more likely to have been injected with needles and syringes used by the others especially those in their groups.

Substances commonly injected include amphetamines, cocaine and heroine (Akinade, 2001). According to UNODCCP (1999) drug use is likely to be associated with the spread of HIV infections even though the rate of intravenous drug use is still comparatively small in South Africa.

4.2. Marijuana/dagga

Research by Akinade (2001) indicates that marijuana has been found to make its users become intoxicated, disoriented, experience the feeling of euphoria, relaxation and release inhibitions. Some users claim that its use can act as a depressant but at high levels, the drug may induce marked sensory distortions of vision, hearing or body balance.

All these effects predispose male and female users to indulge in unprotected sex and heterosexual intercourse with people who could be HIV positive and could transmit HIV/AIDS to others. Furthermore, users are often found as members of various gangs or even friends. Many of the users tend to live in disadvantaged areas and it is in such places that they engage in voluntary and forcible heterosexual escapades.

However, it has been found that the pattern of usage differs markedly from that in industrialised countries, where much higher rates of cannabis dependence as well as use of intravenous injections, heroin and cocaine have commonly been reported (Akinade, 2001).

Parry, Pluddemann, Bhana et al. (2002), found in their study that between 18% (Mpumalanga) and 37% (Cape Town) of patients attending specialist treatment centres had dagga as their primary drug of abuse. There has also been an increase in the percentage of trauma patients in Cape Town and Durban testing positive for THC, the active ingredient in cannabis/dagga (from 33% in 1999 to 44% in 2001 in Cape Town, and from 31% to 44% in Durban).

4.2.1 Marijuana and HIV/AIDS

Contributing to risky behavior is not the only way marijuana is linked to HIV/AIDS. Some AIDS patients and

their advocates, consider marijuana a medicine that relieves nausea caused by multiple drug therapies and stimulates appetite for those in the late stages of AIDS.

Here are some facts to consider when talking about marijuana as a medicine for people with AIDS:

- It is important to keep in mind that marijuana is not a single drug, like most plants, marijuana is a variable and complex mixture of biologically active compounds.
- Although marijuana smoke delivers THC (tetrahydrocannabinol) and other cannabinoids to the body, it also delivers harmful substances, including most of those found in tobacco smoke.
- THC and other cannabinoids suppress antibody formation, cytokine production, leukocyte migration and natural killer-cell activity, decreasing resistance to infection from bacterial and viral infection in animals.
- Marijuana smokers show evidence of impaired immune function.
- People with compromised immune system or existing malignancies who smoke marijuana may be at higher risk than healthy people. For example, the risk of developing AIDS may be higher with infection, with a higher risk for infection by opportunistic bacteria, fungi or viruses

(http://www.health.org/reality/WhatsNew/AIDS.htm, 3/29/00).

4.3 Alcohol

Alcohol is a legal drug that is often abused and is referred to as a depressant as it induces behavioral sedation by decreasing physiological arousal. According to Kalat (2001) alcohol has a systematic effect on

neurotransmitters, thus affecting a wide variety of neurotransmitter activities.

It affects the brain in many different ways e.g. it decreases serotonin activity, blocks the glutamate receptors, facilitates responses by the GABA receptor and inhibits sodium-flow across membranes and has the dopamine activity which reinforces the effects of alcohol (Kalat, 2001, p.70). Barlow and Durand (1999), note that alcohol affects the glutamate system, which is responsible for excitation, learning and memory.

Additionally, prolonged use of excessive amounts of alcohol can result in a variety of health problems including cirrhoses of the liver, cardiovascular disorder and brain damage in the form of dementia and Wernicke's disease. However, alcohol also relaxes, decreases anxiety, weakens motor co-ordination and increases attention.

A study by Miller (1985) indicated that alcohol consumption impairs the cognitive functioning of the individual and it also has implications for blurred judgement which affects decision making and adolescents find themselves involved in unprotected sex which increases the risk for HIV infection.

Because alcohol lowers inhibitions, many teenagers have sex for the first time when they are drunk. This often has disastrous results, since both sexes get careless about contraception and this can lead not only to unwanted pregnancy, but also to HIV/AIDS, herpes and other sexually transmitted disease (Miller, 1985).

4.1.1 Alcohol statistics in South Africa

Parry et al. (2002) conducted a study on alcohol and drug abuse trends in Cape Town, Durban, Port Elizabeth, Mpumalanga and Gauteng. Their findings are that alcohol remains the dominant substance of abuse across sites. Between 46% (Cape Town) and 69% (Mpumalanga) of patients have alcohol as their primary substance of abuse. In Port Elizabeth in 2001, 57% of trauma patients had breath-alcohol concentration compared to 31% in Cape Town and 22% in Durban.

Up to 75% of violence-related trauma patients were alcohol positive in PE and up to 45% in Cape Town of persons injured as a result of transport accidents were alcohol positive.

	Males	Females	Alcohol beverage
Africans (10 to 21 years)	39%-40%	23%-32%	Malt beer, sorghum beer, wine & cider
Africans (14 years+)	77%-80%	49%-66%	Malt/ sorghum beer, spirits
Coloureds	59%	27%	Wine/malt beer, spirits
Indians	49%	8%	Malt beer
Whites	89%	77%	Malt beer, wine, spirits

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Table 4. 1 Percentage of current drinkers and types of beverages

(Parry and Beunetts, p.34, 1998).

The findings on the above table indicate that male Africans aged 14 years and above have been reported as the second highest consumers of alcohol with 77-80%, while White males reported 89% of consumption. The African female's consumption of alcohol also seems to be increasing at an alarming rate with malt beer, soghurm beer, wine and spirits the most alcohol beverage used.

4.1.2 Adolescent perceptions of alcohol consumption.

According to Mokoena (1998), peer perception of alcohol play an important role during the adolescent stage. The largest proportion of non-alcohol users (40,7%) are viewed as quiet in school and a greater proportion of the regular alcohol users (25%) and irregular alcohol users (70%) reported that they are experienced as being 'silly'. " In local terms being 'silly' is associated with involvement in deviant acts and extroversion behavior, while being 'quiet' is associated with conformity and introversion" (Mokoena, p.93, 1998).

Additionally, according to social control and social bonding theory, an individual who has weak internal control and a tendency to succumb to weak external control due to inadequate socialisation into conformity is likely to engage in deviant acts, like drinking alcohol. On the other hand, those who have strong self control and conform to society's norms and values will

tend to resist involvement in deviant acts (Mokoena, 1998).

Furthermore, a second explanation of these findings could be based on labeling theory's argument, that the very act of labeling makes the 'labeled' to become even more committed to the acts attached to them. In other words those adolescents who are labeled as 'silly' will tend to engage in forms of behavior associated with being 'silly', while those who are being labeled as 'quiet' will maintain this behavior in whatever form they can manage (Mokoena, 1998).

According to Stoppard (2000), adolescents believe that alcohol makes them feel like they are having fun, feel confident, feel relaxed and calm their nerves, feel able to open up and talk more, let go and lose their inhibitions, feel they fit in socially, feel really happy and laugh more, forget their worries for a while and they have courage to overcome their fears.

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5. Theories of alcoholism and substance abuse

5.1 The personality predisposition theory

According to Wessels (2002), many researchers believe that substance abuse can be linked with individual's personality structure. The popular terminology for this is for an individual to have an addictive personality. This is referred to as the characterological model that implies that the ego structure of some individuals predispose them to depend on substances.

Castillo (1997) forwards that an individual has the need to alter his or her models with substances. The premise of the personality predisposition theory is that

substance related disorders are connected with personality development and can thus be traced back to early life experiences, especially trauma in childhood.

This view holds that the individual will self-medicate to compensate for psychological problems (Wessels, 2002). Doweiko (1999) and Castillo (1997) point towards the comorbidity between substance related disorders and other disorders such as conduct disorders, anti-social personality disorder, borderline disorders, mood disorders, anxiety disorders and schizophrenia. Environmental stress plays an important role within the personality predisposition theory.

Substance abuse may be a response to a stressful event or through the kindling effect of stress on the nervous system. The individual could develop a heightened or hypersensitive nervous system that makes them more susceptible to stress and thus use a drug to alleviate the stress. Hypersensitivity to stress could also be explained through genetic inheritance (Wessels, 2002).

5.2 Freudian theory of alcoholism

"In Freudian theory, it is believed that the alcoholic uses the drug to satisfy archaic oral longings, including sexual satisfaction, a need for security and self-esteem" (Ford, 1973, p.98). Additionally, it is said to be a fulfillment of primitive desires, representing food or warmth to such an extent that genital sexuality becomes unimportant.

Freud also saw alcoholic tendencies as regression, primarily in men, resulting from unsuccessful relationships with women, motives, wives and lovers. From the psychoanalytic standpoint, the alcoholic is

intolerant of tension, pain or frustration, his overwhelming oral dependence leads to the drug supplanting all other interest in reality. The specific pleasure from alcohol is said to be due to its removal of inhibitions so that instinctual impulses may be satisfied (Ford, 1973).

5.3 Addiction as a family affair-a systemic view

The family is a complex system of interacting variables that influence one another and is influenced in return. According to Wessels (2002), family systems theory focuses on process and patterns and looks for cycles of connectedness between people, events, beliefs and behavior. Within the family, the individuals and relationships change with time and are subject to influences outside the family.

Moreover, a family can be described as a social system that operates through transactional patterns. Patterns that evolve over time become familiar and preferred, maintaining the system within the preferred range. Individual behavior within a system's perspective is thus closely related to the functioning of one's family of origin.

Hanna and Brown (1999), describe children as a product of the past that could be viewed as mirrors of a transmitted family process. Behavior could thus be seen as activities structured over time by learned process. As a result, an individual's experiences are shaped by the historical behavior of the family and its interactions over generations. A multigenerational view has also been taken in treating chemically dependant families and alcoholic families.

Alcoholism as a disorder has an intense influence on families in an integrational fashion with significant effects on behavioral and emotional patterns. Wessels (2002) states that research on alcoholism has suggested that dysfunction in the family of origin and problems in the current family are more severe in families with alcoholism or drug abuse than in those without alcoholism or another drug problem.

A study by Mokoena (1998) indicated that the majority of adolescents who use substances regularly (91%) and those who do not use substances at all (56,4%) come from families where their parents are married. It was also found that family processes such as parent-adolescent relationship, interparental conflict and parental discipline, as opposed to family-form contribute to drug use. This means that even if parents are still married, there may however be tensions in the family that may lead children to engage in behaviors that may be perceived by them as offering temporary states of relief. In addition, a possible explanation for the greater number of non-substance users who come from families where parents are married is that children are exposed to stable functional families where good relationships exist between parents and children. Therefore, if the family engages in this behavior, one would expect children to follow.

6. Factors that contribute to substance abuse

6.1 Reaction to HIV/AIDS

According to Goldstein (2002), the psychological responses of individuals to HIV/AIDS are similar to those of people diagnosed with terminal illnesses. However, these responses must be explored from within the specific context of HIV/AIDS, that is the stigmatising and shaming

aspect of the disease and its particular interpersonal, economic, social and cultural domains. The young person's initial response to the news of infection with AIDS may be of temporary shock, numbness and denial. They experience the knowledge of impending death accompanying diagnoses of HIV/AIDS, as inconceivable. It has been noted by Becker in Goldstein (2002), that the idea of death and fear of it haunts the human animal like nothing else. The denial of one's HIV/AIDS status is the strongest predictor of continued risk taking like abusing drugs as a way of coping with it. This takes a form of a vicious circle where the person who is diagnosed as HIV positive use substances in order to deal with it and because of the poor decision making after taking drugs, the person involves him/herself in unprotected sex which increases the risk of HIV transmission.

6.2 Social context and setting

The physical and social setting may influence the effect a drug may have on the individual's experience of that drug. For example, if a drug is likely to invoke paranoia, then the user will seek a setting and/or people that will provide a safe context for using the substance (Wessels, 2002). Doweiko (1999) contends that there is a learning process involved to guide the individual to recognise and interpret the effects of specific drugs. This learning process takes place in a social context and invariably included sub-cultures. Drug abuse takes place in a cultural and social context that dictates if drug use is acceptable or not. This also applies to sub-cultures.

Wessels (2002) states that within the rave culture, it is acceptable and sometimes even expected to use Ecstasy and LSD and Doweiko (1999) termed this social feedback

mechanism that influences individuals to seek out and become part of social groups where their drug use is acceptable. The UNODCCP (1999) states that since early 1990s, South Africa has seen a slow but steady increase in the availability and use of illicit drugs such as cannabis, cocaine, heroin, LSD, amphetamines and ecstasy. Various factors have contributed to the increase in abuse, including an increase in legal and illegal migration, social and political liberation, which also facilitated the arrival of new youth movements such as the rave culture. Furthermore, there has been a tradition of drug consumption in the country. The use of cannabis, known as dagga in South Africa, dates back to the 15th century and Arab as well as Persian and Indian merchants were inter alia responsible for its spread along the eastern coast of the African continent. The use of cannabis was for a long time largely limited to the African population. Only over the last few decades, cannabis also gained popularity among the coloured and white population (UNODCCP, 1999).

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6.3 Genetic and biological factors

Numerous research studies have been conducted to identify genetic and biological markers that could provide a clue as to why some individuals become abusers of drugs. Recognised within the medical model is that the individual has a genetic and/or biological predisposition to alcoholism and/or addiction (Wessels, 2002). Although genetic studies indicate a genetic inheritance, the majority of causative factors are environmental. However, according to Barlow and Durand (1999), biological factors accommodate the view that excessive use of substances like alcohol and drugs by the parent may influence members of the family to use substances, e.g. if the father in the family is an alcoholic, there

is a possibility that his children might inherit this behaviour or they might do it in the form of reputation. It is also believed that the behaviour can be inherited, where one would have to state the nature of the inheritance in such an exact terms as to suggest the part of the human organism that is involved in inheritance. Edward, McLellan, Druley et al. (1979) contend that parental drug use becomes simultaneously a source of adolescents' deviancy and general continuity. He further states that adolescents perceive less love and more hostility from their parents than do non-users.

6.4 The role of the family

Peltzer and Ebigbo (1989) state that in spite of increasing economic and social pressures, the African family has remained a major influence on the lives of its members. In alcohol and drug dependence, the family is at the receiving end and a source of help for the afflicted. It is a common observation that the children of alcohol addicts are more likely than others to abuse alcohol. They are also prone to physical abuse, neglect and malnutrition. Drinkers often spend more on beer than food and while they thrive with their false sense of sensation, the children suffer. Several mental health problems are also associated with parental alcoholism. These are poor self-concept, difficulties in interpersonal relations, psychosomatic complaints, suicide, emotional detachment, chronic depression and hyperactivity. The children also tend to choose an alcoholic spouse.

6.5 Cultural and ethnic factors

Parry and Beunetts (1998) contend that in South Africa with its multitude and diversity of cultures, drinking patterns are not uniform, but rather reflect a mix of attitudes and customs, which are a product of unique cultural, historical and ecological settings. While the use of race as an explanatory variable is being increasingly questioned, there is nonetheless some value in a historical analysis of drinking practices among different race groups to demonstrate the diversity of drinking practices. For example, among whites (both males and females from all socio-economic level) drinking at social gatherings such as 'braais' is accepted and expected.

White males usually take on the role of cooking meat, a pastime which is usually accompanied by drinking large amounts of malt beer. Malt beer is also often drunk by white males while watching live or televised sports matches, such as rugby and cricket. Soccer, a popular sport among black males, appears to be a parallel occasion for drinking in Black communities. Communal drinking i.e. drinking from a common container, is rare among whites but has been found to be more common among Black and poorer communities (Parry and Beunetts, 1998).

6.6 Psychological reasons

A study by Parry and Beunetts (1998) indicate that many people drink alcohol to escape from reality or to help them deal with their problems. Poverty of the scale existing in South Africa in less developed communities will encourage those who drink to escape from reality or to deal with the problems associated with poverty. Regardless of socio-economic status, alcohol can also become an instrument for managing one's social life and dealing with psychological tensions. In many countries,

including south Africa, there is a tendency towards 'heroic drinking' and alcohol is used to strengthen the bonds of male solidarity and provide a context for people's search for identity e.g. peer acceptability and affirmation of adulthood or maturity. Another reason for drinking is boredom and this reason cannot be divorced from unemployment and consequent poverty.

De Jongh (1997) investigated whether there is a link between leisure boredom and substance use amongst South African adolescents attending high school in Cape Town. The result of this study showed that leisure boredom was significantly associated with substance use for both girls and boys.

6.7 Access to knowledge

Ignorance of the effects of certain quantities and different kinds of alcohol and substances may also contribute to abuse. In countries like South Africa, such ignorance is likely to be supported by the lack of educational materials on alcohol and drug consumption in general and on the diverse consequences of misuse (Parry and Beunetts, 1998).

6.8 Community attitude

"The aggregate level of alcohol intake in any community often correlates with the degree to which drinking, particularly drunkenness, is approved of"(Parry and Beunetts, 1998, p.81). There seems to be a high level of approval of heavy drinking among men and very little disapproval of it among South Africans of all races. There seems to be a general perception that drinking is part of life. In addition, a fair proportion of members of various communities sampled, approved of drunkenness

during weekday dinners at home, while others are with friends on a weekend and on holidays. However, few approved of drunkenness during meals at work.

6.9 Access and affordability

Where alcohol is sold through the informal sector, access to alcohol is virtually unlimited. Few constraints can be put on unlicensed premises regarding, for instance, opening hours and age restrictions. Access to alcohol is virtually unlimited in many of the less developed regions and communities of South Africa. The draft Liquor Bill, if passed without measure modifications, will permit supermarkets and grocery stores to sell all forms alcoholic beverages (Parry and Beunetts, 1998).

Furthermore, alcohol will become available on all days of the week, subject to approval by a provincial liquor authority. These additional factors promoting increased access to a greater variety of alcoholic beverages will in turn dramatically increase access and use in many communities, particularly middle-class communities where there were greater restrictions in the past.

6.10 Peer pressure

Peer pressure is a common reason given by adolescents for alcohol and drug abuse. They think that alcohol increases self-confidence and confers adult status. Parry and Beunetts, (1998) assert that a study of drinking patterns among young people aged 10 to 21 years corroborated the earlier finding that drinking was often viewed as a rite of passage to adulthood.

7. Review of studies on substance abuse

A critical review of different studies will be presented beginning with international studies and proceeding to South African studies on alcohol and substance abuse among adolescents.

Peele (1985) conducted a study on the cultural context of psychological approaches to alcoholism. His study focused on the experience of drinking and conceptions of alcoholism in America, as well as the role of culture in alcoholism. He found that moderate drinking is notable in ethnic and cultural groups such as the Chinese, the Greeks, the Jews and the Italians, where such drinking is modelled for the young and maintained by social custom and peer groups. Children are gradually introduced to alcohol in the family setting; drinking is not presented as a rite of passage into adulthood and is not associated with masculinity and social power. Adult drinking has been shown to be controlled by group attitude towards the proper amount of drinking. Strong disapproval is expressed when an individual violates these standards and acts in an antisocial manner (Peele, 1985).

Lewinson, Rohde and Seely (1996) have also conducted a study on alcohol consumption in high school by adolescents. Their participants were randomly selected from nine senior high schools representative of urban and rural districts in western Oregon. The adolescents were between 14-18 years and they were all interviewed. For reliability purposes, all interviews were either audio or video taped. The results on alcohol consumption rated, indicated that males had a greater usual frequency of alcohol consumption. They also consumed a greater usual

quantity of alcohol per 24 hour drinking episode and were more likely to have drunk a fifth of liquor or its equivalent (Lewinson, Rohde and Seeley, 1996).

Although the sample size of this study was large, randomly selected and provided an opportunity to examine gender differences, it can be criticized in terms of its generalisability. This sample consisted of White middle-class adolescents who were all from one region of the United States and the use of alcohol by those from lower classes and black adolescents were overlooked.

Barber, Bolitho and Betrand (1999) conducted research on the predictors of adolescent drug use. Their sample comprised 1,942 junior and senior high school students drawn from 95 schools in the Canadian province of Alberta. Schools were randomly selected from each of nine school districts in the province. Within these schools individual students were selected by stratified random sampling according to age group from 12 to 18 years. The questionnaire was comprised of four questions: questions relating to family background and demographic characteristics, questions concerning how respondents felt about themselves and their achievements, questions about the school environment and respondents'social lives and questions about respondent's experiences with cigarettes, alcohol and illicit drugs. In relation to drug use, respondents were asked about their use of marijuana, solvents, cocaine, hallucinogens, non-prescribed tranquilizers, amphetamines and narcotics. For each class of drug, respondents were asked to indicate whether they had ever used such a drug in the last twelve months on 7-point scales from "not at all" to "almost everyday, 6-7 times a week". Respondents were also asked how often they had used each class of drug in the last four weeks.

The results indicated that seven of 10 predictors reached statistical significance, these were; emotional disorder, conduct disorder, self-esteem, friend's use of drugs, peer pressure to use drugs, friend's approval of drug use and parental involvement. The drug-taking behavior of 12-13 year-old boys was most closely associated with whether or not most of their friends use drugs (a = .39) and with conduct disorder (a = .34), followed by level of emotional disorder (a = .16). In the case of 12-13 year-old girls, drug use scores were significantly and positively associated with all three predictor variables: whether or not friends use drugs (a = .28), whether their friends approve of drug use (a = .21) and peer pressure to use drugs (a = .14). Moving to the other group of adolescents, conduct disorder and friend's drug use were the dominant predictors of drug taking for both boys and girls, although friend's drug use was most important to boys than girls as was parental involvement.

Research by Mainous (2001) investigated whether there is a relationship between adolescent needs and substance use. The subjects were adolescents aged 14-19 in a rural and urban high school. A modified version of the need subscale from the addiction research center maturation scale measured a feeling of satisfaction related to meeting basic needs and an investigator's prepared questionnaire elicited current use of alcohol, nicotine and marijuana. The findings are that individuals with feelings of unmet needs were more likely to be current drinkers. Rural or urban residence was not a significant predictor in a multivariate analysis, but religiosity was.

Stephen, Driscoll and Truong (2002) conducted research on adolescent same-sex romantic attractions and

relationships, an implication for substance use and abuse. The sampling frame included all U.S. high schools (middle or junior high schools). More than 2000 adolescents in grades seven and through 12 took part in the in-home survey. Youths with same sex and both sex romantic attractions and relationships were compared with those reporting opposite sex attraction. Survey regression and logistic regression were used to control for sample design effects.

Results indicated that the comparison of adolescent males across categories of romantic attraction suggest that the differences resided between those with both sex attractions and those with opposite sex attractions. Males who reported romantic attractions to members of both sexes were more likely to have higher rates of substance use and problems associated with substance abuse. Males with both sex-attractions smoked more cigarettes, were more likely to have gotten drunk and to have consumed alcohol alone and were more likely to use illegal drugs, including marijuana. Among females, there were more differences between those with same-sex and both-sex attractions and those with opposite sex attractions.

A study conducted by Mason and Windle (2000) focused on cross-temporal relationships between family social support and adolescent alcohol use. The primary aim was to investigate the mechanisms through which family social support affects drinking among youth. Another aim was to examine reciprocal relationships among the study variables. A four-wave (with six months intervals) panel survey data collected from 840 middle adolescent boys and girls attending a suburban school district in western New York were analysed using structural equation modeling with maximum likelihood estimation.

Family social support was measured by the perceived social support from family scale, a 20-item measure of family emotional closeness. Two subscales served as indicators of a single latent variable: support received (e.g. "my family gives me moral support") and support provided ("my family comes to me with problems"). To increase the discriminative utility of measure, the dichotomous true or false response format was extended to a 4-point scale. Religious salience was assessed by asking respondents, "how important is your religion?" response options were "not very important, somewhat important and very important". Religious attendance was measured by asking adolescents how often they attend church activities. As a measure of association with alcohol-using peers, respondents were asked to indicate how many of their close friends drink alcoholic beverages. Adolescent alcohol use was measured by two items assessing the frequency of beer and liquor use over the past six months. In terms of demographic variables, respondents were asked to report their age and gender. Boys and girls also indicated their religious affiliation. Analysis compared non-Catholic versus Catholic youth by recording the religious affiliation variable into two categories representing Protestant/other (coded 1) and Catholic (coded 2) (Mason and Windle, 2000).

Results showed that boys reported a higher frequency of alcohol use, as well as a slightly greater increase in drinking over time, compared with girls. In contradistinction, gender was positively associated with change in peer alcohol use, indicating that female gender predicted increases in the percentage of alcohol-using peers. Gender was also positively associated with level of religiosity. In addition, religious affiliation had a

marginally significant positive association with change in family social support. Family support was positively associated with subsequent religiosity and school grades and negatively associated with later peer and adolescent alcohol use (Mason and Windle, 2000).

The shortcomings of this study are that the researchers were concerned only with the socialisation process involved in adolescent alcohol use and that respondents were predominantly White, middle class and Catholic.

Peltzer and Ebigbo (1989) investigated whether a model of African socialization has an impact on Africans abusing substances. He found that those who do not drink alcohol or consume other drugs experienced problems in socialising with their friends since they do not drink or use drugs. They always felt lonely and during times of troubles, their friends encouraged them to drink alcohol for them to be able to cope with their problems. The findings also indicated that those who lost their parents, children and their loved ones reported alcohol as their primary substance of abuse to help them think less about their losses. Conformity also played a role for them to belong to a certain group. Drinking together has been found to be more common among black males in poorer communities.

Another South African study by Botha (1994) explored whether disharmonic education was related to drug abuse by white South African adolescents. The purpose of this study was to determine what the relationship between disharmonious education and the inadequate significance attribution of the adolescent is, that ultimately lead to drug abuse. In an empirical survey of limited scope, the adolescent drug abuser's experience of his education was evaluated. This was based on the evidence gained from

forty youths who were admitted to Castle Carey Clinic from 1987 to 1992.

Evidence gleaned during the survey points to the fact that disharmonious education dynamics are the most important causative factors that could cause drug abuse by the adolescent. Disharmonious education factors that could cause drug abuse by the adolescent were found to be the following: affective factors, incomplete or reconstituted families, inadequate relationships of trust, rejection, poor relationship with mother/father, poor communication, weak scholastic achievements and permissive and/or authoritarian style of education (Botha, 1994).

The manifestation of drug abuse among White south African adolescents, as well as the most important personality and societal factors causing it were also shown. The factors in descending order are inter alia curiosity and experimenting, the search for identity, escapism, ignorance, the search for pleasure, opposition to Christian norms and values, fear and depression, medication, peer group pressure, media and a changing society. A major limitation of this study is that only white adolescents were used in the sample.

Retief (1995) explored the life-world of the aggressive adolescent boy. The causes of aggressive behavior in the adolescent boy can be ascribed to inadequate family relationships. Feelings of insecurity, confusion and rejection are the results of the problematic relationships. An unrealistic positive or negative self-concept may develop that might lead to involvement with a negative peer group. He found that smoking, alcohol and drug abuse, as well as reckless behavior may occur due to the adolescent being aggressive. This study can be

criticised for its sample size that seems to be too small to make generalization. The age and the ethnic group of this adolescent boy were not identified and it overlooked the life-world of adolescent girls.

Another study conducted by De Jongh (1997) sought to determine the relationship between leisure boredom and substance use in adolescents attending high school in Cape Town. The degree of leisure boredom experienced by adolescents was investigated, as well as the extent to which boredom is associated with alcohol use, cigarette smoking and cannabis use, gender, school grades and race. A stratified sample of 39 high schools in and around Cape Town was selected, using the postal distribution areas as stratification criteria. Students were then randomly selected from two grade 8 and two grade 11 classes at these schools, producing a sample of 621 adolescents. Data were gathered using two instruments: the leisure boredom scale which is a self-report scale consisting of 16 items and a questionnaire, which was used to obtain demographic data and substance use data.

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The results of the study showed that leisure boredom was significantly associated with gender ($p = 0.003$), race ($p = 0.000$) and alcohol use (0.031). Further analysis showed no significant association between leisure boredom and substance use when controlling for demographic variables. Female adolescents, younger adolescents and black adolescents experienced the highest degree of leisure boredom and may be at risk of using substances as an exciting way of alleviating boredom (De Jongh, 1997).

Mokoena (1998) conducted a study which was aimed at measuring the prevalence of drug and alcohol use and its possible relationships with socio-biographic and adjustment factors. The sample consisted of 200 Black

matriculants. The findings are that Black matriculants in general use drugs and alcohol; significant differences have been found between those that use alcohol regularly, irregularly and not at all; and significant socio-biographical differences have been found between those who use drugs regularly, irregularly and not at all.
In terms of living conditions, regular alcohol users come from extended families, while non-alcohol users appear to come from different socio-economic backgrounds; regular drug users stay with people who are not their parents, while non-drug users stay with their grandparents. In terms of parental relationships, regular alcohol users appear to lack parental supervision and a number of regular drug users indicate that their family relationships are unhappy.

As it has been mentioned earlier in factors that contribute to substance abuse, Parry and Beunetts (1998) found in their study that community attitude may influence drinking of alcohol amongst men and women of all ages. They found that the aggregate level of alcohol intake in any community often correlates with the degree to which drinking, particularly drunkenness is approved of. There seems to be a high level of approval of heavy drinking among men and very little disapproval of it among South African of all races. There is also a perception that drinking is part of life and a fair proportion of members of various communities sampled, approved of drunkenness during weekday dinners at home, while others are with friends on a weekend and holidays. However, few approved of drunkenness during meals at work.

In summary, since factors that are related to substance abuse have been reviewed from both national and

international perspectives, the focus will now move to issues in HIV/AIDS among adolescents.

8. HIV infection amongst adolescents

Research by Akinade (2001) indicates that Africa is currently believed in international circles to be the continent with the highest prevalence and transmission of HIV/AIDS infection. Africa also has an estimated 24.5 million people living with AIDS out of the 34.3 million affected by the incurable disease worldwide. 70% of people infected with HIV are from sub-Saharan Africa, with four million new infections in 1999.The estimates added that HIV infects every minute at least 6 people between the ages of 15 and 24 years. However, it has been estimated that the countries north of Sahara records the lowest while the highest records of HIV prevalence, not only in Africa, but in the world are found in the countries of Southern Africa, East African and then west African countries (Akinade, 2001).

8.1 Theories of risk for HIV contraction

8.1.1 Prevention Theory

According to McKerrow (1996), prevention theory assumes that all sexually active people are likely to be HIV infected. If an individual wants to engage in safe sexual activity, the belief is that this can only be done with a partner who is uninfected and by implication not yet sexually active. The only sure group fitting this criterion is the age group 4-12 years. Thus an increasing number of children in this age category are being targeted as partners for safe sexual relations.

8.1.2 Cleansing Theory

Cleansing theory suggests that by engaging in sexual relationships with specific target group, the virus can be passed from the infected individual to the partner, with the belief that the infected individual is simultaneously cleansed of the virus. Presently children form the most popular and accessible target group (McKerrow, 1996).

These myths such as having sex with a virgin to cure one from AIDS, are evident from the increase in child rapes.

8.1.3 Retribution Theory

Retribution Theory reflects a belief prevalent in peri-urban settings, where individuals who know they are infected deliberately try to spread it to all sectors of the society (Mckerrow, 1996).

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8.2 Adolescents and HIV/AIDS

The transition from childhood to adulthood is difficult in any culture. Adolescents are no longer children and are open to being adventurous and taking chances. They become aware of their sexuality and some end up sexually active. However, little is understood about young people's sexual experiences, their feelings and attitudes and what they see, as their reproductive and sexual health needs.

According to Boyer, Cherrie, Tschann et al. (1999), adolescents usually view their sexuality positively, but

some early sexual experiences may be accompanied by feelings of anxiety, shame and guilt. They may want to keep their relationship secret, for fear of adult disapproval, but often they are just ill prepared for sexual activity. Many are ignorant of their bodies and how reproduction works and of the consequences of sexual activity.

They often have no access to or no knowledge of family planning services and are often at risk of unwanted pregnancy and sexually transmitted disease and HIV infections. In addition, young people are most severely affected by the HIV epidemic, with about 60% of all people who acquire HIV becoming infected at the age of 25 (Boyer et al. 1999).

During this stage of youth, new patterns of behavior are formed that can have both short and long term consequences. Many things are tried for the first time, such as sexual relations and experimentation with tobacco, alcohol and other drugs. These substances may blur one's judgement about sexual relations and this may lead to unwanted or early pregnancy and contraction of sexually transmitted diseases, including HIV/AIDS.

According to Hingson et al., (1990), adolescents seem unable to regard illness and death as the likely consequences of unprotected sexual intercourse or drug use and therefore, may be unresponsive to traditional health messages. Adolescents are already at risk for sexually transmitted disease and recent data suggest that 70 percent of teenagers are sexually active by the age of 20, over half had sexual intercourse by age 17 and less than half use condoms.

Hingson et al., (1990), further states that an individual’s first experience with drugs typically occurs during the first three years of high school. Over half of adolescents have experimented with psychoactive drugs by high school graduation. Most drugs used among 12 to 17 year olds involves alcohol and experimentation with noninjectable drugs which may impair judgement and lead to behaviors that increase the risk of HIV infection.

Particularly vulnerable to becoming HIV infected are certain subgroups within the adolescent population and these include: regular intravenous drug users, those from homes in which family members are substance abusers, those in detention and residential facilities, dropouts, the homeless, migrant children, adolescents who have had STD's and those who adopt high risk behaviors, such as unprotected sexual intercourse and drug and alcohol use (Hingson et al., 1990).

The reason for adolescents getting infected with HIV is their lack of knowledge about HIV infection. Adolescents characteristically believe that they are impervious to disease, accidents and death. Ninety percent (90%) of 16-19 year olds interviewed by Hingson et al., (1990) did not think they would get AIDS. They also get involved in drug abuse which affects their decision making and as a result, they engage in unprotected sexual intercourse that lead to HIV infection.

8.3 Beliefs about AIDS

Many people do not believe that AIDS is real, they think it is a story to fool people, to make them use condoms or stop having sex. Some people think that only homosexual men can get AIDS. In South Africa some people say that AIDS is only a disease of white people or black people

only. Some traditional healers like sangomas, say they have a cure for AIDS. Some people think AIDS can be spread in food and water, from toilets, showers, baths and pools or from mosquitoes. They think that just touching a person who is HIV positive can give you AIDS. Others say that condoms do not give much protection against AIDS and other sexually transmitted diseases (Department of health, AIDS in our community: Soul city). Because of these incorrect conceptions and attitudes that adolescents have towards HIV/AIDS, the rate of spread of the infection escalates.

9. Factors contributing to risk behavior

Huber (1996) contends that unprotected sexual intercourse places both parties involved at risk for infection. Anal intercourse, especially among men is an acutely effective mode of HIV transmission. Men who have sex with men continue to comprise the greatest number of reported AIDS cases in the United States, with more than 60% of the total attributed to exposure to male homosexual/bisexual contact.

Moreover, oral sex, which originally was thought to pose no threat for infection, serves as a somewhat less efficient mode of transmission, but a mode nonetheless with a few reported cases having ascribed infection to this path. Vaginal intercourse also serves as an efficient means for transmitting the virus. Male to female transmission as with insertive (active) rather than receptive (passive) anal intercourse is more effective than from female to male, but both modes of exposure are sufficiently documented (Huber, 1996).

Intravenous drug users comprise the second largest at-risk population in the United States, with approximately

25% of the total reported cases of AIDS being credited to the injecting drug use exposure category. With this mode of HIV transmission, the two dominant risk factors are the frequency of injections and the use of shared works (Huber, 1996).

Huber (1996) further asserts that mothers who are HIV infected transmit the virus to approximately 30% of their babies. Of AIDS cases involving children under the age of 13, which have been reported, approximately 89% are attributed to HIV-infected mothers. In perinatal transmission, it is not certain whether the virus infects the fetus through the placenta, during placental separation when fetal and maternal blood mix, during movement through the birth canal when the fetus is exposed to mucosal contact or may ingest bodily fluids or by a combination of these.

Diseases that result in genital ulcers, such as chancroid, augment the risk for HIV infection. Genital ulcers that are less severe in nature, such as those associated with primary syphilis, also facilitate transmission of the virus. The very nature of the lesions exacerbates the risk and multiplies the possibilities for successful viral contact (Huber, 1996).

According to Van Dyk (2001), uncircumcised men have been shown to be at greater risk for infection than circumcised men, as the foreskin provides a suitable habitat to prolong exposure to the virus. A study in Kenya among the Luo group, found that while 25% of uncircumcised men were infected with HIV, just under 10% of circumcised men were infected. A study of over 6 800 men in rural Uganda has suggested that the timing of circumcision is an important factor affecting rates of infection: HIV infection was found in 16% of men who were

circumcised after the age of 21 and only in 7% of those circumcised before puberty. Furthermore, a recent review of 27 published studies on the association between HIV and male circumcision in Africa found that, on average, circumcised men were half as likely to be infected with HIV as uncircumcised men. Circumcision in Africa is part of various ethnic, religious and adult initiation tradition, and if the same blade is used without sterilisation between circumcisions on a number of boys, HIV infected blood could pass from one boy to another.

10. Substance abuse and HIV contraction

A discussion of international and South African studies that have explored the link between substance abuse and HIV contraction will be presented.

Hingson et al. (1990) conducted a study on beliefs about AIDS, use of alcohol and drugs and unprotected sex among Massachusetts adolescents. Massachusetts 16-19 year-olds were surveyed by telephone using anonymous random digit dialing. Logistic regression tested whether alcohol and drug use, perceived susceptibility to HIV, severity of HIV infection, effectiveness of condoms in preventing infection, barriers to condom use and behavioral cues such as exposure to media or personal communication about AIDS were independently related to condom use.

The findings are that among 1,773 adolescents interviewed, 61% reported having had intercourse in the previous year. 2% of males reported homosexual behavior. Among sexually active teens, 31% reported always using condoms. 39% of 19-year-olds compared to 29% of 16-year-olds were more likely to always use condoms. 31% of Whites, 28% of Blacks and 39% of Hispanics, but only 7% of persons from other racial backgrounds always used

condoms. Additionally, adolescents who averaged five or more drinks daily were somewhat less likely to always use condoms than abstainers. Persons who used other psychoactive drugs in the past month were also less likely to always use condoms than those who did not (Hingson et al., 1990).

Boscarino, Avins, Woods et al. (1995) investigated alcohol-related risk factors associated with HIV infection among patients entering alcoholism treatment. Clients entering five alcoholism treatment centers in the San Francisco Bay area underwent an interview and blind serotesting for HIV antibodies (76% were males, 16% men who had sex with men, 50% Blacks, 10% Latinos and 6,5% were HIV seropositive). Logistic regression was used to predict HIV serostatus from five possible alcohol-associated risk factors, controlling for demographics and traditional HIV risk factors. Male and female heterosexuals and men with a history of homosexuality were analysed separately.

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Results among male and female heterosexuals showed that HIV infection was positively associated with higher alcohol impairment and negatively associated with higher sexual risk expectancies when drinking. Among men who had sex with men, HIV infection was positively associated with higher bar socialising orientations. Infection was also negatively associated with higher alcohol impairment and higher sexual risk expectancies when drinking for these men (Boscarino et al. 1995).

Lake-Bakaar and Grimson (1996) identified factors that might correlate with human immunodeficiency virus (HIV) disease stage in intravenous drug abusers. Particular attention was given to alcohol abuse and they accordingly explored in a cross-sectional study the relation between

stage of HIV disease and age, sex, needle sharing, ethnicity and self-reported history of alcohol consumption. Intravenous drug abusers from a single municipal hospital were subdivided into three groups according to HIV disease status. Group 1 comprised 42 individuals with AIDS, group 2 comprised 114 who were HIV positive but without AIDS, and group 3 comprised 52 who were HIV negative. Information on alcohol consumption and responses were obtained by questionnaire and interview.

Discriminant analysis indicated that alcohol abuse, assessed by self reported consumption was significantly more common in the AIDS group than in either the HIV positive or the HIV negative groups, when controlled for age, sex and needle sharing status. The relative risk of AIDS was 3.8 times higher in the heavy drinkers than in moderate drinkers. Needle sharing was also more common in the AIDS group than in the HIV positive or negative groups when the other factors were controlled for. AIDS was more common in Black than White intravenous drug abusers, and this increased frequency did not appear related to alcohol consumption since the distribution of heavy drinkers within each category of HIV disease did not differ within the ethnic groups. These data indicate that a history of heavy alcohol consumption is more common in intravenous drug abusers with AIDS than in intravenous drug abusers at earlier stages of HIV disease.

Fuller, Crystal, Vlahov et al. (2002) explored high-risk behaviors associated with transitions from illicit non-injection to injection drug use among adolescent and young adult drug users. Their goal was to elucidate characteristics of persons likely to transition into injection drug use so that an identifiable group with high-risk for blood-borne infection may be targeted for

interventions. An age-matched case-control analysis was performed from a cohort study in Baltimore, 1997-1999, of street recruited non-injection and injection drug users, aged 15-30. All were interviewed about prior year-by-year behaviors, analysis using conditional logistic regression was based on information for the year prior to injection onset for the case and the same calendar time for controls as well as recent behaviors for both groups. Of 270 participants, most were African American, female and HIV seroprevalence was 7% at baseline. Injection drug users were significantly more likely than controls to be non-African American and report high school dropout, early sex trading, which may be unprotected and recent violence victimization.

Nnadi, Better, Tate et al. (2002) investigated the contribution of substance abuse and HIV infection to psychiatric distress in an inner-city of African American population. They used symptom checklist 90-Revised (SCL90-R) to investigate psychiatric symptom severity in African American drug abusing individuals. Three hundred and seventeen African American volunteers (52 control subjects, 265 drug users) were recruited, 19.2% of whom were HIV positive. The impact of drug of choice or HIV status on mental distress were assessed. Symptomatic HIV positive participants were excluded. Drug abusing African Americans reported increased global distress, a finding that remained robust after they adjusted for HIV status, gender, age and education. Drug of choice had no influence on the severity of global mental distress. Asymptomatic HIV positive African Americans who abused drugs reported more distress than HIV negative drug users. Levels of global distress were similar in the HIV negative and HIV positive controls. Subscales of the SCL90-R showed more symptom severity among drug using, compared with nonusing African Americans.

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Amadora-Nolasco, Fiscalina, Alburo et al. (2002) conducted a study on the knowledge and perception of risk for HIV and condom use among male injecting drug users in Cebu City, Philippines. To determine if these people are engaging in behaviors that put them at risk for HIV, interviews were conducted with 360 male injecting drug users. The interviews assessed knowledge about HIV transmission, sources of information about HIV/AIDS, perceived risks for contracting HIV, needle-sharing practices, condom use, self-reported signs and symptoms of STDs and number of sex partners. Although most of the men were able to recognise behaviors accurately that put them at risk for HIV, more than two-thirds claimed that they shared needles and almost two-thirds of those who were sexually active claimed that they never used condoms. These might put them at risk for contracting HIV. Only adult males were used as the sample of this study, and the knowledge and perceptions of risk for HIV and condom use among females and adolescents were not considered.

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Spittal, Patricia, Craib et al. (2002) explored risk factors for elevated HIV incidence rates among female injection drug users in Vancouver. The aim of this study was to compare HIV incidence rates among male and female injection drug users and to compare factors associated with HIV seroconversion. This analysis was based on 939 participants recruited between May 1996 and December 2000 who were seronegative at enrolment with at least one follow-up visit completed, and who were studied prospectively until March 2001. Incidence rates were calculated using the Kaplan-Meier method. The Cox proportional hazards regression model was used to identify independent predictors of time to HIV seroconversion.

As of March 2001, seroconversion had occurred in 110 of 939 participants, yielding a cumulative incidence rate of HIV at 48 months of 13.4%. Incidence was higher among women than men. Multivariate analysis of the female participants' practices revealed injecting cocaine once or more per day compared with injecting less than once per day, having unsafe sex with a regular partner compared with not having unsafe sex with a regular partner and having an HIV positive sex partner compared with not having an HIV positive sex partner to be independent predictors of time to HIV seroconversion. Among male participants, injecting cocaine once or more per day compared with injecting less than once per day, self-reporting identification as an Aboriginal compared with not self-reporting identification as an aboriginal and borrowing needles compared with not borrowing needles were independent predictors of HIV infection. HIV incidence rates among female injection drug users in Vancouver are about 40% higher than those of male injections drug users.

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A South African study by Jansen, Richter and Griesel (1991) on unsafe sex and drug use has shown that the use of glue, paint-thinners and alcohol is common among street children. Drugs such as cannabis and Mandrax are also used, but less frequently. IV drug use, however, is rare in this population. In the study of 141 male and female street children, more than half of the boys indicated that they had engaged in sex for money, goods or protection and several had indicated that they had been raped. Most reported being sexually active with girlfriends, who themselves frequently engaged in transactional sex. All boys expressed very negative attitudes towards condoms and no boys used condoms regularly. Substance abuse is likely to increase the

vulnerability of street children to HIV/AIDS. Due to the involvement of male street children in sex work (with males, some of whom are bisexual) they may also be an important bridging group for transmission of HIV into the general population.

Rocha-Silva (1993) investigated whether there is a link between intravenous drug use and HIV/AIDS infection in South Africa. One hundred and forty three (143) drug users in selected treatment centers in South Africa including 33 intravenous drug users were used as the sample. Only one indicated that he or she had AIDS, but denied ever having shared syringes/needles. The study also reported intravenous drug use as being higher in females (37% of the larger sample) than in males (20%). Overall, intravenous drug users particularly females tended to share syringes/needles at some time or other. They also tended towards multiple drug use. Wellconal injections were particularly popular among female intravenous drug users. Cocaine and to a lesser extent heroin were also injected, but on a less frequent basis. These patients manifested a short-term perspective on life and were fairly unconcerned about HIV infection.

Intravenous (IV) drug users also tended towards risky sexual behavior, for example, females were frequently engaged in prostitution, mostly in exchange for money, but sometimes also for drugs. While female IV drug users appeared committed to the use of condoms, males were less so. Roughly a quarter indicated that information on how people who inject themselves can protect themselves against AIDS is generally not accessible. In comparison with the larger sample, IV drug users tended to be younger and were more likely to use drugs in company. There were no major differences between the groups in terms of their definition of AIDS, views regarding how

HIV/AIDS is transmitted, whether and how people with alcohol/drug problems could protect themselves against HIV infection (Rocha-silva, 1993).

Another study of intravenous (IV) users in two hospitals in Johannesburg was also undertaken by Williams, Ansell and Milner(1997). The study comprised of an analysis of case records of 86 patients who were current IV Wellconal abusers. Two percent (2%) HIV antibody positivity was encountered, which is much lower than in other parts of the world. No sharing of needles was reported.

Flisher, Parry, Evans et al. (1998) explored the relationship between substance use and risky sexual behavior. The data from a 1997 Cape Town survey of 2 779 students in grade 8 and 11 were used. They found a strong association between substance use and unsafe sex (e.g. multiple partners in the past 12 months and doing anything to prevent pregnancy or disease during the last occassion they had sexual intercourse).

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It is clear that greater exploration of this linkage is required and there is also a need on an occasion by occasion basis to assess whether and how substance abuse might be related to unsafe sex practices in other provinces like Gauteng among Black African adolescents.

Leggett (1999) conducted a study on female street and escort agency sex workers in the Durban central business district, in order to provide a better understanding of the link between drug use and HIV/AIDS. Seventy workers participated in in-depth interviews. These interviews revealed that crack was systematically introduced into Durban from Hillbrow (Johannesburg) by Nigerian drug dealers who specifically targeted the sex work community to spread this drug through sex workers to the larger

society. Crack has a natural synergy with sex work, as it is a stimulant allowing long hour work and appetite suppressant leading to weight loss and it is highly addictive and has pro-sexual effect in some users. Nearly one third of sex workers admitted some crack use. Crack use among "non-African" sex workers was 60%.

The study revealed that all the women reported using condoms, but they all reported knowing of sex workers who did not. Crack users reported having as many as nine clients on a "good night", working 7 nights a week and into daylight hours. This increase in volume has clear implications for HIV transmission.

In sum, many of these studies show that there is a link between substance abuse and HIV transmission internationally and a few of South African studies also show that there is that link. Although a few South African studies focused on adolescents' use of substances, the use of substances by sex workers and the use of substances by street children and its link to unprotected sex, none of these studies explored factors contributing to African adolescents' use of substances, which increases the risk for them to engage in unprotected sex. Therefore it is important to highlight that studies need to take into consideration those issues and also focus on African communities in Gauteng, since there seems to be a high rate of adolescent substance abuse in these areas.

11. Conclusion

As highlighted by the statistics presented earlier, it is evident that the HIV/AIDS epidemic has profoundly affected South Africa. The age group identified as having

the highest incidence is the 20-30 year range (Nhlapo, 2002). Bearing in mind the incubation period of the virus, it can be deduced that these people were infected during the adolescent stage.

One of the significant factors identified as increasing risky sexual behavior is substance abuse. International studies have reported that high use of intravenous drugs is strongly associated with risk for HIV infection. On a local level however, the types of substances abused differ, with alcohol and marijuana exceeding intravenous drugs. A landmark study from 1990-1996, by Parry et al. (2002) has indicated that South Africa has little intravenous drug use, with 1.3% of males and 0.6% of females in grade 11 in Cape Town. Thus it is clear that alcohol abuse is a major problem among South African adolescents. A summary of the most important national and international studies that have investigated factors that influence substance abuse will be presented in table format below.

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No.	**Factor**	**Author(s)**	**Finding**
1.	***Gender***	Lewinson, Rohde & Seely (1996)	White middle class males reported higher consumption and frequency of alcohol than females
		Mason & Windle (2001)	Males consumed more alcohol than females. For males , friends, conduct and emotional disorders were predictive of substance abuse. For females, friends' use, friends' approval and peer pressure were predictors of substance abuse.
		De Jongh (1997)	S.A : Female adolescents are at higher risk for leisure boredom and substance abuse
		Peltzer & Ebigbo	Case study showed that the aggressive adolescent boy is at

		(1989)	increased risk for substance abuse.
		Parry & Beunetts (1998)	High level of approval of heavy drinking among S.A. men of all races.
2.	***Age***	De Jongh (1997)	Younger adolescents were at higher risk for substance abuse
3.	***Education***	Botha (1994)	Disharmonious education among White adolescents was positively correlated with drug abuse
4.	***Religion***	Mason & Windle (2001)	Religiosity improved social support, which was linked to decreased risk for substance abuse
5.	***Rural/Urban status and socioeconomic status***	Mainous (2001) Rocha-Silva (1998) Peltzer & Ebigbo (1989)	American study :Rural/Urban status does not affect substance abuse but unmet needs was strongly correlated with alcohol abuse S.A.study: Reported that heavy drug use has poor, rural disadvantaged communities. S.A.: Reported that drinking together is common practice in poor communities
6.	***Relationships***		
	• ***Family*** • ***Sexual orientation***	Mokoena (1998) Stephan, Riscoll & Truong (2002)	Regular alcohol users came from extended families, don't live with parents and lack parental supervision, while non-alcohol users love with grandparents. Higher rates of substance abuse was linked to both sex attraction.

Table 11.1: Summary table 1

Future considerations

"While recreational drug use in South Africa is extensive, we do not know to what extent it is a risk factor for enhancing HIV transmission, either directly in the case of IV drug use, or less directly through, for example, facilitating unsafe sex" (Parry, 1999). Although studies were proposed to embark on these investigations, no reports have been found. Therefore, future studies are needed to explore, in depth (more qualitatively), the determinants of substance abuse amongst adolescents,

taking into account the multi-cultural context of South Africa. It is evident that cultural factors and socialisation processes affect substance abuse behaviours, therefore future studies need to take these factors into account. Also, most studies have been conducted on samples composed predominantly of White urban adolescents, therefore studies need to focus specifically on Black adolescents, incorporating a comparison between male and female patterns and correlates of substance abuse. Studies of this nature will contribute to our knowledge of substance abuse among Black adolescents, and thereby aid in the prevention of HIV infection in this group.

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