INTRODUCTION

Mankind has lived with smoking and drinking since ages. Alcohol has been in use in human history for more than eight thousand years in various cultures and civilizations whereas the tobacco is believed to be introduced by the European travellers returning from America about five hundred years ago. It is believed that the Europeans and Asians did not know this drug earlier. The views about smoking and drinking could be based on personal, cultural, economic, political and religious factors. Different societies and countries have different customs, laws and practices in relation to smoking, drinking and other drugs, individually and collectively. However, there is social, medical and psychological unanimity in the attempts to protect the adolescents and children from drinking and smoking. The medical as well psychological research has produced convincing evidence of the ill effects of smoking and drinking in terms of health, longevity, acceptable behaviour and accidents. Contradictions and confusions apart, there is great urgency that the adolescents (whether victims or law breakers) need to be understood, studied and consequently empowered with the information about the ill effects of drug abuse.

The continuing concern in wellness, optimizing human potential, holistic health, fitness and stress management indicates the increasing concern about health and prevention of health problems. Health is an optimal state of Psycho-Social-Physical-Spiritual-Well-Being. Alcohol and tobacco (including other drugs) lead to more than 50% of deaths in the form of suicides, homicides, accidents, cancer, heart attacks, chronic obstructive pulmonary diseases (COPD) and other life threatening diseases.

The phenomenal advances made in behavioural and neurosciences in recent years have virtually revolutionized the fundamental views about drug abuse and
addiction, and have led to the effective strategies for prevention and treatment of drug abuse. Likewise, the remarkable gains made in the science of drug abuse and addiction have helped to propel the fields of behavioural and neuro-sciences dramatically forward (Glantz et al., 1999). Some areas which need to be further investigated include study of drug abuse in relation to cognitive processes, social and personality factors, behaviour change models, developmental processes, health related behavioural processes and biological bases of behaviour.

Probably, the issues related to smoking and drinking suffer due to contradictory policies and practices, confusing images and above all modeling and mentoring by the older generation.

It may be pertinent to note that Panjab University, and the city of Chandigarh have declared, a ban on smoking, but its sale is not stopped! It is certainly shocking to observe the growth of liquor vends, ahatas and other legally permitted venues. Their number is more than the total number of schools and colleges put together in the Union Territory. Some of these are found to be too close to educational institutions, religious premises, high ways and residential areas.

But the crusade to understand the drinking and smoking behaviour among adolescents must go on to build the protective factors and reduce the impact of risk factors.

‘World No Tobacco Day’ was observed on June 1, 2010. The media highlighted various statistics and viewpoints related to the global, national and local situations. One may not agree with the accuracy of the reported research findings, but one has to fully comprehend the issues with regard to lowering of age in smoking (drinking) initiation, emerging trend of smoking among women (liberation or revolt?); the alarming rate of premature morbidity and mortality (disappearing urban, rural differences); combination of smoking and drinking pattern (very few communities are exceptions); trying of new tobacco products
and varieties; interlinking with other drugs. The comments by the experts from Post Graduate Institute of Medical Education and Research (PGIMER), Government Medical College and Hospital Sector 32 (GMCH) Chandigarh like Basu, Agarwal, Niraula, Kapoor, Rana, Jaiswal and the implications of the World Health Organization (WHO) survey as well as national surveys of Union Ministry of Health and Global Adult Tobacco Survey stressed upon the reviewing of laws and policies; strict observation of laws, more public awareness and commitment to the great war between Tobacco syndicate versus Health. Ofcourse, there was no mention of the role of the manipulation by the tobacco and liquor lobbies in industry, politics, police and media.

Reviewing the research of WHO and National Statistics, Mohan (2010), opined that these kinds of deaths, diseases and depletion of quality of life are preventable.

Present investigation is based on the belief that with the reduction of risk factors and reinforcement of protective factors, the adolescents could be helped in reducing smoking and drinking. This study is primarily based on the formulations of Glantz and Hartel (1999), and the insights of the studies by Mohan and Associates (2004-2010). The terms smoking and drinking, have been interchangeably included in the broader term drug abuse in the present study.

Smoking and drinking are the gateway to harder drug abuse, related health/life hazards and crime (Mohan, 2010). Rai (2008) reported that the problem of drug addiction has become a threat all over the world including India. The non-medicinal use of drug is a menace for all the societies and has attracted the attention of people from the different sections of the society. Adolescent drug use has been the focus of numerous studies in recent years and it has been reported that the use of drugs during adolescence may "interfere with normal cognitive, emotional, and social development of adolescents".
In a report on Global Burden of Disease, WHO estimated that 0.4% of mortality and 0.8% of DALYs (Disability Adjusted Life Years) were due to the use of illicit drugs in the year 2000 (WHO, 2007). Drug abuse comprises a public health problem that affects many people and has wide range of social consequences. Self administration of a drug for non-medicinal reasons in high quantities and frequencies, which may impair an individual’s ability to function effectively, and which may result in social, physical or emotional harm, is known as drug abuse. Drug abuse leads to the psychological and physiological dependence (Niraula et al., 2009).

Growing in the form of an epidemic, drug addiction has been causing not only psychosocial problems, but also hindering economic development across the globe. Many studies have revealed that countries on all the continents have this problem, particularly among adolescents and adults, causing a significant increase in drug related morbidity and mortality. This is because of drug use itself, as well as the various risk taking behaviours of drug abusers leading to other fatal infections especially sexual transmission of HIV/AIDS and hepatitis ‘B’ (Niraula et al., 2009).

According to Jindal et al. (2004), tobacco is the most important preventable cause of disease burden and deaths all over the world (World Health Report, 2002). In spite of the known association of major diseases with tobacco, its continued use is very bothersome for both the health professionals and the policy-planners. There is an urgent need to face this challenge and curb its use. This is especially important among the youth as they are more likely to start the habit in their formative years, but are also more likely to quit the habit in time before any harm occurs. There is enough evidence to show that a majority of smokers start the tobacco use before 18 years of age.

India is a country of diverse cultures and multiple religions, therefore the prevalence of tobacco use, is also variable. Nationwide figures from different
States are difficult to obtain, although the effort is on under the Global Youth Tobacco Survey (GYTS) Project. The prevalence rates among students from the North Eastern Indian States are around 10 percent in Manipur and Meghalaya (Sinha et al., 2003). In the North East, the highest rates have been seen in Mizoram (18.5%) and the lowest in Tripura (2.5%).

Smoking continues to remain a major cause of morbidity and mortality from respiratory disorders, especially COPD as well as several other diseases including cancers. There is a strong need to augment efforts to control the tobacco epidemic. Significantly, a large number of students (>88%) had expressed a desire to quit, whereas over 90 percent had tried in the previous years. It is, therefore, important to target this population and provide education and help. Both tobacco control and tobacco cessation activities continue to remain important for the public and personal health issues, opined Jindal et al. (2004).

**ADOLESCENCE**

Adolescence has been perceived as a period of uncertainty and great challenges. According to Purohit and Mehta (2002), adolescence is a period of “growing up”. It is the period of transition between childhood and adulthood. It is the period of life between the boundaries of puberty and maturity, the period during which maturity is being attained. This is the stage when the road is paved for adulthood and the adolescent identity is found to be developed and crystallized. Adolescents, therefore, are persons with specific qualities and characteristics who have a participatory and responsible role to play, task to perform, skills to develop at that particular time of life. The degree or extent to which an adolescent experiences such responsible participation will determine and maximize his human development.

Kaplan and Sodock (2005), characterized adolescence by profound biological, psychological, and social developmental changes. The biological onset of adolescence is signaled by rapid acceleration of skeletal growth and the
beginning of physical sexual development. The psychological onset is characterized by acceleration of cognitive development and consolidation of personality formation. From a social perspective, adolescence is a period of intensified preparation for the coming role of young adulthood.

Pahl et al. (2010), reported that adolescence is the developmental period during which their faculties mature. Environmental risks, act upon genetic predispositions during this sensitive period to further increase the risk of adolescents’ engaging in multiple problem behaviours. Thus, an interaction of genetic and environmental factors most likely explained the clustering of adolescent problem behaviours, including the addiction to nicotine, the use of other substances, the tendency to engage in sexual risk behaviours, and the types of risk-taking behaviours which were embodied in both violent and deviant acts.

Accordingly, it has been recognized that there are multitude of social influences, which may be important in explaining the association between nicotine dependence and other adolescent problem behaviours; among them are dimensions of the parent-adolescent relationship, involvement in romantic relationships, and contextual factors, such as the school environment.

Adolescence is commonly divided into three periods: early (ages 11 to 14), middle (ages 14 to 17), and late (ages 17 to 20). These divisions are arbitrary: growth and development occur along a continuum that varies from person to person (Rew, 2005).

HEALTH BEHAVIOURS IN ADOLESCENCE: A PERIOD OF HEALTH RISK

The period of adolescence has both the greater risks and possibilities in terms of health behaviour. The vulnerability and the spurt in growth are witnessed simultaneously.
Williams et al. (2002) used a bio-psychosocial model of adolescent development as an organizing framework for a review of primary, secondary, and tertiary preventive research with adolescent populations. During adolescence, many critical health behaviours emerge, affecting future disease outcomes in adulthood. In addition, most of the predominant causes of morbidity and mortality in adolescence are unique to this period of development. These indicate that health focussed interventions must be specifically tailored to adolescents.

The period of adolescence has particular importance for health affecting throughout the rest of the life span. It has been seen that, most adult smokers initiate their habit during adolescence (Mohan et al., 2000). Involvement in sports among adolescents was a strong predictor of participation in regular physical activity as an adult. It is a period during which patterns of behaviour are initially tried out and eventually become established (Rew, 2005).

According to World Health Organization (2007), 50% or more of all adolescents who engage in delinquent behaviour, do so by the age of 12. For alcohol use, half of all adolescent begin using the same by the age 14; for marijuana, by 16, for sexual involvement and hard drug use, by 17; and for driving under the influence of alcohol, by 18 years of age. It must be kept in mind, however, that most young people never become regular smokers, heavy drinkers or drug addicts, and a large proportion of young adults are physically active. During adolescence, the basis for a life-long health-enhancing life style can also be established and hence there is need to focus on adolescent health and determinants of risk behaviours during this period.

MODELS OF ADOLESCENT HEALTH RISK BEHAVIOUR

A number of theoretical antecedents of teenage health risk taking behaviours have been postulated by Rew (2005). Theories of risk taking behaviour are as follows:

a) The biological theory
b) The social theory
c) The biopsychological theory
d) The gateway theory
e) Problem behaviour theory

Biological Theories: These suggest that risk taking behaviour in teenagers results from hormonal effects, asynchronous pubertal timing or genetic predispositions (Milkman and Sunderwirth, 1993).

Psychological or Cognitive Theories: These imply deficit in self-esteem, cognitive immaturity, ineffective disequilibrium or high sensation seeking. Cognitivity based theories of risk-taking behaviour look at the ways in which individuals perceive risk and make decisions about risk-taking. Adolescent risk behaviours occur because adolescents are “optimistically biased” in their risk perceptions or that they feel that they are “invulnerable”. The adolescent egocentrism posits that the adolescent has an exaggerated sense of uniqueness. It creates a “personal fable” in which he/she is special and not susceptible to harm. The concept of invulnerability has been used to explain adolescent risk-taking behaviour although there is little evidence to support this. People generally underestimate their likelihood of experiencing negative events. Adolescents do not appear to be more biased in that regard than adults.

Problem Behaviour Theory: Problem behaviour is defined as behaviour that departs from the social and legal norms of the larger society, is theoretically caused by three systems of psychosocial influences viz., the behaviour, the personality and the perceived environmental systems (Jessor et al., 1998). Problem behaviour theory also provides a psychosocial framework for exploring the interaction of risk and resiliency factors, in the development of prosocial or antisocial patterns of behaviour (Jessor, 1987).

A long history of multivariate research points to multiple causes, patterns and outcomes of substance abuse, delinquency and mental disorder within the teenage population. Using the Adolescent Self-Assessment Profile, Wanberg
(2000) identified six independent risk factors for continued adjustment problems into adulthood: family disruption; mental health problems; deviant and antisocial behaviour; negative peer influence; poor school adjustment, and history of alcohol or other drug abuse.

The relative influence of individual factors on teenage decision-making may reflect a general tendency towards unconventional behaviour. Jessor’s problem behaviour theory links “unconventionality” in personality (as well as perceived environment and behavioural system) with an increased likelihood of engaging in problem behaviours such as precocious sexual activity, substance use, and delinquency (Jessor and Jessor, 1977). Unconventionally the personality system is represented by a greater value placed on independence than achievement, lower expectations for academic achievement, lesser religiosity, greater tolerance for deviance. These factors have been correlated with the problems of drinking, smoking, marijuana use, and precocious sexual debut.

Self-esteem, depression, and locus of control have often been cited as theoretical predictors of risk-taking behaviour. Lower self-esteem has been associated with sexual debut in adolescent females. Depressive mood and stress are related to initiation and intensity of adolescent tobacco use. Depression and external locus of control have been implicated in substance use (Diclemente et al., 1996). The impulsivity among sensation-seekers has been linked to an increased likelihood or risk-taking behaviours, primarily in male adolescents.

Bio-psychosocial Model of Risk-Taking: The bio-psychosocial model proposes that the timing of biological maturation influences adolescents’ cognitive scope, self-perceptions, perceptions of the social environment and personal values. These factors in turn are hypothetical to predict adolescent risk-taking behaviour through the mediating effects of risk perception and peer groups characteristics (Diclemente et al., 1996).
Williams et al. (2002) put forth another bio-psychosocial perspective of adolescent health and risk behaviour. According to them the primary developmental changes, perhaps the most important with respect to risk behaviour perceives one-self to be physically older than to the same age peers. Perception of being older than one’s age mates has been related to cigarette, alcohol, and marijuana use, as well as earlier initiation of sexual activity (Resnick et al., 1997). Indeed, self report of appearing older than one’s peers has been broadly implicated in maladjustment among adolescents, which in turn may be related to the initiation of negative health behaviours.

**Gateway Theory** – It has been observed that only 1% of students began their substance use with marijuana or another illicit drug. It is as though they first had to go through the gateway of using alcohol and in many cases, cigarettes. Cigarette smokers were about twice as likely as the non-smokers to move on to smoking marijuana. In the senior class those who were daily smokers of a pack or more of cigarettes were about 15 times as likely to have smoked marijuana. From the National Household Survey on Drug Abuse among youth aged 12 to 17, just over one-third had ever tried cigarettes, but those who had done so, were more than 10 times as likely to also have tried marijuana. Early alcohol use and cigarette smoking are common indicators of the general deviance-prone pattern of behaviour that also includes an increased likelihood of smoking marijuana or trying cocaine (Ray and Ksir, 2002).

**Protective factors lower the likelihood for manifestation of substance abuse. These may be temperament, parental and school bonding, social support system and self-efficacy.** Now even spirituality has been added to this list (Jessor et al., 1998; Rew, 2005).

**Risk factors increase the likelihood of the manifestation of substance abuse (Jessor et al., 1998). These may be personal attributes (personality, moods), parental neglect, deviant peer group, stressors and daily hassles, neighbourhood**
with low social control etc. Risk factors have a cumulative effect and there may be a range of these specific to one type of substance abuse (Jessor et al., 1998).

ETIOLOGICAL MODELS FOR DRUG ABUSE

A number of theories of drug abuse etiology have received empirical support. These models are not mutually exclusive and may represent multiple pathways into pathological drug abuse both between and within individuals. Three etiological models described by Sher and Slutske (2003) are highlighted here: (a) positive affect regulation (b) negative affect regulation (c) deviance proneness.

Positive Affect Regulation: According to Sher et al. (2005) most drug users expect to have a positive experience that directly produces pleasurable effects. Drinking for positive reinforcement or “enhancement” (e.g., drinking “to get high” and “because it makes you feel good”) is strongly associated with positive expectancies for enhancement as well as personality traits related to reward seeking (i.e., sensation seeking) and appears to mediate expectancy and personality effects on drinking outcome. Presumably, these motivations for positive reinforcement from alcohol are based on alcohol's neuropharmacological effects on the brain centers involved in basic reward mechanisms. For example, alcohol, like other drugs of abuse has been shown to stimulate mesolimbic dopamine activity that is believed to be involved in basic reward mechanisms. In addition, alcohol has been shown to increase activity in brain opioid systems.

Negative Affect Regulation: One of the most enduring etiological perspectives on drug abuse especially alcoholism is that alcohol use disorders develop because alcohol relieves negative affect. In support of this model, there is a strong evidence that has sometimes been referred to as "self-medication" or the tension-reduction hypothesis. Many individuals hold strong expectations that drugs especially alcohol is anxiety or stress reducing. In addition, many people report that they drink and use drug to cope with negative affect. These coping motivations are strongly related to drug and alcohol consumption and problems
and appear to mediate the effects of negative affect and tension-reduction expectancies on drinking outcomes (Sher et al., 2005).

According to Gonzalez et al. (2009), etiological theories of alcohol use and problems that relate to negative affect and depression leading to suicide behaviour have been generally ignored. Cooper and colleagues' motivational model of alcohol use emphasizes the role of negative affect in alcohol use (Cooper et al., 1995). Two affect regulation motives for drinking have been proposed in this model; one in which alcohol use is motivated by an attempt to increase positive emotions (i.e., enhancement motives) and another in which alcohol use is motivated by attempts to escape or regulate negative affect (i.e., drinking to cope). Drinking to cope with negative affect is thought to be a learned behaviour by individuals who lack more adaptive means of coping with negative affective states, including depression. The use of alcohol to regulate negative affect is presumed to lead to further deterioration of adaptive coping skills and to dependence on alcohol (Cooper et al., 1995), making individuals who experience greater negative affect at particular risk in the development of alcohol problems (Cooper et al., 2000).

Empirical support for the negative affect regulation aspect of motivational model of alcohol use is provided by studies of drinking among college students. In college, students' drinking to cope is more likely to be associated with alcohol-related problems than with the others. Further evidence is provided by general population and college student studies in which depression is associated with drinking to cope. This is associated with alcohol problems. The same results were reported by Magid et al. (2009).

**Deviance Proneness:** According to Sher et al. (2005), the deviance proneness may be considered as the final model. This is more applicable in case of alcohol abuse. The key notion here is that excessive alcohol involvement comes about not because of attempts to regulate affective states or because of any
particular vulnerability to alcohol as a drug, but because alcohol use is part of a more general, deviant pattern that has its roots in childhood and is attributable to deficient socialization. In a probing review of the early development of alcohol problems, Zucker et al. (1995) noted consistency across extant longitudinal studies of alcoholism that begin in childhood. These studies highlighted a number of common alcohol use disorders (AUD) correlates including a history of childhood antisocial behaviour problems, childhood achievement problems, poorer childhood interpersonal relations, heightened activity in childhood, less parent-child contact, and inadequate parenting. Several explanatory models have been put forth to explain the relation between these correlates like early alcohol use and other problem behaviours. Perhaps the best known of these is problem behaviour theory (Jessar and Jessar, 1977) according to which a range of personality, family, peer, and other environmental variables causally relate to involvement in a range of deviant behaviours including early alcohol use, illicit drug use, precocious sexual activity, and school failure. From this perspective, alcohol involvement is just one indicator of a broader factor of general deviance. This model emphasizes deficient socialization as evidenced by decreased attachments to family, school, religious institutions, and involvement with deviant peers. Personality and temperamental variables are often viewed as distinct influences on these social developmental processes. Consequently, genetic influences on personality are probably very relevant to these ostensibly social processes. Furthermore, the same personality traits that put in place these problematic behaviour trajectories (e.g., impulsivity) can also have proximal effects on alcohol use in the form of risky decisions about alcohol use (Sher et al., 1999).

According to Simons – Morton et al. (1999) adolescent problem behaviours are associated with a host of negative health and social-outcomes including school failure, arrest, addiction, sexually transmitted diseases pregnancy, injury and death. The prevalence of problem behaviours is relatively rare prior to middle
school, but increases dramatically during adolescence. For example, less than 10% of sixth graders, about 30% of eighth graders and 60% of 11th graders had used tobacco. While only 5% of sixth graders, but nearly 70% of eighth graders were involved in the use of alcohol. Further, delinquency increased 10-fold from age 10 to 14 and experience with sexual intercourse increased from almost zero among preadolescents to 61.6% of ninth graders. These increased prevalence occurred among both males and females in all socioeconomic groups. Problem behaviours tended to cluster, the presence of one increasing the likelihood of another. Also, problem behaviours revolved around common psychosocial mediators (Jessor and Jessor, 1977). Poor social skills, perceptions of low social competence, academic underachievement, negative attitudes toward school and lack of parental guidance had been identified as modifiable risk factors for problem behaviours. Elevated and unrealistic expectations about the benefits, prevalence and social acceptance of problem behaviours also placed youth at risk for engaging in these behaviours. Conversely, a perceived social norm that is conservative, in the sense it is consistent with the actual, relatively low level of prevalence among adolescents, was found to be protective against problem behaviour. Peer affiliation could be a risk or protective factor because adolescents tended to behave in ways that were consistent with the behaviour of their friends (Jessor and Jessor, 1977). It was observed that adolescents whose parents are demanding, involved and supportive are at lower risk of engaging in problem behaviour than those whose parents are uninvolved and unsupportive.

PSYCHOSOCIAL RISK FACTORS IN DRINKING

Parental drinking behaviour and favourable attitudes about drinking/ drug use have been positively associated with adolescents’ initiating and continuing drinking. Early initiation of drinking was identified as an important risk factor for later alcohol-related problems. Children who were warned about alcohol by their
parents and those who reported being closer to their parents, were less likely to start drinking.

Lack of parental support, monitoring, and communication were significantly related to frequency of drinking, heavy drinking, and drunkenness among adolescents. Harsh, inconsistent discipline and hostility or rejection toward children was also found to significantly predict adolescent drinking and alcohol-related problems. Peer drinking and peer acceptance of drinking were associated with adolescent drinking. While both peer influences and parental influences are important, their relative impact on adolescent drinking is still not clear (Curry et al., 2009).

**Expectancies.** Positive alcohol and drug related expectancies were identified as risk factors for adolescent drinking. Positive expectancies about alcohol were found to increase with age and to predict the onset of drinking and problem drinking among adolescents (Rew, 2005).

**Traumatic Experiences.** Child abuse and other traumas were proposed as risk factors for subsequent alcohol and drug problems. Adolescents in treatment for alcohol abuse or dependence reported higher rates of physical abuse, sexual abuse, violent victimization, witnessing violence, and other traumas compared with controls. The adolescents under treatment were at least 6 times more likely than controls to have ever been abused physically and at least 18 times more likely to have ever been abused sexually. In most cases, the physical or sexual abuse preceded the alcohol use. Thirteen percent of the alcohol dependent adolescents had experienced posttraumatic stress disorders, compared with 10 percent of those who abused alcohol and 1 percent of control (Gonzalez et al., 2009).

**Advertising.** There has been limited research on the effects of alcohol advertising on adolescent alcohol-related beliefs and behaviours. While earlier studies measured the effects of exposure to advertising, more recent research has assessed the effects of alcohol advertising awareness on intentions to drink. In a
study of fifth and sixth grade students’ awareness, measured by the ability to identify products in commercials with the product name blocked out, awareness had a small, but statistically significant relationship with positive expectancies about alcohol and the intention to drink as adults. This suggested that alcohol advertising might be influencing adolescents to be more favourably predisposed to drinking. According to Mohan (2010), adolescents’ alcohol use leads to fatal accidents, risky sexual behaviours and psychiatric disorders including suicidal behaviours.

**BIOPSYCHOSOCIAL LEARNING MODEL OF NICOTINE DEPENDENCE**

According to Cohen *et al.* (2003), nicotine dependence is a complex biopsychosocial phenomenon that originates from learning theory. The most parsimonious explanation is that nicotine's effects on neurobiological substrates interact with behavioural, emotional, and cognitive domains to create dependence. Evidence also suggested that chronic use patterns might be producing secondary conditioning of the pharmacological effects on the brain and sensitization of some neurobiological systems. In general, tobacco use behaviours are maintained by nicotine's ability to enhance desirable effects (positive reinforcement) and to dispel undesirable effects (negative reinforcement). Over time, frequent and repeated use of tobacco products in specific situations, environments, and emotional states may automatically trigger their use (secondary conditioning and sensitization). For example, a person who typically smokes, while talking on the phone may light another cigarette when the phone rings without realizing that he or she already had a cigarette lit (Cohen *et al.*, 2006).

**GENERALIZED MODELS OF ADDICTION**

Over the past few years, attitudes towards addictions have changed. With the development of behaviourism, learning theory and a belief the behaviour is shaped by an interaction between both the environment and significant others and
the belief that excessive behaviour and addictions were like illnesses was challenged. Since the 1970s, behaviours such as smoking, drinking and drug taking had been increasingly described within the context of all other behaviours. In the same way as the theories of aggression shifted from a biological perspective (aggression as an instinct) to social perspective (aggression as a response to the environment/ upbringing), addictions have also been seen as learned behaviours. Within this perspective, the term addictive behaviour replaced the term addictions and such behaviours were regarded as a consequence of learning processes. This shift challenged the concepts of addictions, addict, illness and disease.

Therefore, over the past 300 years, there have been shifts in attitudes towards addictions and addictive behaviours that are reflected by the changing theoretical perspectives. Although the development of social learning theory highlighted some of the problems with the disease concept of addictions, both these perspectives still remain.

Social Learning Perspective

The social learning perspective differs from the disease model of addiction in several ways:

- Addictive behaviours are seen as acquired habits, which are learned according to the rules of social learning theory.
- Addictive behaviours can be unlearned; they are not irreversible.
- Addictive behaviours lie along a continuum; they are not discrete entities.
- Addictive behaviours are not different from other behaviours.
- Treatment approaches involve either total abstinence or relearning 'normal' behaviour patterns.
Observational learning/modelling

Behaviours are also learned by observing significant others carrying them out. For example, parental smoking, and drinking may contribute to the acquisition of the same behaviour (Cohen et al., 2006).

Pre-existing psychological abnormality

Some theories suggest that certain individuals may become addicted due to a pre-existing psychological problems. According to Freudian point of view, addiction may be the result of either latent homosexuality, or a need or oral gratification. It has also been suggested that alcoholism may be related to a self-destructive personality of a need for power. This perspective emphasizes a psychological abnormality that is irreversible and pre-dates the onset of the addictive behaviour (Cohen, 2006).

Cognitive factors

Factors such as self-image, problem-solving behaviour, coping mechanisms and attributions also contribute to the acquisition of an addictive behaviour.

Juon et al. (1995) attempted to explain the initiation of cigarette smoking among adolescents based on theories of social learning and stress/coping. The social learning perspective postulated that influence of parents and peers on adolescents’ cigarette smoking is a behaviour learned by modelling and social reinforcement. The most consistent and powerful predictor is whether friends smoke. The other significant influence is family; adolescents are more likely to smoke cigarettes, if their parents smoke.

As adolescents develop, parents generally become less influential as compared to peers. Studies focusing on adolescent drug use find a transition in the strength of influence on drug use from parents to peers. Researchers have consistently reported that peers rather than parents, have major influence on substance abuse.
PSYCHOLOGICAL PREDICTORS OF SMOKING INITIATION

In an attempt to understand smoking initiation and maintenance, attempts have been made to look for psychological and social processes that might be promoting smoking behaviour. Models of health behaviour such as the health belief model, the protection motivation theory, the theory of reasoned action and the health action process approach have been used to examine the cognitive factors that contribute to smoking initiation. Additional cognitions that predict smoking behaviour include associating smoking with fun and pleasure, smoking as a means of calming nerves and being sociable and building confidence. All of these cognitions have been reported by young smokers (Carroll, 1997).

PSYCHOLOGICAL PREDICTORS OF ALCOHOL INITIATION AND MAINTENANCE

The tension-reduction hypothesis suggested that individuals may develop a drinking problem because alcohol reduces tension and anxiety. Tension creates a heightened state of arousal and alcohol reduces this state, perpetuating further drinking behaviour. However, Juon et al. (1995) suggested that it is not the actual effects of alcohol use that promote drinking, but the expected effects. Sometimes because a small amount of alcohol may have positive effects, people assume that these will continue with its increased use. This perspective is in line with the social learning model of addictive behaviours and emphasizes the role of reinforcement and cognition.

SOCIAL PREDICTORS OF ALCOHOL INITIATION AND MAINTENANCE

Many of the social factors related to smoking behaviour are also predictive of alcohol consumption. For example, parental drinking is predictive of problem drinking in children. According to the disease model of addictions, it could be argued that this reflects a genetic predisposition to develop an addictive behaviour. However, parental drinking may be influential through “social hereditary factors”,

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with children being exposed to drinking behaviour and learning this behaviour from their parents. In addition, peer group alcohol use and abuse also predict drinking behaviour as does being someone who is sensation seeking, with a tendency to be aggressive and having a history of getting into trouble with authority (Magid et al., 2009).

**ADDITION AS A RESULT OF PRE-EXISTING PHYSICAL ABNORMALITY**

Various perspectives suggested that addiction is the result of a preexisting physical abnormality. For example, Alcoholics Anonymous argue that some individuals may have an allergy to alcohol and therefore become addicted once exposed to the substance. From this perspective came the belief ‘one drink - a drunk’, ‘once a drunk always a drunk’ and stories of abstaining alcoholics relapsing after drinking sherry in a sherry trifle. In terms of smoking, this perspective suggested that certain individuals are more sensitive to the effects of nicotine.

Nutritional/endocrinological theories suggested that some individuals may metabolize alcohol differently to others, that they become drunk quicker and may not experience any of the early symptoms of drunkenness. Similarly, this perspective also suggests that some individuals may process nicotine differently than others.

In fact there is a genetic predisposition to become an alcoholic or a smoker. To examine the influences of genetics, researches have examined either identical twins reared apart or the relationship between adoptees and their biological parents. These methodologies tease apart the separate effects of environment and genetics. In an early study on genetics and smoking, Grant et al. (2009) reported that out of 42 twins reared apart only 9 were discordant (showed different smoking behaviour). According to him 18 pairs were non-smokers (both) and 15 were smokers. This is a much higher rate of concordance than predicted by chance.
Evidence for a genetic factor in smoking has also been reported by Eysenck et al. (1996) in an Australian study examining the role of genetics in both the uptake of smoking (initiation) and committed smoking (maintenance) (Juon et al., 1995). Research into and reviews of the role of genetics in alcoholism has been fairly extensive. Recent evidences have suggested that the differential metabolism of alcohol in fact for that matter all the substances we eat, drink, inhale get metabolized differentially due to genomic differences in all of us (Sobti et al., 2007).

**SOCIAL PREDICTORS OF SMOKING INITIATION AND MAINTENANCE**

Individual cognitions may predict smoking behaviour, but they are a product of the individual's socialization. Interactions within the individual's social world help to create and develop a child's beliefs and behaviour. Five longitudinal studies in Britain identified elements of the child's social world that were predictive of smoking behaviour. The main factor that predicted smoking was parental smoking, with reports that children were twice as likely to smoke if their parents smoked and socio-economic status plays an important role in parental drinking (Sobti, 2009). In addition, parent's attitudes to smoking also influenced their offspring's behaviour. For example, if a child perceived the parents as being strongly against smoking, he or she was up to seven times less likely to be a smoker. The next most important influence on smoking was peer group pressure. The results of many studies showed that individuals who were identified by themselves and others as being problem-prone, doing poorly at school, rarely involved in school sports, high in risk-taking behaviour such as alcohol and drug use, and with low self-esteem were more likely to have smoked. On the other hand, it was also observed that high rates of smoking could be found in children who were seen as leaders of academic and social activities, had high self-esteem and were regarded as popular by their peers (Colder et al., 2006).

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GENDER DIFFERENCES IN SMOKING AND DRINKING

Gender differences in tobacco use were also highlighted (Hyman et al., 2009) with the suggestion that whilst male smoking remained stable or even declined over the past 20 years in the USA and UK, there was an increase in female smoking. The same trend has been reported in India. This increase was reflected by reports of gender differences in cancer, with lung cancer being the leading cause of death in American women. To explain an increase in female smoking, research focussed on the perceived benefits of smoking, suggested that smokers of both genders continued to smoke for fear of weight gain. Consequently, there has been a cultural obsession that thinness in women might be accounting for increased female smoking. Smokers generally weigh about 7 lbs less than comparably-aged non-smokers, and abstinent-smokers tend to show weight gain of about 6 lbs (US Department of Health and Human Service, 1994). As a result, there are reports that female dieters may use cigarette smoking as a weight loss/maintenance strategy supported by Juon et al. (1995) wherein dieters showed greater agreement with statements relating to smoking initiation and smoking maintenance for weight control, the role of weight gain in previous experiences of smoking relapse, intentions to quit following weight loss and intentions to quit in 5 years.

ALCOHOL USE AND CIGARETTE SMOKING ARE RELATED

The positive association between cigarette smoking and alcohol use has been well documented (Kahler et al., 2008). Almost 20% of current smokers consume five or more drinks on one occasion at least once per month, compared to about 6.5% of nonsmokers. The combined negative effects of drinking and smoking on health outcomes are substantial. For example, smoking and heavy drinking in combination produced especially negative consequences on brain morphology and function, and smoking negated the cardioprotective effects of regular drinking. Furthermore, a multiplicative effects operated when smoking
was combined with heavy drinking, conferring markedly greater risk for oral, pharyngeal, laryngeal, and esophageal cancers relative to just smoking, just drinking, or neither smoking nor drinking.

Two possible explanations exist to describe the relationship between early alcohol use and later dependence (Spear, 2002). First, exposure to alcohol or other drugs during adolescence may later result in critical ongoing processes of brain development that occur at that time, increasing the likelihood of problems with alcohol later in life. Indeed, heavy drinking during early and mid-adolescence has been found to be associated with memory problems and other neuropsychological deficits, although the causality of this relationship is yet to be determined. Another interpretation for the early exposure effect is that early use of alcohol or other drugs might simply serve as a marker, not a precursor, for a later abuse disorder. For instance, a preteen’s tendency to seek out new experiences (i.e., high novelty-seeking behaviour) was found to be predictive of alcohol abuse at age 27. Strong novelty-seeking behaviour is one of a number of traits that have been linked to early initiation of alcohol and other drug use. These two views on the significance of the early exposure effect are not necessarily mutually exclusive. For example, adolescents with conduct disorder are at higher risk for early as well as later alcohol and other drug use. Yet people with conduct disorder who began to drink at an early age had a particularly high risk for problems with alcohol and other drug later in life.

NEURAL AND ENDOCRINE DEVELOPMENT AND DRUG ABUSE

According to Spear (2002), striking physical changes occurred in the brain during adolescence, including the maturation of new brain constituents (such as the formation of additional connections between nerve cells) as well as prominent loss (or pruning) of some existing connections. Adolescence-associated changes in the brain’s dopamine (DA) system might be affecting the way this important neural messenger communicates with the prefrontal cortex and limbic brain
regions (i.e., the so-called mesocorticolimbic DA system). Changes in this system might have a profound effect on adolescent behaviour and psychological functioning. It is possible that features of the adolescent brain might predispose young people to behave in ways that placed them at particular risk for trying alcohol or other drugs. In rats, the DA system was implicated in novelty seeking and was identified as part of a brain cell circuit involved in assigning value (i.e., “incentive salience”) to stimuli, including alcohol, and translating the decision to use alcohol into action.

A survey of reasons for substance abuse among adolescents showed that they resorted to them in order to solve their problems. Adolescents also mention that by using drugs they feel like adults—a feeling of pseudomaturity (Williams et al., 2002).

Drinking and smoking among adolescents is associated with a variety of adverse consequences viz., ill health—both mental and physical; low life satisfaction, depression, poor academic achievement, bullying and fights and other risky behaviours. If effective prevention programmes have to be planned, homogeneous groups of adolescents who share common risk and protective features will have to be targeted and studied.

Keeping all these points in view that present project was undertaken. Present investigation was conducted on the belief that with the reduction of risk factors and reinforcement of protective factors, the adolescents could be helped in reducing smoking and drinking.

**STATEMENT OF THE PROBLEM**

The aim of present study was to investigate the role of protective factors (viz., Spiritual Well-Being, Health Habit, Self Efficacy, Parental Bonding, Adaptive Coping) and risk factors (viz., Stress, Depression, Avoidance Coping, Sensation Seeking, Aggression) in smoking and drinking patterns among adolescents. Both boys and girls comprised the sample. Gender differences were also explored.