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Chapter 3

Development, risk and consequences of adolescent substance use and abuse

1. Introduction

As the biological and psychosocial path to adulthood, adolescence can be a creative, dynamic and exciting time of life (Gonet, 1994: 21). However, when drug use enters the developmental picture, adolescence can be stifling and painful, and the move into adulthood greatly impeded (Perkinson, 1997: 163).

The consequences of adolescent substance abuse are serious on both a personal and a societal level. For the developing young adult, substance abuse undermines motivation, interferes with cognitive processes, contributes to debilitating mood disorders, and increases the risk of accidental injury or death. For the society at large, adolescent substance abuse extracts a high cost in health care, educational failure, mental health services, drug and alcohol treatment, and juvenile crime. (Compare Hawkins, Catalano & Miller, 1992: 64; Sancho, 1994: 3.)

Added to the immediate personal and social costs of adolescent drug abuse are the longer-range implications for youngsters who continue to abuse substances into adult life (Hawkins, Catalano & Miller, 1992: 64). Drug abuse is involved in one third to one half of lung cancer and

coronary heart disease cases in adults. Alcohol and other drugs are major factors in acquired immunodeficiency syndrome (AIDS), violent crimes, child abuse and neglect, and unemployment. The problems associated with substance abuse carry costs in lost productivity, lost life, destruction of families, and a weakening of the bonds that hold the society together. (Compare Perkinson, 1997: 118; Rocha-Silva, De Miranda & Erasmus, 1996: 3; World Drug Report, 1997: 7.)

Herewith it seems that the greatest risk for substance abuse occur during the teenage years and early 20s (World Drug Report, 1997: 49). Perkinson (1997: 119) states that substance abuse typically begins in adolescence (compare Lowinson Ruiz, Millman & Langrod, 1992: 832), and it is estimated that 5,8% of the South African population over the age of 15 years are alcohol dependent and that there is a progressive increase in the general level of drug and especially alcohol intake. These considerations inevitability stimulated interest in the prevention of substance abuse among the youth by investigation of the development and risk of adolescent substance use.

The aim of this chapter then is not an exhaustive review of existent research on adolescence and substance abuse. Rather it is limited to an examination of the development, risk and consequences of adolescent substance use and abuse.

2. Typical characteristics of adolescent development

Adolescence is the development phase between childhood and adulthood. The term adolescence is derived from the Latin verb

adolescere, meaning to "grow up" or "to grow to adulthood" (Louw, Van Ede & Louw, 1998: 384). According to Zigler and Stevenson (1993: 492) many researchers use chronological age to define adolescence, but due to individual and cultural differences, adolescence is most often considered as the time spanning the years between 11 and 13 to 17 and 21. However, age limits for the division of adolescence differ, and therefore adolescence is better described in terms of specific development characteristics. From this perspective, the Social Work Dictionary (1999: 9) describes adolescence as "The life cycle period between childhood and adulthood, beginning at puberty and ending with young adulthood". (Compare Bukstein, 1995: 1.) The onset of adolescence is thus marked by puberty, i.e. a period of accelerated physical growth, maturation of the reproductive organs and the appearance of secondary sexual characteristics (Pagliaro & Pagliaro, 1996: 138). However, the end of adolescence has less striking characteristics. From a social perspective, adolescence ends when the individual is independent and self-supporting, able to fulfil adult roles, for instance to follow a profession, to marry and start with a family (Zigler & Stevenson, 1993: 492). Legally adolescence comes to an end when an individual is entitled to vote (18 years) or when the necessity of parental consent expires (21 years), or when an individual can be held responsible for legal contracts (21 years). (Compare Pagliaro & Pagliaro, 1996: 138.) From a psychological viewpoint the end of adolescence occurs when the individual is fairly certain of his own identity, values and relationships, whilst separating from his parents and family as he increasingly assumes adult responsibilities and roles. Suggesting different criteria which can all be taken into account in determining the end of this transition period. Hence, adolescence is divided into three sub phases (compare Louw &

Amorim, 1999: 17; Louw, Van Ede & Louw, 1998: 385), i.e. early, middle and late adolescence:

- According to Bukstein (1995: 53), early adolescence, ages 11 to 14, is characterized by the onset of puberty, a physiological event culminating in sexual maturity that causes a series of physical and physiological changes. (Compare Louw, Van Ede & Louw, 1998: 385.) These developments include a growth spurt (i.e. a period of rapid physical growth), changes in body proportions/dimensions (for instance growth of the hands, feet and legs), maturation of the sex organs, and the appearance of secondary sex characteristics (for example development of breasts, head and body hair growth and lowering of voice). (Compare Perkinson, 1997: 164; Zigler & Stevenson, 1993: 517.) Developments that are triggered by an increase in the levels of hormones secreted (compare Bukstein, 1995: 53) into the bloodstream by the pituitary gland often referred to as the master gland, which lies at the base of the skull (Zigler & Stevenson, 1993: 517).

  As the developing adolescent increases in size and shape, he or she becomes both quantitatively and qualitatively different than their younger, pre-pubertal peers. (Compare Bukstein, 1995: 53; Perkinson, 1997: 164.) This change in physical identity produces explicit evidence that the adolescent is no longer a child and becomes manifest to both the adolescent and to most adults, including parents (Bukstein, 1995: 53). However, individuals who mature late or early are likely to be distressed by their physical development or lack of it. Hence, they may develop a negative self-concept and/or fits of depression (Pagliaro & Pagliaro, 1996:

141). Yet, the changes in physical and secondary sexual characteristics open the adolescent to changes in social relations, especially the increased focus on opposite gender peers and heterosexual interests. (Compare Louw & Amorim, 1999: 17; Perkinson, 1997: 164.) Herewith social changes and expectations may be further reinforced by changes in the early adolescent's social environment, including transfer from elementary to middle or secondary school and increased exposure to "mature," older adolescents (Bukstein, 1995: 54).

- Yet, middle adolescence, ages 15 to 17, is a time of increasing independence (Louw, Van Ede & Louw 1998: 385). Adolescents of this age group experience a great deal of ambivalence and conflict and they often blame the outside world for their discomfort (Perkinson, 1997: 164). As they struggle to develop their own identity, dependence on parents gives way to a new dependence on peers (Louw & Amorim, 1999: 17). Adolescents struggle to avoid dependence and may disparage their parents, devaluating past attachments. These early teens often find a new ego ideal that leads to idealization of sports figures or entertainers. At this stage adolescents are particularly vulnerable to people they would love to emulate (Perkinson, 1997: 164).

This is also a period when the development of a self-concept is crucial (Pagliaro & Pagliaro, 1996: 138). The adolescent must explore his or her own morals and values, questioning the accepted ways of society and family to gain a sense of self (Louw & Amorim, 1999: 17). Consequently they make up their own mind as to who they are and what they believe in. Middle adolescents reassess the

facts that were accepted during childhood, and accept, reject, or modify these societal norms as their own. Hence here-and-now thinking of earlier childhood gives way to a new capacity for abstract thought. These adolescents may spend long periods abstractly contemplating the "meaning of life" and the question of "Who am I?" (Compare Perkinson, 1997: 164.)

- Amid all these changes the physical manifestations of approaching adulthood require numerous psychological adjustments; in particular the development of how one views self in relation to others (Louw, Van Ede & Louw 1998: 385). The vast majority of adolescents attain their adult size and physical characteristics by the age of 18, i.e. late adolescence. During this phase, ages 18 to 21, the process of abstract thinking changes along with physical development, becoming more complex and refined. A sense of time emerges where the individual can recognize the difference between past, present and future. This age group can adopt a future orientation that leads to the capacity to delay gratification. They develop a sense of equality with adults and by age 19, most adolescents are considering occupational choices and have begun to develop intimate relationships. (Compare Perkinson, 1997: 164; Louw & Amorim, 1999: 17.)

The mentioned sub phases of adolescence thus show subtle development differences, but all have a dual commonality in that they belong to a stage of life distinct from either childhood or adulthood. With puberty marking the beginning of adolescence and social, legal and emotional independence, defining entry into adulthood. (Compare Bukstein, 1995: 53; Feldman & Elliott, 1990: 3.) However, as the target group of this study is

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the adolescent, and more specifically the early adolescent, it is important to consider the following typical characteristics of this age group, i.e. practice of adult roles, reliance on peers, cognitive changes and risk taking.

Lowinson, Ruiz, Millman and Langrod (1992: 832) subsequently assert that adolescence, as a developmental stage, is characterized by dramatic change and readjustment. Moreover, Louw and Amorim (1999: 16) add, that adolescence is a time of consolidating a personal identity (compare Perkinson, 1997: 164; Pagliaro & Pagliaro, 1996: 138) and practicing new roles (Lowinson, Ruiz, Millman & Langrod, 1992: 832). From early childhood, youngsters practise adult roles through pretend play e.g. dressing up. But during adolescence, this practise of adult roles and behaviour shifts from pretend play to actual behaviour. After 11 years of age the early adolescent begins experimenting with a range of new behaviour, and for many regardless of culture and throughout the world, cigarettes, alcohol and other drugs have become a normal part of coming of age (Louw & Amorim, 1999: 17).

Herewith, adolescence is marked by increased autonomy from parents, and increased reliance on peers for validation and direction. (Compare Perkinson, 1997: 164; Roper & Bartlett, 1994: 11.) Consequently conformity to the peer group rapidly increases during pre- and early adolescence when it peaks and then gradually declines. Roper and Bartlett (1994: 13) state that adolescents assess themselves and their behaviour through the reactions of their peers. (Compare Nowinski, 1990: 20.) Peers are thus vital to the early adolescent's emotional and psychological development, and acceptance by peers is critically important, more than at any other age, rejection can be devastating (Louw & Amorim, 1999: 17).

In addition, Perkinson (1997: 164) stresses that adolescence is a critical period of cognitive changes. Although the timing of cognitive changes during adolescence and the universality of various models coupled with the effects of environment on cognitive development remain less than firmly established, there are definite changes in the adolescent's ability to assimilate data and understand the world and its phenomena (Bukstein, 1995: 54). The final stage of intellectual development is reached during early adolescence when the adolescent shifts from concrete operational thinking to formal operational or abstract thinking, which is much more flexible (Lowinson, Ruiz, Millman & Langrod, 1992: 832). The adolescent is able to think hypothetically, and for the first time in development the young person can appreciate literary metaphors and is capable of complex mathematical operations such as in calculus. (Compare Bukstein, 1995: 54; Perkinson, 1997: 164.) In contrast the younger child is more anchored in concrete reality and in what is immediately available to perception and, when presented with a problem, will begin directly trying to solve the problem before considering all the possibilities (Louw & Amorim, 1999: 17). Given more sophisticated reasoning capabilities, the adolescent is able to consider many possibilities and can deal with proposition and theory (Perkinson, 1997: 164). While remarkable and exciting, these cognitive shifts also can result in new tensions between adolescents and authority figures and institutions. (Compare Louw & Amorim, 1999: 16; Roper & Bartlett, 1994: 11.) Early adolescents are able to begin questioning rules that had previously been taken for granted, and novel and alternative life-styles are considered or experienced (Lowinson, Ruiz. Millman & Langrod, 1992: 832). Thought also becomes more introspective during early adolescence, but it remains egocentric relative to adults (Louw & Amorim, 1999: 18). More specifically, adolescents have developed to the point that they understand that other

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people have lives independent of them and that other people have internal thoughts of their own. (Compare Lowinson, Ruiz, Millman & Langrod, 1992: 833; Perkinson, 1997: 164.) However this age group have more difficulty separating their own thoughts from the thoughts of others, and they often assume that others are as preoccupied with their behaviour as they themselves are.

Risk-taking also increases during adolescence, and while exploring any new behaviour or role involves risk-taking, adolescents also appear to engage in risk taking just for the exhilaration of the dare (Louw & Amorim, 1999: 18). Sensation seeking and risk taking appear to be related to hormone levels, particularly testosterone, and it may be that some risk taking is the result of the surging, poorly modulated hormones of puberty. (Compare Bukstein, 1995: 53; Nowinski, 1990: 15.) In addition, however, cognitive changes may also contribute to increased risk taking. Adolescents want to impress their peers, but they are not yet adept at assessing risks (Roper & Bartlett, 1994: 13). Adolescent thought is more anchored in the "here and now" than is adult thought, so that they are less concerned with the far future. (Compare Louw & Amorim, 1999: 36; Lowinson, Ruiz, Millman & Langrod, 1992: 833.) Given their immediate time orientation, immediate consequences may outweigh longer-term risks. With smoking, for example, the potential long-term negative health consequences may seem less important than the short-term effects, which may actually be satisfying and pleasurable, fulfilling the adolescent's immediate needs (Lowinson, Ruiz, Millman & Langrod, 1992: 833). Also, some risks may have more salience than others. The norms of the peer group have a very strong influence over the individual adolescent, and affiliation with and acceptance by peers is paramount during this period. (Compare Bukstein, 1995: 54; Roper & Bartlett, 1994: 13.)

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Thus, the risk of losing status with peers, being rejected or ridiculed, or of appearing immature or inexperienced may seem more dangerous or aversive than the possible risks of taking a drink or smoking a joint.

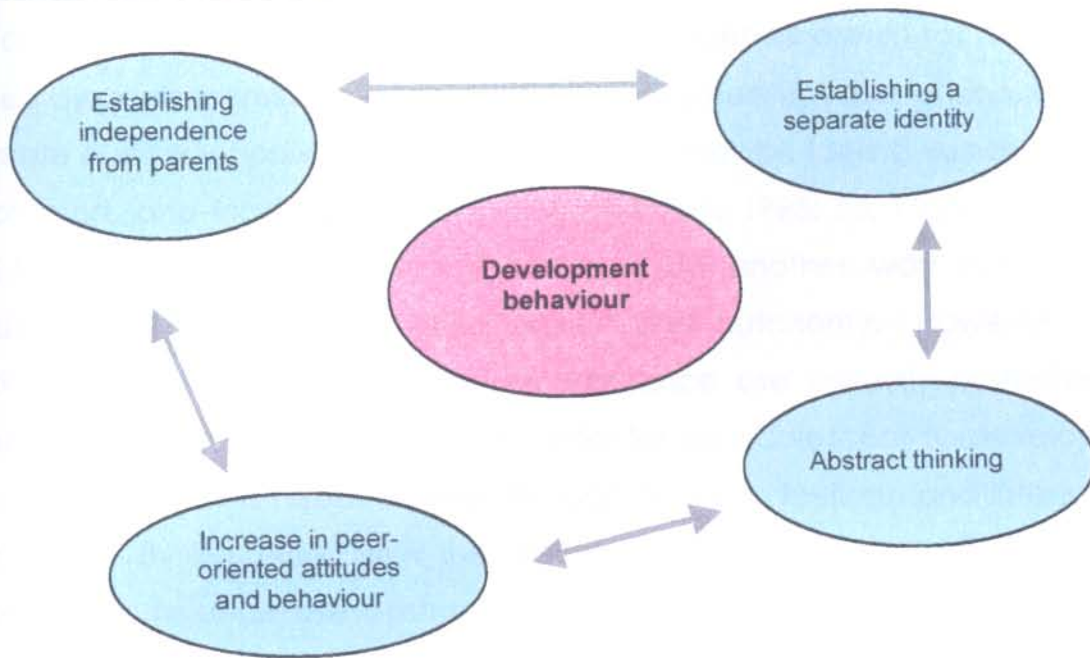
Finally, (early) adolescence should thus be understood as a transitional stage that allows the adolescent to gradually adjust to growth, development and change (Perkinson, 1997: 164). A cycle of life, which brings new challenges and opportunities but also tangible risk and significant harm, if substance use/abuse enters the picture.

3. Adolescent development tasks that can promote substance use

Beyond the basic biological, physical imperative of achieving adult physical maturity and physiological functional development, cognitive development and social/emotional development has traditionally all formed the interconnected spheres of adolescent development. (Compare Bukstein, 1995: 54; Gonet, 1994: 20.) Within the cognitive-social development spheres, there are specific developmental tasks for adolescents. Developmental tasks that can, however also promote adolescent substance use (Louw & Amorim, 1999: 19).

Figure 4 provides a summary of these developmental tasks and conclude that: Successful adolescents are able to achieve a separate identity, independence from their parents, and prepare themselves for appropriate relations to achieve the adult developmental tasks of job, marriage, and family. (Compare Bukstein, 1995: 55; Gonet, 1994: 19-31.)

Figure 4: Adolescent developmental behaviour which can promote substance use



Within the context of the mentioned tasks the adolescent needs to establish independence from his parents. This is not a simple process, but one that takes place over time and is marked by paradox (Gonet, 1994: 21). During this time the adolescent engages in behaviour (e.g. questioning rules or parental values) that asserts independence from parents (Bukstein, 1995: 55). Conflicts with parents provide a rationale for much of this behaviour (Gonet, 1994: 21). What complicates this struggle towards independence is that many adolescents look like adults, and, therefore, many adults expect independent, adult like behaviour from them, equating physical with psychological maturity. (Compare Gonet, 1994: 21; Fieldman & Elliott, 1990: 4.) Strong dependency needs remain, however, and are often transferred from parents to peers, heroes, or other significant people in the adolescent's life (Perkinson, 1997: 164). In fact, adolescents hide their dependency needs, and much of their surface

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behaviour denies or conceals true dependency (Gonet, 1994: 22). Hence provocative behaviour, rebellion, engaging in adult actions, expressing shocking values, and openly asserting independence are all techniques used by adolescents to mask true dependency needs, ease tension, and create a sense of power at a time when they may be feeling vulnerable, confused, and inadequate. (Compare Bukstein, 1995: 55; Gonet, 1994: 22.) Added to this, substance use can be another way in which adolescents try to assert independence and autonomy. However, it brings about quite the opposite as substance use actually promotes dependence (Gonet, 1994: 22). In order for an adolescent to develop independence, he needs to work through conflicts, feelings, and intense emotion. By interfering with this process, so necessary for growth into maturity, substance use obstructs the development of independence. Consequently substance use becomes a coping mechanism whereby adolescents alter their feelings with substances, rather than struggle with conflict or work through painful emotions (Perkinson, 1997: 165).

Similarly, the establishment of a sense of identity is a crucial developmental task of the adolescent. (Compare Bukstein, 1995: 55; Perkinson, 1997: 164.) Meaning that the adolescent needs to develop an adult identity by means of exploring and trying out "new identities." This goal results not so much from the early adolescent's question, "Who Am I?" But rather from "Who Shall I Become?" (Compare Gonet, 1994: 24; Louw & Amorim, 1999: 17.) The best way to accomplish this developmental work is through interaction with peers who are not only engaging in the same behaviour but also struggling with equivalent emotional and psychosocial issues (Gonet, 1994: 24). Yet, when young people turn to drugs to feel better about themselves, serious identity problems begin as substance use covers up true feelings. Severely

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distorting a young person's perception of reality, and therefore of ones self (Perkinson, 1999: 165).

Another important development task for the adolescent is to try out new identities among his or her peers (Roper & Bartlett, 1994: 13). Just as playing with toys and pretending is the work of childhood, testing out new, behaviour, values and ideas with peers is the work of adolescence (Gonet, 1994: 27). Adolescents are developing their self-images, coping styles, mastery skills, intra-psychic feelings about themselves and future life roles. They go through a variety of intra-psychic changes at a very rapid rate and shed their styles and/or roles almost daily. However, adolescents need to sift through all of this and determine what "fits" and what does not. Peer groups are thus the vital arenas in which young people explore, practice styles and receive feedback (Gonet, 1994: 27). Herewith, peer groups form the young person's reference group. These are not necessarily circles of friends, but rather age-mates that provide the adolescent with a wide range of responses and behaviour from which to evaluate his or her own new ideas, values, roles and behaviour (Bukstein, 1995: 55). In addition, adolescents transfer their dependency needs from parents to peers as a major step in the process of individuation (Perkinson, 1997: 164). Leaving the adolescent with a sense of alienation on the one hand, but also an alternative sense of belonging on the other whilst proving the peer group to be a dominant force (Gonet, 1994: 28). Not surprisingly, then, many have identified adolescent peers as perhaps the most important single factor in the use of licit and illicit drugs.

Along with psychological and social development, adolescence is also a time of intellectual growth, particularly in the area of abstract thinking. The development of abstract thinking, the ability to think about thoughts,

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appears during early adolescence and allows the young person to manipulate thought and to think about the interrelationships among facts, ideas, and problems (Perkinson, 1997: 164). Piaget as quoted by Gonet (1994: 30) described adolescence as the final period of intellectual development, when the child moves from an ability to abstract only on concrete images to an ability to abstract on abstractions. This cognitive development allows the young person to achieve a clearer differentiation between his own thoughts and perceptions and those of others. The egocentrism present in childhood and early adolescence begins to diminish and is almost non-existent by age 16. Young people no longer believe they are the centre of the universe, but rather take part in the world around them (Louw & Amorim, 1999: 17). Acquiring the ability to think abstractly requires full presence of mind. Thus the young person who has been using substances compromises this important life skill (Gonet, 1994: 31). Moreover, certain drugs affect the brain by interfering with learning. Cannabis, for example, is especially detrimental to short-term memory and learning (Stoppard, 2000: 48). This loss may not necessarily be reflected in a student's academic achievement record. A young person still will be able to function adequately with previously acquired conceptual schemes. Refining basic learning skills and new facts still will occur. The problem is that higher levels of thinking, conceptualising and understanding will be stifled (Gonet, 1994: 31).

From this mentioned cognitive-social development tasks, it is clear that the adolescent is especially vulnerable to substance use during this period of his or her life. Based on this knowledge, the developmental patterns of adolescent substance use and substance involvement, combined with age related trends in substance abuse, needs to be examined.

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4. Developmental patterns of adolescent substance use

Substance use can and does affect all children and adolescents directly or indirectly, regardless of age, gender, culture, ethnic background, education, race or socio-economic status (Pagliaro & Pagliaro, 1996: 1). Moreover, Pagliaro and Pagliaro (1996: 24) note that: "Over the past decade, children and adolescents have experimented increasingly with and have come to widely use such substances of abuse as alcohol, cannabis, and cocaine." In fact, the frequency of more serious patterns of use, such as abuse and compulsive use and their associated harmful effects are also increasing. Yet, the situation is expected to worsen as the decade comes to an end and substance use continues to increase annually (Pagliaro & Pagliaro, 1996: 25). Consequently, attention is brought to the following patterns of substance use as it will help to guide the development of prevention strategies that are tailored to meet the needs of adolescents who have not yet begun to abuse substances.

There are six recognized patterns of adolescent substance use that represent a continuum of increasingly more compulsive and harmful substance use, i.e.: (a) non-use, (b) initial use, (c) social use, (d) habitual use, (e) abuse, and (f) dependence (Figure 5). (Compare Bukstein, 1995: 56; Gonet, 1994: 16; Lewis, Dana & Blevins, 1994: 4; Pagliaro & Pagliaro, 1996: 25; Roper & Bartlett, 1994: 7; World Drug Report, 1997: 45.)

Figure 5 illustrates this continuum, starting with non-use or abstinence and continuing to abuse and dependence, which are indicative of patterns of problem use.

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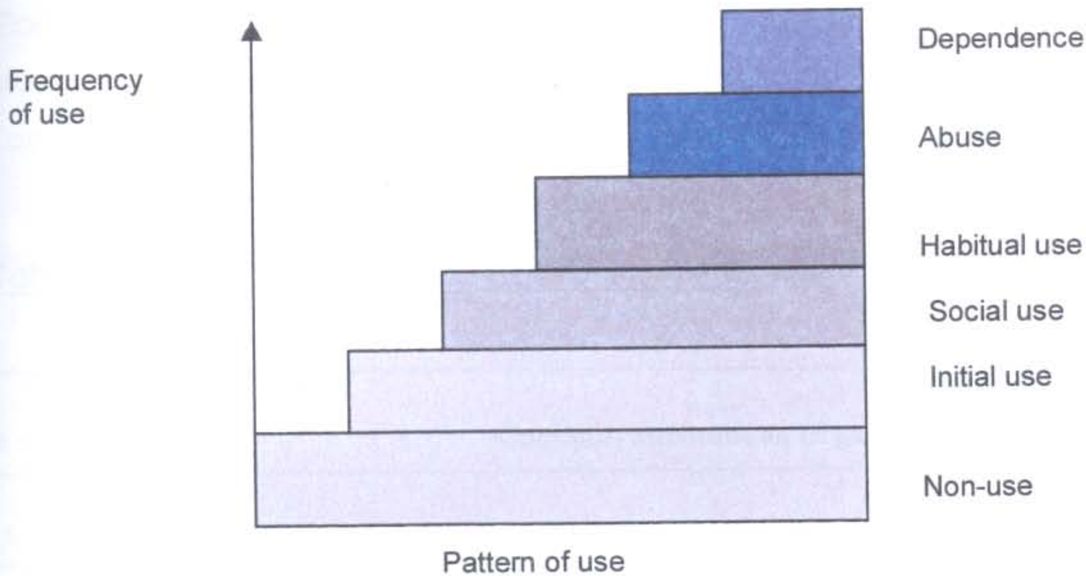
Figure 5: Patterns of adolescent substance use



Clearly, adolescent substance abuse and dependence does not occur instantaneously, but can develop in accordance with the named patterns of substance use.

According to Pagliaro and Pagliaro (1996: 25) the first time use or <u>initial use</u> of a particular substance of abuse generally involves some degree of curiosity and experimentation, and it does not usually develop into a pattern of abuse or dependence. However, research indicates that there may be a typical sequence of drug initiation in adolescence, i.e. that licit drugs, cigarettes and alcohol, are used before cannabis, and cannabis used before other illicit drugs. (Compare Botvin, Schinke & Orlandi, 1995: 107; Bukstein, 1995: 56; Schaffer, 1994: 3.) Herewith another factor related to substance use initiation is age. Winger, Hofmann and Woods (1992: 10) notice that there are certain ages, at which the use of particular

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substances, are most likely to start. According to Botvin, Schinke and Orlandi (1995: 107) the risk for initiating substance use increases to a peak during mid- to late adolescence and decreased thereafter. Consequently a tabulate representation of age-related trends in substance abuse, abroad and in the Republic of South Africa, is shown in Table 6.

Table 6: Age-related trends in substance abuse

Age in years	Common substances of abuse
6 – 12	Household volatiles, e.g. glue or aerosols are inhaled
12 – 13	Cigarettes, alcohol and cannabis are used occasionally
13 – 16	Cigarettes, alcohol, cannabis and cannabis together with Mandrax are used
16 – 25	Cigarettes, alcohol, cannabis, cannabis-plus-Mandrax, Wellconal, barbiturates, LSD, cocaine, heroin, appetite suppressants and cough mixtures are used regularly and in many cases, obsessively

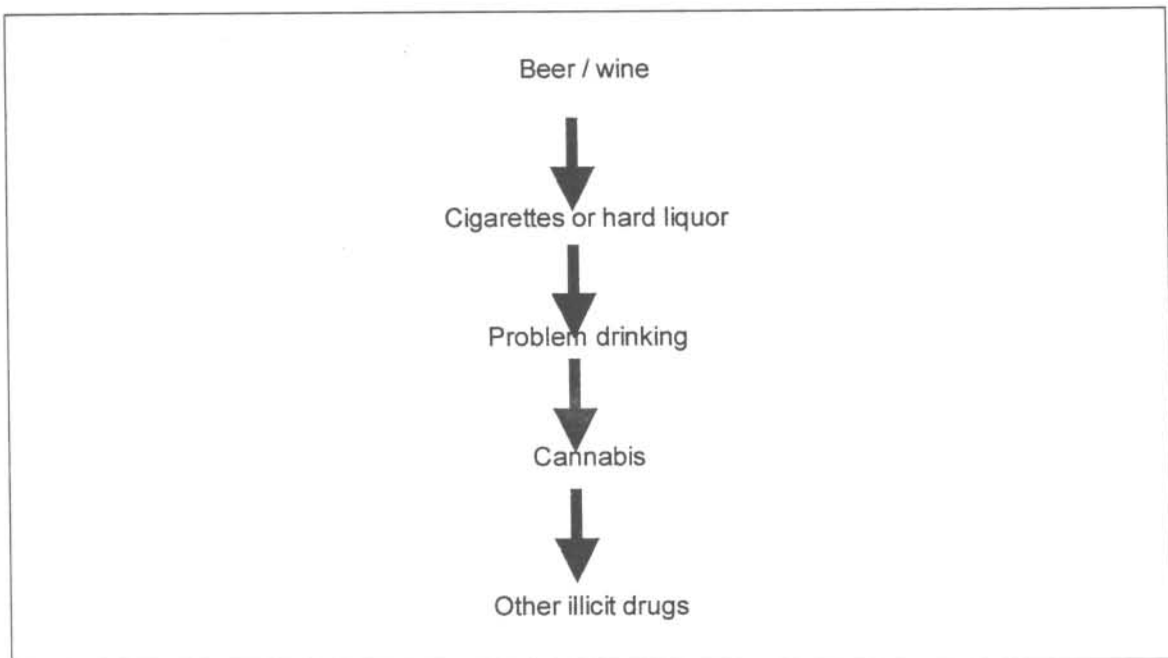
(Compare Roper & Bartlett, 1994: 13; Winger, Hofmann & Woods, 1992: 11.)

Similarly, NIDA (2001: 6) asserts that studies indicate that children most often begin to use drugs at about age 12 or 13, moving from the illicit use of legal substances to the use of illegal drugs. Thus implying a fairly consistent sequence of drug initiation among adolescents. Similarly Bukstein (1995: 56) is of opinion that data from other longitudinal and cross-section studies has confirmed this sequence. However the fact that

there is a sequence does not necessarily mean that there is a causal relationship, or that the use of substances at one stage will mean an individual will necessarily progress beyond that stage. Accordingly, Bukstein (1995: 57) argues that the age of entry into the sequence and the time of progression or time spent in each stage of the sequence are highly variant between groups of adolescents with differing characteristics. In fact, most children and adolescents are curious about the effects of a particular substance of abuse and use it only once as an experiment when the opportunity presents itself and suffer no long-term adverse effects. (Compare Pagliaro & Pagliaro, 1996: 25; Stoppard, 2000: 13.)

Figure 6 illustrates the proposed sequential pattern of substance involvement among adolescents.

Figure 6: Pattern of adolescent substance involvement



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(Compare Botvin, Schinke &Orlandi, 1995: 107; Bukstein, 1995: 57; Rocha-Silva, Mokoko & Malaka, 1998: 2.)

In this sequence, adolescents first try substances that are legal for adults, i.e. alcohol (beer and wine) and cigarettes. Beer and wine precede the use of hard liquor or spirits (Botvin, Schinke & Orlandi, 1995: 107). The use of alcoholic beverages precedes the use of cannabis, followed by other illicit or "hard" drugs, such as opiates and stimulants. (Compare NIDA, 2001: 6; Rocha-Silva, Mokoko & Malaka, 1998: 2.) Adolescents are unlikely to initiate cannabis or hard drug use without prior use or experimentation with alcohol and/or cigarettes (Stoppard, 2000: 13). Based on these studies, alcohol and cigarettes, legal and accessible drugs for adults, are established as "gateway" drugs. Almost all adolescents advance through this sequence of substance use; they continue to use "gateway" drugs, adding the other drugs (polydrug use) to an expanding repertoire, as opposed to replacing the "gateway" drug (Bukstein, 1995: 56). Problem drinking or regular alcohol use also follows cannabis use and precedes the use of all other illicit drugs. (Compare Ellickson, Hays & Bell, 1992: 444; NIDA, 2001: 6.) This sequence thus provides an important conceptual model with which to approach substance abuse prevention because gateway drugs can be identified and targeted.

The second pattern of adolescent substance use is social use. Although the substance of abuse typically is actively sought, use is limited, and there are no major adverse effects associated with its use (Pagliaro & Pagliaro, 1996: 25). In many instances social use for teenagers connotes going to a party and drinking for the mood-altering effects (Gonet, 1994: 16). Another example of this pattern of use is drinking an alcoholic beverage "for fun" at a friend's house when the parents are away. In

these situations, the adolescent did not primarily go to these social situations for alcohol, but once there, sought it and used it (Pagliaro & Pagliaro, 1996: 25). However there is no absolute definition of social use, thus the term must be used cautiously. In reality many young people do use drugs but outgrow immature using behaviour and develop appropriate adult substance use behaviour (Gonet, 1994: 16).

The third pattern of use is habitual use and involves the establishment of a definite pattern of substance use, for instance smoking cannabis every day after school or drinking every Friday and Saturday night. The characteristics of this pattern of use include the absence of addiction (physical dependence) and the infrequent occurrence of major adverse effects. However, habituation (psychological dependence) is an integral feature of this pattern of substance use (Pagliaro & Pagliaro, 1996: 26).

Yet, in the abuse pattern, the substance of abuse is actively sought and continues to be used despite well-recognized harmful effects. Examples of this pattern of substance use include an adolescent who has been charged with driving a motorcycle under the influence of alcohol but who continues to drink alcohol and drive, and a pregnant teenager who continues to use crack cocaine even though she has been warned about the dangers to her unborn baby. (Compare Gonet, 1994: 17; Pagliaro & Pagliaro, 1996: 26.) In this pattern of use, the negative consequences associated with the use of a particular substance are generally recognized, but it continues to be actively sought and used (Gonet, 1994: 17).

However the most serious pattern of substance use is dependence. This pattern is characterized by (a) compulsive use, (b) a complete lack of

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control over limited use and loss of the ability to predict control over use of the substance of abuse; and (c) continued use of the substance despite adverse consequences, e.g. conflict with school, parents, friends and law enforcement officers. Adolescents who display this pattern of use generally indicate that they simply cannot help themselves (Gonet, 1994: 18). The substance of abuse, whether it is alcohol, cannabis, or cocaine becomes the major focus of concern. Dependence thus refers to the adolescent's relationship to the substance, rather than the frequency of use. Dependent users spend most of their time thinking about, obtaining and using the substance of abuse. These children and adolescents feel a lack of control over its use and continue use despite expected and predictable harmful effects (Pagliaro & Pagliaro, 1996: 26).

Given the variation in patterns of adolescent substance use and substance involvement combined with age related trends in substance abuse, the identification of risk and protective factors for the initiation, maintenance and progression of substance use may allow an improved understanding of the role of substance use in adolescent development.

5. Risk and resiliency factors related to adolescent substance use and abuse

The influences that generate substance use and abuse among adolescents are many, varied and far from clearly understood (Botvin, Schinke & Orlandi, 1995: 105). Pagliaro and Pagliaro (1996: 138) confirm this by stating, that no single biological, psychological or sociological factor has been found to account for the significant patterns of substance use among adolescents. (See Chapter 2, page 93.) Within this myriad of

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possible factors, there is, however, certain risk and protective factors that have been associated with adolescent substance use and abuse. In an attempt to identify these factors, the terms "risk" and "resiliency" needs to be clarified first.

Risk factors are defined by Gonet (1994: 32) as the "factors in an adolescent's life experiences and personality structure that make him more likely to use or abuse substances." Factors associated with greater potential for drug use are thus called risk factors (NIDA, 2001: 1). Hence identifying risk factors can help predict which adolescents may be susceptible to substance abuse. As a result, the more risk factors present in a young person's life, the more likely involvement with drugs is. (Compare Botvin, Schinke & Orlandi, 1995: 109; NIDA, 2001: 1.) Risk factors can thus be considered the predictors of substance abuse. They exist before substance abuse begins, and those who subscribe to a risk-focused approach seek to eliminate or lessen risk factors as the chief means of preventing adolescent substance abuse (Gullotta, Adams & Montemayor, 1995: 37).

The converse of risk factors for substance use is protective factors that reduce the likelihood and level of substance use and abuse. Protective factors as described by Botvin, Schinke and Orlandi (1995: 109) are those psychosocial influences that have a direct effect on limiting or reducing substance involvement. However protective factors may also operate in a different manner than simply having a direct effect on reducing drug involvement. They may, in fact, buffer or moderate the association between risk factors and substance use/abuse by building a sense of resiliency in individual adolescents. Thus, resilience is seen as the factors and processes enabling sustained competent functioning, even in the

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presence of major life stressors (Gullotta, Adams & Montemayor, 1995: 19). Hence others in the field have variously defined resilience as: 'the ability to withstand or surmount risk (compare Hawkins, Catalano & Miller, 1992: 86; NIDA, 2001: 1); "successful adaptation following exposure to stressful life events" (Werner and Smith in Gullotta, Adams & Montemayor 1995: 19); and "successful adaptation under adverse conditions" (Luthar & Ziegler, 1991: 8). However, Hawkins, Catalano and Miller (1992: 86) stress that it is important to distinguish between resiliency and vulnerability as the latter intensified susceptibility to risk whereas resiliency is the ability to withstand or surmount risk. From this perspective, those who subscribe to a resiliency-focused approach will thus seek to protect the adolescent by enhancing resilient responses to risk exposure, as the chief means of preventing substance abuse.

With the distinction made between risk and resiliency factors it is best to identify and review these factors in terms of the following three integrated categories:

- Constitutional/personal factors;
- Interpersonal factors: family and peers, and
- The social-environmental and cultural milieu in which the youth is embedded. (Compare Botvin, Schinke & Orlandi, 1995: 106; Hawkins, Catalano & Miller, 1992: 65; Louw & Amorim, 1999: 43-45; World Drug Report, 1997: 46.)

5.1 Constitutional/Personal factors

Certain characteristics of the individual adolescent are associated with greater risk or greater resiliency to substance use/abuse.

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5.1.1 Personal attributes related to risk

Focussing on the most salient personal attributes related to risk for adolescent substance use/abuse, several predictive factors were identified from the work of the following authors, i.e.: Botvin, Schinke and Orlandi (1995), Bukstein (1995), Gullotta, Adams and Montemayor (1995), Hawkins, Catalano and Miller (1992), Pagliaro and Pagliaro (1996) and Winger, Hofmann and Woods (1992). Personal attributes related to risk thus include:

- *Physiological, i.e. genetically based personal factors* that include potential heritability of drug abuse vulnerability and psycho physiological susceptibility to the effects of substances. This places individuals with high genetic vulnerability at a high risk to develop substance abuse as this complex behavioural disorder is thought to be an inherited disease.

- Possessing *a difficult childhood temperament* with irritable, anxious mood states; temper tantrums; and social withdrawal is predictive of substance use/abuse in adolescence.

- Other personal factors associated with risk are continuing *behaviour problems*, most usually hyperactive, aggressive and seemingly rebellious activity that reflects poor impulse control; and inability to delay gratification; sensation seeking and low harm avoidance are all predictive of adolescent substance use/abuse.

- *Antisocial behaviour*, such as theft and chronic fighting in childhood also increase the risk of adolescent substance use/abuse.

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- Psychological factors such as *childhood emotional distress*, often manifested as depression and high anxiety, may also signal later substance abuse.

- A *low degree of commitment to education* in general, manifested as school failure, poor academic performance and a lack of attachment to the school also increase the risk of adolescent substance use/abuse.

- *Early onset of substance use* is predictive of substance abuse in adolescence.

- *Alienation from*, non-acceptance of, or outright rejection of the *dominant values of society* has been shown to be associated with greater risk of alcohol and other drug–use problems. This might include rejection of religious beliefs and values as well.

5.1.2 Personal attributes associated with resiliency

From the work of several authors (compare Botvin, Schinke & Orlandi 1995: 110-264; Bukstein, 1995: 62-64; Hawkins, Catalano & Miller, 1992: 82-86; Gullotta, Adams & Montemayor, 1995: 21-25) a number of personal factors associated with resilience can be assembled of which the following is considered to be the most prominent:

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- *Genetic and biologically based factors* that consistently emerge as associated with resiliency but are most likely genetically based and, as such, not likely to be responsive to social intervention.

- An *easy temperament and/or disposition* from birth. Pleasant, easygoing, responsive adolescents tend to elicit more positive responses from others and possibly receive greater support from them as a result.

- *Intellectual capabilities*, particularly verbal and communication skills. Masten, Best and Garmezy (1990: 425) confirm this, by stating: "Since these capabilities are generally an index of academic aptitude, they will likely function to protect the youth, particularly disadvantaged adolescents, because of the benefits of academic achievement."

- Likewise the personality characteristic most consistently associated with a resilient outcome is *a sense of self-efficacy*, i.e. a positive perception of one's competence to perform certain tasks. Werner (in Gullotta, Adams & Montemayor 1995: 22) describes it as the confidence that one's external and internal worlds are predictable and hopeful, that life makes sense, and that one has some control over one's fate – that things will work out and odds can be surmounted. In relation to resiliency, self-efficacy, then, involves several things, i.e.: a sense of self-esteem and self-confidence, and a belief in one's own ability to have some influence upon one's internal and external environment.

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- An adolescent's *ability to appraise the environment realistically.* In other words, for youth to realistically appraise their own abilities and know what they can and cannot do, and can and cannot change leading to a better appraisal of the consequences of their actions.

- A repertoire of *social problem-solving skills* that positively reinforces a continuing sense of competency and self-esteem.

- *A sense of direction* (e.g. some special talent, passion, faith, or strong interest), a sense of purpose, a sense of meaning or a sense of a compelling future in an adolescent can strengthen his or her resiliency.

- Possessing the enabling skill of *empathy*, i.e. the capacity to understand and respond to another's feelings. This ability helps the adolescent to be more appreciative, gentle, nurturing, and socially perceptive, reflecting a caring and responsible attitude towards others.

- A relationship between resiliency and *humour* are also put forward. Hence adolescents with a greater ability to use humour, appreciated humour more, are more readily able to find the comic in the tragic, and to use humour to reduce tension and restore perspective. These abilities serve the added function of maintaining social relationships.

- *Adaptive distancing*, i.e. a condition in which self-understanding and separateness prevail, will also add to adolescent resiliency. For instance, an adaptive distancing adolescent will see himself as

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separate from an ill parent, not the cause of the illness, and not to blame for it.

- *Gender differences* were also found to be associated with resiliency. For instance, societal sex-role expectations help girls to be more resilient in early childhood and boys to be more resilient in adolescence. However, youth (both male and female) who acted in a flexible non-sex-typed, androgynous manner were the most resilient of all. Where the most resilient girls come from households that encourage risk-taking and independence. Resilient boys come from households characterized by structure and rules and by encouragement of emotional responsiveness.

The mentioned personal factors should thus enable the adolescent to withstand substance use and surmount the risk of substance abuse. In other words equipping the adolescent to cope adequately with adversity.

Finally, the identified personal attributes found to be related to risk and resiliency for substance use/abuse has been summarized in Table 7 for easy comparison and greater clarity.

<u>Table 7: Personal attributes related to risk and resiliency for adolescent substance use/abuse</u>

Personal risk factors	Personal resiliency factors
Genetic and biological factors	Genetic and biological factors

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Personal risk factors	Personal resiliency factors
Difficult childhood temperament	An easy temperament and/or disposition
Behaviour problems	A sense of self-efficacy
Antisocial behaviour, e.g. theft	Social problem-solving skills
Childhood emotional distress often manifested as depression and high anxiety	An ability to appraise the environment realistically
Low degree of commitment to education	Intellectual capability
Early onset of substance use	Societal sex-role expectations
Alienation from dominant societal values, including low religiousness	Adaptive distancing abilities when faced with a dysfunctional environment
	Empathy
	Humour
	A sense of direction

5.2 Interpersonal factors: Family and Peers

Certain characteristics of the adolescent's personal environment influence substance use. (Compare Gonet, 1994: 3; World Drug Report, 1997: 48.) Hence the most prominent interpersonal factors associated with adolescent risk and resiliency to substance use/abuse will be identified according to two categories, i.e. parent(s)/families and peers.

5.2.1 Parent/Family variables related to risk

According to Botvin, Schinke and Orlandi (1995: 255) family or parents are defined to be whoever fulfils the care taking role for a child, including non-traditional family arrangements that include adoptive, foster or institutional care. Implying that families are responsible for providing physical necessities, emotional support, learning opportunities, and moral guidance, and for building self-esteem and resilience. However, when families fail to fulfil this responsibility, the number of family problems or risk factors can increase. According to these authors, youth generally are able to withstand the stress of one or two family problems in their lives; however, when they are bombarded by family problems, their probability of using/abusing substances increase (Botvin, Schinke & Orlandi, 1995: 259).

In an extensive review of family research, Loeber and Stouthammer-Loeber (in Botvin, Schinke & Orlandi 1995: 260) found that unsatisfactory socialization factors (i.e. lack of supervision, parental rejection of the child and child rejection of the parent and lack of parent/child involvement) were the strongest predictors of delinquency in longitudinal studies. Parental dysfunction, such as criminality or poor marital relations, was a mid-level predictor, and parental health and absence were weak predictors. However, in concurrent comparative studies, the strongest correlates of problem behaviour in adolescents are the child's rejection of the parents and the parent's rejection of the child. The importance of effective parental discipline was higher in these studies than the longitudinal studies and the effect of these risk factors appeared to be the same for boys and girls (Botvin, Schinke & Orlandi, 1995: 261).

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From this and other reviews, more specifically Bukstein (1995), Gullotta, Adams and Montemayor (1995), Hawkins, Catalano and Miller (1992), Louw and Amorim (1999) and Perkinson (1997) as well as other primary sources, a list of family correlates of adolescents' use/abuse can be assembled:

- *Parental and sibling substance use/abuse*. As social learning theory predicts, adolescents growing up in families where substance use is the behaviour that is modelled, will have a tendency to adopt that behaviour.

- *Permissive parental beliefs and attitudes* about substances, especially attitudes of tolerance and beliefs in the harmlessness of substances, predict subsequent adolescent substance use/abuse.

- *Poor socialization practices*, including parents substance use norms, disagreement between peer and parent norms, modelling of antisocial values and behaviour, failure to disapprove of youth's substance use, failure to promote positive moral development, and neglect in teaching life, social and academic skills to the child can lead to adolescent substance use/abuse.

- *Parent management practices* characterized by unclear expectations for behaviour, poor monitoring/supervision of behaviour, few and inconsistent rewards for positive behaviour, high levels of negative reinforcement (love withdrawal, yelling) and excessively severe and inconsistent punishment for unwanted behaviour, unrealistic parental expectations for the developmental level of the child (which can create a failure syndrome and low self-

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efficacy) and failure to set clear rules with consequences for adolescent substance use is all antecedents or predictive factors of adolescent substance use/abuse.

- Membership in a family where there is little warmth, acceptance, and understanding and much indifference. Characterized by poor parent/child relationships, including rejection of the child by the parents or of the parents by the child, low parental attachment, cold and unsupportive maternal behaviour and lack of involvement and time together is noted to be antecedent to adolescent substance use/abuse.

- Living with *chronic family conflict, marital discord and domestic violence*, which can lead to poor conflict resolution or anger management skills, coercive family processes, youth violence, association with antisocial peers and illicit drug use. Some studies have found that family conflict is a more serious risk factor and therefore a stronger predictor of adolescent substance use/abuse than is divorce or separation per se.

- *Family chaos and stress*, often because of poor family management skills, inadequate life skills, or poverty, resulting in fewer consistent family routines and rituals and inappropriate role modelling and socialization can all lead to adolescent substance use/abuse.

- *Poor parental mental health*, including depression and irritability that cause negative views of the child's behaviour, parental hostility

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towards the child and harsh discipline can predict adolescent substance use/abuse.

- *Family social isolation* and lack of community support resources can have a negative influence and lead to adolescent substance use/abuse.

- Living with a *serious or chronic illness* (their own or that of their primary caretaker) can cause vulnerability and subsequent substance use/abuse in a youngster of any age.

- Experiencing *physical or sexual abuse* as a child or adolescent is a major risk factor for substance use/abuse and many other problem behaviour. The younger the age at which a child experiences stress in the family (especially sexual or physical abuse, or death, or life-threatening illness) the more pernicious are the effects and risk of substance use/abuse.

5.2.2 Family variables related to resiliency

Paragraph 5.1.2 (page 159) identified what the most important protective factors are that help to build a sense of resiliency in the individual adolescent. Likewise, significant family variables related to resiliency will now be identified according to the work of Botvin, Schinke and Orlandi (1995) Bukstein (1995), Gullotta, Adams and Montemayor (1995), Louw and Amorim (1999) and World Drug Report (1997).

The family variables related to resiliency thus include:

- Having an *ongoing warm, positive relationship with a caring parent or adult*. Most often, the one caring parent is the mother; hence, maternal characteristics become critical. According to McCord as quoted by Botvin, Schinke and Orlandi (1995: 263), competent mothers are affectionate and self-confident with leadership skills, and thus produce children that are less likely to use/abuse substances. In addition, however, a supportive relationship with one parent can actually offset the negative influence of a dysfunctional parent or of living in a family with a great deal of discord and tension.

- *A positive family environment and bonding*. In reference to the family environment, Gullotta, Adams and Montemayor (1995: 45) emphasize that a cohesive and supportive family clearly offers protection, even when there is also dysfunction, such as substance abuse, by the parents. Herewith Brook, Gordon, Whiteman and Cohen (in Gullotta, Adams & Montemayor 1995: 45) found that children who are attached to their parents and involved in family activities, whatever they may be, were less likely to initiate substance use and less likely to associate with drug using peers. In addition, parental involvement in ways such as influencing peer choice and fostering prosocial activities, also create a strong positive bond.

- *Parental expectations* that are both realistically high and includes non-drug-use values can (a) help to create a protective environment for the adolescent, and (b) help the adolescent to internalise an optimistic attitude about his or her own abilities.

- The *acceptance of family responsibilities or chores*. Family responsibilities serve as a protective factor because it gives the message to youth that they can be counted on to contribute to family life.

- *Positive parental modelling*, particularly in the areas of coping skills and educational level and job satisfaction, have a great influence on building and maintaining resiliency as the message is conveyed from parent to child, that the adolescent can learn to do the same thing.

- *Good parenting skills and supervision* have also emerged as resiliency related. Implying that parents who established good communication patterns and firm family boundaries and provided consistent supervision and discipline generated secure attachment and tended to produce the most competent resilient youth.

- *Maintaining family traditions and having extended family networks* (e.g. grandparents, uncles and aunts), all contribute to adolescent resiliency, as these are important sources of support and protection.

- *Firm routines and rituals* in families foster a sense of independence in the children and serve as a protective factor. For instance, if adolescents can consistently rely on the fact that, no matter what else is going on, everyone will be home for dinner in the evening or they will always go to Grandma's on Sundays, they can feel freer to come and go, because they will have internalised a routine around which they can build a sense of personal freedom. The encouragement of religiousness is another family ritual that can

serve as protection for adolescents. Developing a sense of spirituality, which may be achieved through membership in a religious institution as well as other ways such as meditation or belonging to a positive larger community, can nurture a sense of belonging as well as competence.

- *Parental involvement in and support* of an adolescent's developing talents, competencies and life choices (e.g. school, friends, career) will build resiliency, if at critical turning points in the adolescent's life they influence his choice of prosocial peers and instil prosocial norms.

5.2.3 Peer influences related to risk

As peer influences play a central role in adolescent development, these influences likewise play a critical role in adolescent substance use, especially in the earliest stages of substance involvement (World Drug Report, 1997: 51). According to Pagliaro and Pagliaro (1996: 152) there are a strong relationship between an individual adolescent's substance use and the substance use of his peers, age mates or friends. Herewith, Bukstein (1995: 58) notices that peer influence is especially prominent in predicting the initiation and continuation of cannabis use. Adolescents who frequently use cannabis appear to be more oriented to friends than to parents and have more peer use models. (Compare Botvin, Schinke & Orlandi, 1995: 108.) Added to this, high levels of sociability and involvement with peers, rather than alcohol or other drug involvement per se, predict initiation into the use of beer and wine (Bukstein, 1995: 58). Accordingly active participation in peer-centre social settings, such as

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dating and parties, favourable to substance use, may both reinforce and increase the risk to substance use. In addition, as noted by Botvin and Botvin (1992: 293), vulnerability to peer pressure to engage in the use of substances in peer-centered social settings, are greater for adolescents who have fewer effective coping strategies in their repertoire, fewer skills for handling social situations, and greater anxiety about social situations. For these adolescents, the range of options for achieving personal goals are restricted at the same time that discomfort in interpersonal situations are high, motivating them to take some action, for instance use alcohol, in an effort to alleviate that discomfort. (Compare Pagliaro & Pagliaro, 1996: 153.) Another aspect related to risk is the adolescent's perception of peer use and peer support for use (NIDA, 2001: 2). Adolescents who believe that drug use is common among their peer group are likely to accept the idea that drug use is normative behaviour (Gullotta, Adams & Montemayor, 1995: 68). Added to this adolescents may overestimate the extent to which their peers indulge in certain forms of unconventional behaviour, such as drug taking, when in fact they are projecting desires (and possibly concerns) about their own behaviour on to a wider circle (Word Drug Report, 1997: 51). This distortion in perceived norms may influence an adolescent's motivations to use substances. The adolescent's inclination to think in exaggerated terms (i.e. "everybody does it") contributes to this tendency (Gullotta, Adams & Montemayor, 1995: 68) and subsequent substance use/abuse.

However, Botvin, Schinke and Orlandi (1995: 156) assert: "the mechanism of peer influences affecting the initiation of substance use in several stages of adolescent use are likely influenced by another critical risk factor, that is the parent factor." (Compare Bukstein, 1995: 59.) Since peer influences are consistently found to be the final pathway to

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adolescent substance use or abuse, research supports family processes as mediators of association with drug-using and deviant peers (Pagliaro & Pagliaro, 1996: 176). This implies that adolescents with greater susceptibility to peer influences are those with greater peer attachment versus parent attachment. Yet, the strength of an adolescent's bonding to his parents and family is probably determined prior to adolescence and exposure to substances and peer substance use. According to Pagliaro and Pagliaro (1996: 153) peer influence seem to play a greater role in the lives of adolescents who lack family support and quality interaction, i.e. positive time spent together in schoolwork and recreational activities. Association with drug-using peers may thus be a peer factor in addition to the influence of peers and the greater socialization seen during adolescence.

Yet, Botvin, Schinke and Orlandi (1995: 107) stress that the best predictor of an adolescent's future behaviour among his peers is his past behaviour. Coming to the conclusion that the strongest predictor of an adolescent's present substance involvement is past substance use. (Compare Pagliaro & Pagliaro, 1996: 146.) Peer influences, such as modelling of substance use behaviour, provision of substances and attitudes and behaviour that encourage substance use, are thus generally viewed as secondary only to prior experience with substances (Gullotta, Adams & Montemayor, 1995: 68).

Peer influences to use or abuse substances thus appear to be a subtle, indirect process.

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5.2.4 Peer influences related to resiliency

According to Louw and Amorim (1999: 44) research suggests that there are a number of peer influences associated with resilience. The following is considered to be the most prominent. Starting with the World Drug Report's (1997: 51) suggestion that more adolescents do not take illicit drugs than do so. Implying that the dominant peer group logically ought to be the non-drug-taking peer group, and the prevailing peer pressure working against drug use. Alternatively, it might be the case that adolescents select their friendship circle partly on the basis of existing drug behaviour, rather than the other way around. However, homogeneity in peer groups are often motivated by pressures or support toward conformity to expectations, but it is also common for members of a peer group to be chosen on the basis of possessing similar attitudes and behaviour (Gullotta, Adams & Montemayor, 1995: 68). The process of selection thus predates the friendship, and selection rather than influence produces the association, then the association would merely serve to reinforce the common behaviour. Linked to this, in no uncertain terms, is a strong parent/youth attachment (NIDA, 2001: 2). Brook, Gordon, Whiteman and Cohen (in Gullotta, Adams & Montemayor, 1995: 45) explain this by stating that "children who are attached to their parents were less likely to associate with drug using peers and avoid social and physical environments associated with substance abuse." (Compare Botvin, Schinke & Orlandi, 1995: 263.) Hence, strong parent/youth attachment and adoption of conventional norms about substance use will influence the youth's selection of prosocial peers and inspire prosocial norms leading to more comparability between friends and parents expectations (World Drug Report, 1997: 51). Likewise, strong bonds with prosocial institutions such as the school and religious organizations are also

strongly associated with adolescent resiliency (NIDA, 2001: 2). A resilient adolescent will thus be interested in the goals of conventional society as embodied by conventional institutions like the school and church. Herewith, involvement in drug-free activities and a strong sense of purpose (e.g. faith, or a special talent, or a strong interest) can strengthen adolescent resiliency and protect against peer influences related to risk. (Compare Gullotta, Adams & Montemayor, 1995: 24; Louw & Amorim, 1999: 44.)

This review of peer influences related to adolescent resilience, highlighted the following factors as offering support and protection to enhance the youth's resiliency:

(a) Association with the dominant, non-drug-taking peer group;

(b) Strong parent-youth attachment,

(c) Adoption of conventional norms, and

(d) Attachment with prosocial institutions (e.g. the school and/or religious organizations).

Finally, the identified interpersonal factors associated with adolescent risk and resiliency to substance use/abuse has been summarized in Table 8 for greater clarity.

Table 8: Interpersonal factors related to risk and resiliency for adolescent substance use/abuse

	Interpersonal risk factors	Interpersonal resiliency factors
Family	Parental and sibling substance use/abuse	Positive parental modelling
	Permissive parental beliefs and attitudes about substances	Realistic parental expectations that include non-drug-use values
	Poor socialization practices	Parental involvement in and support of an adolescent's developing talents, competencies and life choices
	Poor parent management practices	Good parenting skills and supervision
	Little warmth, acceptance and understanding within the family	An ongoing warm, positive relationship with a caring parent or adult
	Living with chronic family conflict, marital discord and domestic violence	A positive family environment and bonding
	Family chaos and stress	Family responsibilities or chores
	Family social isolation and lack of community support resources	Maintaining family traditions and having extended family networks
	Poor parental mental health	Firm routines and rituals
	Living with a serious or chronic illness	
	Experiencing physical or sexual abuse	
Peers	Substance use of peers, age mates or friends	Association with the dominant, non-drug-taking

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	Interpersonal risk factors	Interpersonal resiliency factors
		peer group
	High levels of sociability and involvement with peers	Strong parent-youth attachment
	Participation in peer-centre social settings	Adoption of conventional norms
	Peer pressure	Peer pressure
	Perception of peer use and peer support for use	Attachment with prosocial institutions

5.3 Social-environmental and cultural factors

Individuals and groups exist within a social-context or environment. Circumstances that can be understood as "situations, social conditions or environments that are relevant to the individual's behaviour and beliefs, i.e. what people perceive, imagine, think, believe, know about life, society and other people" (Rocha-Silva, 1998: 3). With their culture referring to group shared norms, values and customs (Botvin, Schinke & Orlandi, 1995: 233). The social-environment is thus characterized by the values and structure of society, which provide the legal and normative expectations for behaviour (Hawkins, Catalano & Miller, 1992: 65). Leading to the assumption that the individual and social-context are dynamically interrelated, with influences and changes moving in both directions. Although an individual thus has a choice with respect to behaviour (e.g. drug use) and exercise this choice, choice is constrained by a wider social framework. Implying that shifts in cultural norms, or in the legal definitions of certain behaviour, and in economic factors will show

changes in drug-using behaviour and in the prevalence of drug abuse (Rocha-Silva, 1998: 3).

Among the most prominent social-environmental and cultural factors associated with risk to adolescent substance use, are:

- Laws and social norms favourable towards substance use,
- Availability of substances,
- Extreme economic deprivation, and
- Neighbourhood disorganization. (Compare Botvin, Schinke & Orlandi, 1995: 106; Gullotta, Adams & Montemayor, 1995: 56; Rocha-Silva, 1998: 3; World Drug Report, 1997: 54.)

As with the named risk factors, there may be forces within the social-environmental and cultural factors that are protective of substance use/abuse and these can include: (a) normative validation and enforcement of laws concerning substance use; (b) stimulating of socio-economic growth/development; and (c) building of the nation/ strengthening the social fabric (Rocha-Silva, 1999: 15,16). From this perspective, effective combating of youth substance abuse have to be part and parcel of a comprehensive initiative in which agencies in criminal justice, education, health, industry, labour and welfare, work in close collaboration with one another (Rocha-Silva, Mokoko & Malaka, 1998: 1).

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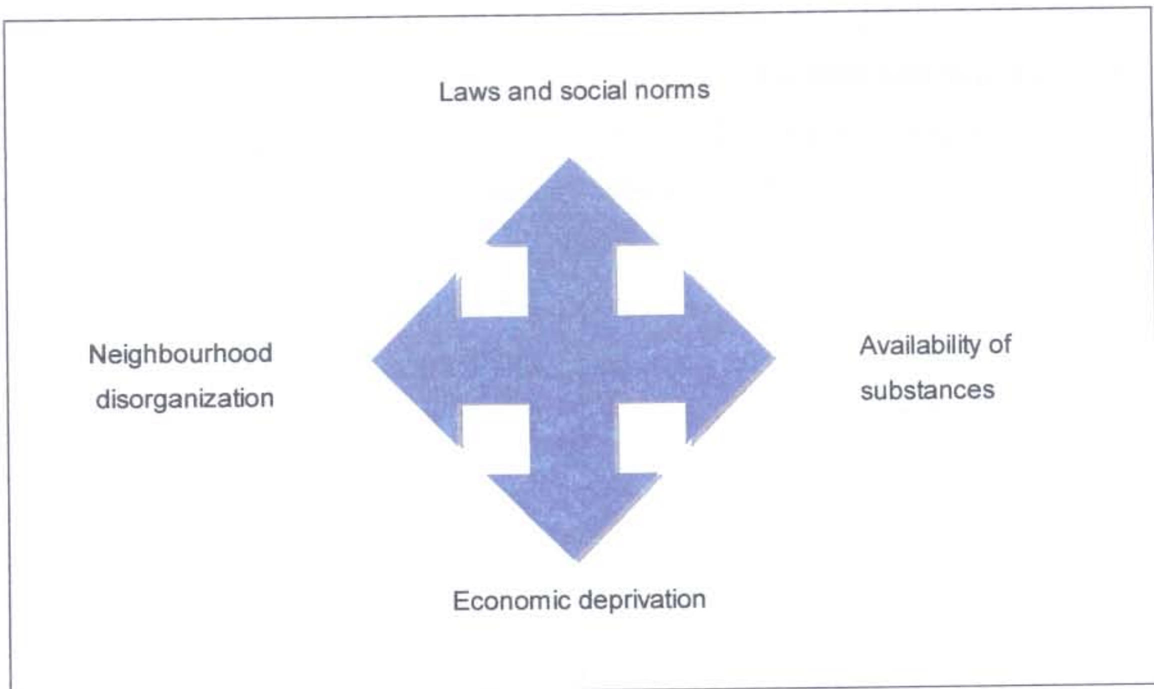
Figure 7 illustrates the four most prominent social environmental and cultural factors associated with adolescent substance use/abuse.

Figure 7: Social-environmental and cultural factors associated with substance use/abuse



5.3.1 Laws and social norms related to substance use

All societies function through systems of formal and informal controls. According to the World Drug Report (1997: 155) informal controls arise from consensus, shared norms, values and moral standards, concerns for individual and collective welfare and a common interest in peaceful cohabitation. Logically, informal control will thus use social pressure as a control mechanism to discourage deviant behaviour e.g. youth

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substance use/abuse (Boyd, Howard & Zucker, 1995: 204). Yet, according to Rocha-Silva's (1998: 16) research, South African youth find themselves in a social environment conducive to drug use, i.e. an environment in which there is a fair degree of social support for, exposure to and limited discrimination against drug use, especially if of a licit nature. In fact, suggesting that current informal social control poses a definite risk to South African youth. Against this, formal controls are exercised in the form of laws, which in a democracy, also arise from consensus, and are designed to reconcile the goals of individual freedom with the interests of collective welfare (Hawkins, Catalano & Miller, 1992: 65). Adolescent substance use/abuse can thus be addressed and limited by the following:

(a) Prohibitions that are exercised through the criminal law; relying on persuasion and coercion and are intended to motivate compliance by raising the likelihood that those who fail to observe the law will be punished;
(b) Drug regulation, exercised through civil law, that places limits on potency and form, on commercial behaviour and on times and places of sale;
(c) Drug laws that lay down the rules for conduct; and
(d) Drug policy that lays out a programme for public action, which supports and facilitates implementation of the law (World Drug Report, 1997: 155).

However, the contrary is also true, as formal control that express greater tolerance for the use of substances are associated with a greater prevalence of substance use (Hawkins, Catalano & Miller, 1992: 65). Again stressing the necessity of strengthening (in) formal social control structures in the communities (Rocha-Silva, 1999: 15).

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Recent research on the effects of laws on alcohol consumption has focused on three interventions by drug regulation: (a) taxation, (b) laws stating to whom alcohol may be sold, and (c) laws regarding how alcohol is to be sold. (Compare Hawkins, Catalano & Miller, 1992: 65; Daley & Raskin, 1991: 3.) Hence, Levy and Velleman (1992: 13) found that alcohol consumption is affected by price, specifically the amount of tax placed on alcohol at purchase. In fact, studies examining the relationship of minimum drinking age and adolescent drinking and driving have generally shown that lowering the drinking age increases adolescent drinking and driving and traffic fatalities and raising it decreases adolescent driving, intoxicated citations and deaths (Gullotta, Adams & Montemayor, 1995: 61). Accordingly, studies of restriction on how alcohol is sold have shown that allowing patrons to purchase distilled spirits by the drink (i.e. one tot) increased the consumption of distilled spirits and the frequency of alcohol-related car accidents. (Compare Hawkins, Catalano & Miller, 1992: 65; Velleman, 1992: 13.) Legal restrictions on the purchase of alcohol and norms unfavourable toward alcohol use clearly are associated with a lower prevalence of alcohol abuse. Underscoring the importance of prioritising preventive laws, policy and legal action related to the youth and substance use.

5.3.2 Availability of substances

A precondition for adolescent substance use, abuse and dependence is substance availability. Implying that substances must be obtainable, accessible and physically available within the community where adolescents live in order to be used/abused. (Compare Gullotta, Adams & Montemayor, 1995: 60; Schaffer, 1994: 3.) Accordingly, the more

available substances are, the easier it is for an adolescent to become a user (Gullotta, Adams & Montemayor, 1995: 60). Availability is thus a *sine qua non* for any form of substance use (World Drug Report, 1997: 54). In addition, however, availability is affected by social norms (e.g. factors within the community conducive to substance use, including level of parental or guardian supervision, lack of consequences for alcohol and drug offences, lack of alternative activities, and portrayals of alcohol and other drug use by friends and the media as a glamorous and healthy activity), prices (economic availability), and personal values i.e. subjective availability. (Compare Roper & Bartlett, 1994: 12; Schaffer, 1994: 3.) The legal status and cost of substances in relation to disposable income combined with physical- and subjective availability are thus important influences on adolescent substance use/abuse.

However, Rocha-Silva (1998: 3) notes that level of availability and demand for (particular) substances in a community tends to positively correlate with the general level of substance use in that community. Consequently availability may vary and is usually associated with use. Accordingly, research has shown that when alcohol is more available, the prevalence of drinking, the amount of alcohol consumed, and the heavy use of alcohol all increase (NIDA, 2001: 2). Easy obtainable and accessible substances are thus strong determinants of adolescent substance use and abuse whilst difficult attainable and more inaccessible substances will probably have the reverse effect (Hawkins, Catalano & Miller, 1992: 81). Availability reduction is thus an important protective factor to consider and can be accomplished by:

(a) General community participation in the formulation and implementation of restrictions on the production/distribution of alcohol and other drugs;

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(b) Legal and other control measures with regard to access and exposure to drug use; and

(c) Sustainable measures (within and across countries) for comprehensively monitoring the nature, the extent, development and consequences of drug use, building on existing information-gathering systems (Rocha-Silva, 1999: 16).

Leading to the conclusion that the risk of availability can be countered by means of community-based preventive strategies in which optimal use of existing infrastructure is made and preventive agents collaborate closely at all levels within and across countries.

5.3.3 Extreme economic deprivation

According to Perkinson (1997: 165) socio-economic disadvantage is associated with an increased risk of childhood conduct problems, delinquency and substance use/abuse. An assumption that links substance use with economic deprivation, i.e. a combination of various debilitating socio-economic factors such as unemployment, lack of basic necessities (e.g. water, sanitation, health care, safety), high mortality and morbidity, and population density. (Compare Hawkins, Catalano & Miller, 1992: 81; Rocha-Silva, 1998: 18.) Indeed, in line with what has been reported in other African and overseas countries (United Nations International Drug Control Programme, 1998). Rocha-Silva (1998: 18) suggests that youth exposed to extreme economic deprivation are vulnerable to substance use and particularly to comparatively "heavy" use. For example, regular drinking (at least one a week) and a high volume of alcohol intake seem to have emerged among youthful drinkers,

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specifically those residing in peri-metropolitan shack areas and rural settlements in the former "homelands" (areas with the lowest household income in South Africa and with limited access to basic necessities such as clean water, sanitation, transport, health care and electrification (Central Statistics, 1997).

Within the context of the substance use-economic deprivation link, other issues also come to the fore. Indeed, cognisance needs to be taken of indications that although traditional normative structures may still reserve substance use and specifically regular use and high volume intake for (mainly) male adulthood, there is reason to believe that female youth within deprived households in South Africa, especially in the older age groups, may be at an increasing risk of substance use (Rocha-Silva, 1998: 18). This is also highlighted by overseas research (Farmer, Connors & Simmons, 1996: 99): "Extreme poverty destabilizes lives, crushes self-esteem and creates an apartheid between those who have economic power and those who do not... (in these circumstances) drug use and drug trafficking may become the most viable way of surviving...(especially in the case of women because women generally) fare far worse than men, not because of their gender, but because of sexism; unequal power relations between the sexes. More often that not, assertion of power (no matter what the context) is not an even option for poor women."

Against this background, social workers and researchers will have to adopt as broad and integrative a focus as possible, if they want to contribute meaningfully to understanding and promoting the well being of youth. Cognisance will have to be taken of risk and support for individuals as well as environmental supports/risks (e.g. extreme economic deprivation), stimulating socio-economic growth/development as well as

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empowering/strengthening the youth (e.g. through educational development). (Compare Rocha-Silva, 1998: 19; Rocha-Silva, 1999: 16.)

5.3.4 Social structure: Neighbourhood disorganization

Neighbourhoods with high population density, high residential mobility, physical deterioration, low levels of attachment to the neighbourhood and high rates of adult crime also have high rates of juvenile crime and illegal drug trafficking (Bukstein, 1995: 66). Simcha-Fagan and Schwartz (in Hawkins, Catalano & Miller 1992: 81) assessed the contextual effect of neighbourhoods on delinquency and found that community economic level and community disorder-criminal subculture were significantly related to officially recorded delinquency. (Compare Rocha-Silva, 1998: 18.) Added to this, research suggests that rapid population changes within neighbourhoods, also increased victimization rates, even after accounting for race and age differences (Hawkins, Catalano & Miller, 1992: 81). Neighbourhood disorganization has thus been hypothesized to contribute to deterioration in families and their ability to transmit prosocial values to children (Rocha-Silva, 1998: 18). However, few studies of neighbourhood disorganization have explicitly examined its relationship with drug abuse, deterioration in parental socialization could also be expected to produce high rates of youth substance involvement. (Compare Louw & Amorim, 1999: 44; Roper & Bartlett, 1994: 12.) Suggesting that youth in poverty-stricken disorganized neighbourhoods can be vulnerable to substance use/abuse. Once again underlining the importance of socio-economic growth/development as well as building the nation/strengthening the social fabric as protective measures against youth substance use/abuse.

Finally, in recognition of the named adolescent risk- and resilience factors as critical issues imperative to understanding youth substance abuse, the consequences or substance related harm needs to be determined.

6. Substance related harm/consequences of adolescent substance abuse

Concern about substance-related harm/general consequences derives in part from its pervasiveness and its tendency to amplify (Rocha-Silva, 1999: 2). If left unchecked, substance-related harm to a user's physical and mental life, apart from progressively intensifying, tends to impact on, interact with and spread to other spheres of life and other persons, close to as well as distanced from the user in space and time (World Drug Report, 1997: 71). In fact the type(s) of harmful consequences associated with substances vary over time and place and across type/dimension of substance use, which variation is supported by the multifacetness and dynamics of the context within which usage arises and prevails (Rocha-Silva, 1999: 3). Implying a complexity of damaging consequences for impressionable youth in the midst of their development to adulthood. However, a significant minority of young people do experiment with illicit drugs during a phase of rebellion or as part of a process of seeking identity and independence, and give up spontaneously when a particular stage of maturity has been reached without any permanently damaging consequences. (Compare Bukstein, 1995: 69; World Drug Report, 1997: 83.) But because the young are less able to evaluate the dangers and judge the likely consequences of their behaviour, their lack of caution may make them more vulnerable to dependence. Most

studies of drug dependence suggest that there is a correlation between problematic or dependent substance use and age of initiation, the earlier illicit drug use of any kind begins, the more likely it is that the individual will take other types of drugs and will consume them more frequently, with correspondingly more severe long-term consequences for health, for educational, and emotional maturity and for the likelihood of creating a stable adult life (World Drug Report, 1997: 83). Accordingly, Bukstein (1995: 69) suggests that adolescent substance use is associated with early involvement in family creation, including marriage, and having children, although use also predicted divorce and increased unhappiness in these relationships. Herewith use reduced college involvement and the use of hard drugs lowered the chances of graduating from high school. Bukstein (1995: 68) also notices that adolescent substance users appear to enter the work force earlier than nonusers and, thus, earn more money into early adulthood. Eventually, however, nonusers surpass their using peers in income, suggesting that the earlier educational limitations imposed by substance use may limit later income potential. Similarly, adolescent substance use is predictive of lower job stability (Bukstein, 1995: 69).

Yet, general substance use by adolescents appeared to increase involvement in drug crimes, whilst users showed lower levels of violent crime except for substances such as cocaine (World Drug Report, 1997: 75). Added to this, substance use had no general influence on mood or affective states, although the use of hard drugs, especially stimulants, hypnotics, inhalants, and narcotics predicted increased suicidal ideation and other self-destructive thoughts as well as reduced social support and increased loneliness in young adulthood. (Compare Bukstein, 1995: 69; World Drug Report, 1997: 71-77.) The use of hard drugs also appears to

lead to unusual beliefs, bizarre thoughts, and disorganized thinking (Bukstein, 1995: 69).

Added to this, illicit substance use in young people is associated with other risk-taking behaviour such as unsafe sex and high levels of delinquent behaviour. Later, the wish to return to education and to a non-deviant lifestyle may be barred by the health consequences of dependence, by a criminal record or by the economic or educational impossibility of recouping lost ground. Even more than with adults therefore, it is reasonable to assume that the effects of powerful drugs upon young, impressionable individuals who have not developed their own coping mechanisms or problem-solving resources, will be proportionately greater, and may delay or even prevent the evolution of such skills (World Drug Report, 1997: 83).

The potential enormity of substance-related harmful consequences is thus illustrated in a wide range of sectors within which it manifests. The researcher suffice with Rocha-Silva's (1999: 2-3) summary of the following substance related harm/consequences:

- *Physical and psychological debility*, that is premature death, injury and illness, including liver cirrhosis, cancer, tuberculosis, hepatitis, HIV infection/AIDS and other sexually transmitted diseases, foetal alcohol syndrome, psychosis, child/spouse abuse, rape, suicide, disability and drowning. (See Chapter 2, page 57 for a detailed discussion of the consequences of specific substances of abuse.)

- *Social isolation*, exclusion, disintegration, conflict and erosion of values/norms, e.g. school, work and church/mosque/synagogue/

temple dropout; "community" breakdown/disintegration; homelessness; parent-child conflict; family breakdown and disintegration; crime and corruption in government, business and other societal institutions.

- *Environmental degradation*, e.g. detritus from cigarettes, liquor cans/bottles, broken glass and syringes, forest depletion through fires and drug cultivation; the dumping of illicit drug-processing waste into sewerage systems/rivers or underground; the use of environmentally hazardous chemicals in the cultivation and eradication of (il)licit crops.

- *Economic debility*, e.g. lowered productivity in the workplace; an increase in unemployment; reduced tax revenues through inter alia the diversion of human resources from licit to illicit economic activities; increased economic, physical and social strain on institutions responsible for environmental and health care as well as on the security system, social welfare, criminal justice and business. (Compare World Drug Report, 1997: 70-103.)

Harmful consequences that necessarily call for comprehensive and integrated measure against it.

7. Summary

In this chapter substance abuse by adolescents was considered within a developmental context given the physical, social and cognitive tasks of adolescence and the drive towards maturation and adulthood.

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At the same time various areas of substance related risk and resiliency were considered with respect to the developing adolescent and some harmful consequences outlined.

In brief, this chapter underscores the importance of adolescence as developmental phase within the developmental context of risk- and resiliency factors. Indeed, suggesting important aspects to consider in the prevention of substance abuse in adolescence.

Consequently Chapter 4 will focus on the prevention of substance abuse among early adolescents and entail (a) a clarification of the term prevention, (b) different strategies/approaches and models of adolescent substance abuse prevention, (c) school based substance abuse prevention principles and (d) promising prevention programmes for the youth.