CHAPTER II

REVIEW OF LITERATURE
The research study calls attention to alcohol consumption amongst women. Alcoholic beverages have been used for a very long period of time, probably since the Paleolithic age and certainly since the Neolithic (Knupfer, 1960). Historians have reported that the records of all ancient civilizations refer to the use of alcoholic beverages. The earliest of these accounts are found on Egyptian carvings, Hebrew script, and Babylonian tablets (Patrick, 1952). The Code of Hammurabi (Cir. 2,225 B.C.) devoted several sections to problems created by the abuse of alcohol and in China laws that forbade making wine were enacted and repealed 41 times between 1,100 B.C. and 1,400 A.D. (Alcoholism and Drug Research Foundation of Ontario, 1961). Thus, it is obvious that alcoholic beverage and the problems they engender have been familiar fixtures in human societies since the beginning of recorded history.

**Alcohol Use, Misuse and Dependence**

Alcoholism is a complex disorder with many pathways leading to its development. The process to dependency is gradual, as the individual is exposed to alcohol and becomes susceptible to its consumption, experiments with it and later engages in its regular use, the person moves form use to misuse and dependence. A person is said to be dependent on alcohol when the individual has repeatedly self-administered it, resulting in tolerance, withdrawal and compulsive behavior. Alcohol dependence thus includes physical dependency; in which the body has adjusted to the substance and incorporates the use of that substance into normal functioning of the body’s tissues. Physical dependency thus involves tolerance to alcohol. By that time the body increasingly adapts to the use of alcohol, requiring larger doses of it to obtain the same effects and eventually reaching a plateau. This in turn leads to Alcohol Addiction in which time a person becomes physically and or psychologically dependent on it following a use over time. Thus a person develops a Craving for alcohol, which is defined as a strong desire to engage in a
behavior to consume alcohol. This craving results from physical dependency and from a conditioning process. When denied or inability to obtain alcohol the addicted person goes through withdrawals. Withdrawals are characteristics symptoms of addiction, both physical and psychological that people experience. Although the symptoms vary they include anxiety, headaches, shaking and hallucinations.

There are many forms of excessive drinking or what has been refereed in this research as levels of alcohol consumption that cause substantial risk or harm to the individual. They include high level drinking each day, repeated episodes of drinking to intoxication, drinking that is actually causing physical or mental harm, and drinking that has resulted in the person becoming dependent or addicted to alcohol. Excessive drinking causes illness and distress to the drinker and his or her family and friends. It is a major cause of breakdown in relationships, trauma, hospitalization; prolonged disability and early death. The majority of excessive drinkers are undiagnosed. Often they present with symptoms or problems that would not normally be linked to their drinking.

Levels of drinking are categorized under hazardous drinking, harmful drinking, or alcohol dependence.

**Hazardous drinking** is a pattern of alcohol consumption that increases the risk of harmful consequences for the user or others. Hazardous drinking patterns are of public health significance despite the absence of any current disorder in the individual user.

Often associated as hazardous drinking is another form of drinking defined as binge drinking which includes occasional consumption of alcohol but in large quantities. (Babor T., et al 1994)

**Harmful use** refers to alcohol consumption those results in consequences to physical and mental health. Some would also consider social consequences among the harms caused by alcohol.
**Alcohol dependence** is a cluster of behavioural, cognitive, and physiological phenomena that may develop after repeated alcohol use. Typically, these phenomena include a strong desire to consume alcohol, impaired control over its use, persistent drinking despite harmful consequences, a higher priority given to drinking than to other activities and obligations, increased alcohol tolerance, and a physical withdrawal reaction when alcohol use is discontinued.

While persons with alcohol dependence are most likely to incur high levels of harm, the bulk of harm associated with alcohol occurs among people who are *not* dependent, if only because there are so many of them. Therefore, the identification of drinkers with various types and degrees of at-risk alcohol consumption has great potential to reduce all types of alcohol-related harm. (World Health Organization, 1993)

**Figure 2.1** illustrates the large variety of Health Problems associated with alcohol use.
Although many of these medical consequences tend to be concentrated in persons with severe alcohol dependence, even the use of alcohol in the range of 20-40 grams of absolute alcohol per day is a risk factor for accidents, injuries, and many social problems (Anderson, P., Cremona, A., Paton, A., Turner, C. & Wallace, P 1993).

Many parts of the body can be damaged by drinking too much alcohol over too long a period. The intestinal tract and the pancreas can be damaged and quite a number of different cancers are made more common, but the most common organs affected are the liver and the brain. The reason the liver is vulnerable is because it is the first place that blood containing alcohol reaches after it has been absorbed. The liver is a large chemical factory that normally gets rid of a lot of the alcohol from the blood before it can do damage by passing on to other organs by way of the main circulation. The other organ that is particularly sensitive to alcohol damage is the brain. In the early stages of using alcohol most people experience getting drunk which is simply the effect of poisoning the brain with alcohol. In later stages of alcoholism the liver gets less good at cleaning the blood so more alcohol gets through to the brain. As a result an alcoholic will often find that he or she can’t drink as much alcohol as before without sustaining a greater effect. When this happens the brain is likely to sustain more permanent damage, experienced as memory impairment (NIAAA, 2004).

Many factors contribute to the development of alcohol-related problems. Ignorance of drinking limits and of the risks associated with excessive alcohol consumption are major factors. Social and environmental influences, such as customs and attitudes that favor heavy drinking, also play important roles. Of utmost importance for screening, however, is the fact that people who are not dependent on alcohol may stop or reduce their alcohol consumption with appropriate assistance.
and effort. Once dependence has developed, cessation of alcohol consumption is more difficult and often requires specialized treatment. Although not all hazardous drinkers become dependent, no one develops alcohol dependence without having engaged for some time in hazardous alcohol use.

**Theoretical Models of Etiology**

Integral to this discussion of etiology is an awareness of the complexity contributed by human diversity. Social, psychological, and environmental factors interact along with genetic susceptibility to influence a person's overall risk for developing alcohol problems. Genetic and other biological factors are likely involved in the emergence of alcohol dependence, along with cognitive, behavioral, temperament, psychological, and socio cultural factors. Therefore in this chapter an overview of the theoretical constructs on the etiology of alcohol addiction is provided which will give an insight of the complexity of this disease.

**Biological factors and vulnerability to alcohol use disorders**

Alcohol use patterns, including alcohol abuse and alcohol dependence, are 'familial' in nature (Heath et al., 1989; Kendler, Heath, Neale, Kessler, & Eaves, 1992; Hesselbrock, 1995); that is, similar styles of alcohol use and the presence of alcoholism are often found within the same family, running from parent to child and across multiple generations of biologically related individuals. While genetic and other biological factors cannot fully explain the presence or absence of alcohol use disorders, their contribution to susceptibility for developing alcohol use problems appears to be significant.
**Genetic factors**

Evidence for genetic influences on the emergence of alcoholism is derived from a variety of sources. While no single source of information definitively confirms a genetic hypothesis, the confluence of findings from (1) extended pedigree studies, (2) twin studies involving monozygotic (identical) and dizygotic (fraternal) twin pairs, and (3) studies of adopted individuals raised apart from their alcoholic parents, persuasively argues for a genetic component to the vulnerability continuum for developing alcoholism.

**Pedigree studies**

Family pedigree studies of alcoholic clients, compared to general population rates, typically show an increase in the lifetime prevalence of alcoholism across all classes of biological relatives. The increase in risk for developing alcoholism may be four- to seven-folds among first-degree relatives of an alcoholic compared to the general population (Cotton, 1979; Merikangas, 1990). First-degree relatives are those with the closest genetic ties—for example, parents and siblings.

**Twin studies**

Monozygotic twins generally have a higher concordance rate of alcoholism compared to dizygotic twins. The concordance rate for dizygotic twins is the same rate as other non-twin sibling pairs (Kendler et al., 1992; McGue, Pickens, & Svikis, 1992).

**Adoption Studies**

In an attempt to separate genetic from environmental effects in the susceptibility for developing alcoholism, studies of the offspring of alcoholic parents, (typically an alcoholic father), adopted
away at birth have been conducted. Studies conducted in Scandinavia and in the U.S. of adopted infants placed in nonalcoholic homes have typically found that the adopted children born of an alcoholic parent develop alcoholism as adults at a higher rate than do adopted children with neither biological parent affected with alcoholism (Goodwin et al., 1974; Cloninger, Bohman, & Sigvardsson, 1981; Cadoret, Cain, & Grove, 1980). The evidence for the importance of genetic factors in alcoholism risk currently appears to be stronger for males compared to females. These gender differences may reflect a real difference in male/female genetic risk, although to date, no sex-linked genes have been identified for alcoholism. More likely, the gender differences found are due to the moderating role of cultural and social factors that may limit females' exposure to heavy drinking. More recent epidemiological studies suggest that gender differences in the incidence and prevalence of alcoholism are declining among more recent birth cohorts.

It is also important to remember that all studies to date report only an increase in the statistical probability or risk for developing alcoholism among family members. While the statistical probability or risk of developing alcohol problems is higher among biological relatives of alcoholic than non-alcoholic biological relatives, in fact, most offspring of an alcoholic parent do not develop alcohol use problems or disorders in their lifetimes.

Finally, although great progress is being made in the search for the genetic bases of the susceptibility for developing alcoholism (NIAAA, 2000; Hesselbrock et al., 2001), specific genes predisposing to alcohol use disorders have yet to be identified. This is also true of specific genes that may provide protection from this predisposition. Therefore, it is probably most useful to consider that multiple genes in various locations contribute to the continuum of vulnerability.
Mechanisms of Heritability - Gene-Environment Interaction

While family pedigree studies, twin studies, and adoption studies implicate genetic factors in the development of alcoholism, their findings also indicate that the genetic factors are not deterministic. If certain genes actually predestined an individual to develop alcohol use problems, then all alcoholics would have a close relative with alcoholism, the concordance rates for monozygotic twins would approach 100% and almost all offspring of alcoholic parent-including adoptees-would eventually develop an alcohol use disorder. Since this clearly is not the case, environmental and other biological factors must also play an important role in alcoholism susceptibility.

Figure 2.2 : Genotype-Environment Interaction

Many investigators have stressed the importance of the interaction between an inherited biological vulnerability and environmental risk factors for developing alcohol use disorders (Kendler, 1995; Slutske et al., 1998; Cadoret, Yates, Troughton, Woodworth, & Stewart, 1995). This gene-environment interaction (G x E) model assumes a synergy between genetic and environment factors that may contribute either to an increased susceptibility for developing an
alcohol use disorder or attenuate possible genetic risk by producing a level of protection for vulnerable individuals (Hesselbrock & Hesselbrock, 1990).

However, specific environmental factors that possibly affect the development of alcohol use disorders, such as those related to a family environment, social relationships, and parenting styles, have not been definitively identified.

Interestingly, cohort of birth and ethnicity are two major individual factors that also affect the susceptibility for developing alcohol dependence. Even though it is extremely unlikely that the human genome has changed significantly over the past 100 years, more recent birth cohorts have higher prevalence rates of alcoholism than birth cohorts from the earlier part of the twentieth century (Reich et al., 1988; Grant, 1997). The differences in prevalence rates are thought to be due to variations in the availability of beverage alcohol resulting from prohibition, economic depression, or wartime shortages. Differences in prevalence rates and the course of alcohol dependence have also been noted in relation to ethnicity (Hesselbrock, et al., 1998; NIAAA, 1998). For example, there appears to be little difference among ethnic groups with regard to first age of the early stages of alcoholism, but differences in first age begin to appear with later stages of the disorder.

The variability in apparent susceptibility to alcoholism is thought to be due to biological differences in alcohol metabolism, as well as social factors (e.g., involvement in religion, family relations). This suggests that, in addition and related to genetic factors, there exists a host of biological factors involved in alcoholism susceptibility. Considerable research is currently addressing the neurobiological pathways of alcohol sensitivity, alcohol craving, and addiction.
It is expected that these studies will eventually lead to the development and testing of biological and/or pharmacological treatment alternatives. For example, specific medications typically used for treating depression, obsessive-compulsive disorders, or seizure disorders are being tested for their psychopharmacological effects on alcohol dependence.

**Cognitive Functioning and the risk for developing Alcoholism**

A growing number of studies have implicated heritable cognitive factors, including electrophysiological features related to central nervous system functioning, as being related to the vulnerability for developing alcohol and other substance use problems. Several studies have found poorer cognitive performance among alcoholics compared to controls on neuropsychological tests of memory, attention span, abstract thinking, verbal reasoning, and visual-spatial skills (DeObalia, Parsons & Yohman, 1983). Although specific cognitive deficits in persons at risk for developing alcoholism have not been consistently reported, tests measuring brain functioning in the frontal and temporal lobes among young adult males with a susceptibility for developing alcoholism were predictive of the age of taking their first drink and their frequency of drinking to get intoxicated (Hesselbrock, Hesselbrock, Bauer, & Gillen, 1991; Deckel, Bauer, and Hesselbrock, 1995).

Differences in central nervous system functioning as measured by electroencephalographic (EEG) and event-related potential (ERP) methods have been found between alcoholic adults and control individuals (Begleiter, Porjesz, Bihari, & Kissin, 1984). Similar findings have been reported among individuals at risk for developing alcoholism and prior to the onset of heavy drinking (Begleiter et al., 1984; Bauer & Hesselbrock, 1999). Typically, differences in EEG and ERP brainwave patterns are found in the frontal region of the brain, regions that are thought to be
responsible for the cognitive skills of attention, planning, and foresight. Although these electrophysiological measures of brain activity do provide a 'marker' of risk for a poor adult outcome, including an increased risk for developing alcoholism, the exact relationship between electrophysiological measures and behavioral measures (i.e., neuropsychological) of cognitive functioning are not well established (Hill, Shen, Lovers, & Locke, 2000; NIAAA, 1997, 2000). There exists some controversy as to the consistency concerning observations of EEG differences among children of alcoholic and of non-alcoholic parents (Sher, 1991)

**Childhood behaviour problems as risk factors**

Many studies over the past 40 years indicate that childhood problem behavior and aspects of a child's temperament may predict both behavior problems and problems with alcohol and substance abuse during adolescence and young adulthood. An association between behavioral problems (i.e., conduct problems, attention deficit disorder, and hyperactivity) occurring in childhood and adolescence and consequent poor adult outcomes, including alcoholism, has been repeatedly found in longitudinal studies. These associations appear in a variety of samples, including child guidance clinic subjects (Robins, 1966), community samples (Jones, 1968), and among adopted individuals at risk for alcoholism (Cadoret et al., 1995).

Many, but not all, of these individuals who develop alcoholism will go on to develop a severe form of the disorder (Hesselbrock & Hesselbrock, 1994). Even though problem behaviors typically begin during childhood for boys and adolescence for girls, the relationship to later alcohol and drug problems holds for both boys and girls, and across at least some ethnic minority groups (Hesselbrock, Segal, & Hesselbrock, 2000; Bucholz et al., 1996). It is important to note that recent studies indicate that the alcohol use disorders developed by conduct-disordered
adolescents are not benign and do not necessarily resolve over time. For many, these alcohol use disorders persist into young adult life and possibly beyond (Rohde et al., 2001).

Conduct problems in childhood and adolescence are often accompanied by other externalizing behaviors such as attention deficit disorder, hyperactivity, and oppositional behaviors (American Psychiatric Association, 1994; Windle, 1996; Murphy & Barkley, 1996). Childhood hyperactivity and attention deficit disorder have also been linked to an increased risk for developing alcoholism, particularly among children of an alcoholic parent (Tarter, McBride, Buopane, & Schneider, 1977; DeObaldia et al., 1983). However, many of these studies fail to take into account the effect of co-occurring conduct problems or sample children with only hyperactivity or only attention deficit disorder. There is little evidence for the independent contribution of either hyperactivity or attention deficit disorder alone to the susceptibility for alcoholism (August & Stewart, 1983; Boyle et al., 1992).

**Temperament as risk factors**

While considerable research has shown that a predisposition to alcoholism is partially due to genetic factors, several studies suggest that this genetic susceptibility may be expressed, in part, through an individual's temperament. Tarter and Vanyukov (1994), for example, propose a temperament model of alcoholism risk based on five temperament traits that increase an individual’s liability for developing alcoholism.

These traits include behavioral activity level, sociability, attention span/persistence, emotionality, and "soothability." Genetics influence each of these five traits, and an individual's liability is increased or decreased by the deviation of each trait from the population norm. Thus, individuals whose personality traits are closer to the population norm are thought to have more
control over their own behavior, including substance use. Individuals who have difficulties with behavioral and emotional regulation may be more prone to developing alcoholism in relation to environmental influences and stressors, including seeking environments conducive to alcohol and drug use. Indeed, each of these traits, or trait clusters, that constitute a "difficult" temperament relate to an increased risk for developing a problem with substance use and/or abuse (Ohannessian & Hesselbrock, 1995; Tarter, Kabene, Escallier, Laird, & Jacob, 1990). It should be noted, however, that prenatal, peri-natal, and neonatal circumstances can have profound and persistent influences on temperament, as well (e.g., maternal stress and prenatal exposure to stress hormones; medications delivered during pregnancy and/or delivery; anoxia; hypoxia; birth trauma; child maltreatment; etc.).

Concomitantly many studies assessing the personality characteristics of alcoholics were unable to identify a set of personality attributes unique to this population. Review of literature on personality and addiction concludes that the only personality trait with any degree of predictive utility for the misuse of alcohol was a history of antisocial personality disorder. More than fifty years of research has failed to reveal a consistent alcoholic personality. Alcoholics appear to be as variables in personality as are nonalcoholic’s. Studies of character defense mechanism among alcoholics have yielded a similar picture. Denial and other defense mechanism have been found to be no more or less frequent amongst alcoholics than among people in general (Drabs, J.K., 2001).

Despite such contrary research, the idea of some form of addictive personality remains popular and is often blended with the Disease Model.
Psychological Models of Etiology

A number of models exist to explain the development of alcohol use disorders, including those grounded in the field of psychology. Each of these models involves different treatment methods.

Psychoanalytic models

Early psychoanalytic formulations concerning the etiology of alcoholism were based on the clinical experience of therapists trained in this tradition. In psychodynamic thought, alcoholism was viewed as a fixation on, or a regression to, the oral stage of development. More recently, though, malfunctions of the ego or an emphasis on the self, have been proposed to explain alcoholism. Wurmser (1985), for example, views the use of alcohol or drugs as an attempt to escape from intense feelings of rage and fear arising from severe intra-psychic conflict due to an overly harsh superego. Khantzian, Halliday, and McAuliffe (1990), posited a self-deficit approach; that is, inadequacies of the ego underlie abuse of alcohol or drugs. Individuals choose a specific drug with particular properties to self-medicate their particular type of ego deficit. Other formulations indicate that alcoholism is a psychosomatic defense against psychic conflict (McDougall, 1989), or the result of disturbed object relations (Krystal, 1982). Although there is little empirical support for these etiological theories, many members of the larger treatment communities continue to use these terms as clinical descriptors for their clients and to suggest a cause for the client's conditions. The interventions that emerge out of these models primarily include psychotherapeutic analysis approaches.
Behavioral models

Traditional behavioral models of alcohol and other substance use disorders have postulated that alcohol and other substance use behaviour is learned and maintained either through classical or operant conditioning. In the typical classical conditioning paradigm, the development or "learning" of drinking behaviour occurs through repeated pairings of: (1) a conditioned stimulus (CS), such as a particular person and an unconditioned stimulus (US), such as a particular location or time of day with (2) alcohol consumption. After repeated pairings, a conditioned response (CR) develops where exposure to the CS or US results in the CR (drinking behavior). This model has been postulated to explain the initial development and maintenance of craving and conditioned tolerance (both conditioned responses), for alcohol as well as other drugs (Wikler, 1973; Siegel, 1983).

Operant conditioning principles have been applied to explain alcohol and other drug use as reinforcing. That is, an individual may drink in response to an antecedent stimulus such as bad mood, anger, social anxiety, physical pain, or even withdrawal symptoms. An association is then developed between the reinforcing effects (e.g., perceived better mood, anxiety reduction, lessening of the severity of the withdrawal symptoms or pain) with the antecedent stimulus. Thus, drinking is thought to increase as a result of either the positive (bringing a perceived reward) or negative (removing a perceived negative factor) reinforcing effects of alcohol. Recent 'self-medication' theories of alcoholism are based on the assumption that alcohol becomes a positive (or negative) reinforcement. One limitation of this model is the observation that the development of alcoholism in both clinical and non-clinical populations often precedes the development of a diagnosable affective or anxiety disorder (Schuckit, Anthenelli, Bucholz, Hesselbrock, & Tipp, 1995; Schuckit & Hesselbrock, 1994).
In the learning paradigm, negative effects of drinking (e.g., hangover, social consequences, personal costs, legal problems) are viewed as being too far separated in time from the drinking behaviour to seriously reduce its frequency—and the positive reinforcing effect is experienced first. This is the premise underlying the use of certain pharmacological interventions to curtail drinking (Gitlin, 1996). For example, drugs such as Antabuse (Disulfiram) result in the relatively rapid onset of unpleasant physical symptoms after alcohol consumption (e.g., generalized malaise, flushing, sweating, headache, nausea, vomiting, palpitations and/or chest discomfort).

Cognitive models

Cognitive behavioral models of alcoholism emphasize the importance of cognitions (thoughts, understanding, and beliefs) and feelings as preceding and directing behavior. In these models, the initial use of alcohol or other drugs is viewed as the result of several interacting factors (e.g., genes, temperament, and other psychological or social factors). These factors influence the individual's perception of alcohol use as either a positive or a negative reinforcement. As alcohol use increases, other coping mechanisms are used less frequently. Consequently, self-efficacy is reduced and positive expectancies increase as alcohol use increases. As high levels of use become more frequent, classical conditioning processes (e.g., conditioned craving, tolerance, and withdrawal) play an important role in the development and maintenance of heavy problem use (Rotgers, 1996).

Stress and alcohol consumption

Alcohol has been hypothesized to buffer and to serve as a coping mechanism against stress (Cappell and Greeley, 1987). It is commonly accepted that people drink alcohol in order to cope with the effects of stress (Allan and Cooke, 1984; Krause, 1991). Stressful life events and
chronic stressors have been correlated with alcoholism (Linsky et al., 1985), alcohol abuse (Cole et al., 1990) heavy drinking (Wilsnack et al., 1991), and alcohol dependence and problems (Johnson and Pandina, 1993; Welte and Mirand, 1995) in different populations.

Human research to clarify the connection between alcohol and stress usually has been conducted using either population surveys based on subject self-reports or experimental studies. In many but not all of these studies, individuals report that they drink in response to stress and do so for a variety of reasons. Studies indicate that people drink as a means of coping with economic stress, job stress, and marital problems, often in the absence of social support, and that the more severe and chronic the stressor, the greater the alcohol consumption (Pohorecky, L.A., 1991). However, whether an individual will drink in response to stress appears to depend on many factors, including possible genetic determinants of drinking in response to stress, an individual's usual drinking behavior, one's expectations regarding the effect of alcohol on stress, the intensity and type of stressor, the individual's sense of control over the stressor, the range of one's responses to cope with the perceived stress, and the availability of social support to buffer the effects of stress (Sadava, S.W., & Pak A.W., 1993; Pohorecky, L.A., 1991; Jennison, K.M., 1992). Some researchers have found that high levels of stress may influence drinking when alternative resources are lacking, when alcohol is accessible, and when the individual believes that alcohol will help to reduce the stress (Sadava, S.W., 1993; Jennison, K.M., 1992).

Numerous studies have found that stress increases alcohol consumption in animals (Hilakivi-Clarke, L., & Lister, R.G., 1992) and that individual animals may differ in the amount of alcohol they consume in response to stress (Higley, J.D.; Hasert, M.F.; Suomi, S.J.; & Linnoila, M. Nonhuman, 1991). Such differences may be related in part to an animal's experiencing chronic stress early in life: Prolonged stress in infancy may permanently alter the hormonal stress
response and subsequent reactions to new stressors, including alcohol consumption (Higley, J.D., Hasert, M.F., Suomi, S.J., & Linnoila, M. Nonhuman., 1991; Viau, V., Sharma, S., Plotsky, P.M., & Meaney, M.J., 1993). For example, monkeys who were reared by peers, a circumstance regarded as a stressor compared to mother-rearing, consumed twice as much alcohol as monkeys who were mother-reared (Higley, J.D., Hasert, M.F., Suomi, S.J., & Linnoila, M. Nonhuman., 1991). According to Viau and colleagues, adult rats handled for the first 3 weeks of life demonstrate markedly reduced hormonal responses to a variety of stressors compared with rats not handled during this time. In humans, Cloninger reported an association between certain types of alcoholism and adverse early childhood experiences.

According to Pohorecky (1991), whether humans drink in response to uncontrollable stress is less clear, in a review investigating the connection between alcohol consumption and stress, Pohorecky notes several studies in which researchers sampled individuals from areas affected by natural disaster. One study found that alcohol consumption increased by 30 percent in the 2 years following a flood at Buffalo Creek, West Virginia. Similarly, there was evidence of increased drinking in the towns surrounding Mount St. Helens following eruption of the volcano. Following the nuclear plant accident at Three Mile Island, however, alcohol consumption was infrequently used by those sampled as a means of coping with the resulting stress (Kasl, S.V., Chisholm, R.F., & Eskenazi, B., 1981). However, while some studies have reported positive associations, others have found negative associations. Evidence has suggested that alcohol is used to self-medicate in response to distress caused by trauma among those who have been diagnosed with PTSD or alcohol dependence.

In both humans and animals, drinking appears to follow stress. Some human research, however, shows that drinking may take place in anticipation of or during times of stress.
Much research demonstrates that alcohol actually induces the stress response by stimulating hormone release by the hypothalamus, pituitary, and adrenal glands. This finding has been demonstrated in animal studies. In one study with rats, the administration of alcohol initiated the physiological stress response, measured by increased levels of corticosterone. In addition to stimulating the hormonal stress response, chronic exposure to alcohol also results in an increase in adrenaline (NIAAA, 1996).

Stress may be linked to social drinking, and the physiological response to stress is different in actively drinking alcoholics compared with non-alcoholics. Researchers have found that animals preferring alcohol over water have a different physiological response to stress than animals that do not prefer alcohol. Nonetheless, a clear association between stress, drinking behavior, and the development of alcoholism in humans has yet to be established (Jose.B.S., Et Al., 2000).

Although some researchers have found stronger relationships between stressful conditions and alcohol consumption among men than among women (e.g. Romelsjo et al., 1991) the opposite has also been reported (e.g. Allan and Cooke, 1985).

Data suggested that some life events (getting divorced) and some chronic stressors (financial difficulties, unfavorable marital status, and unfavorable employment status) were positively related to abstinence among men and women. Furthermore, some life events (being a victim of a crime, decrease in financial position, divorce or reporting two or more life events) were positively associated with heavy drinking among men. Chronic stressors, such as unfavorable marital status and unfavorable employment status, were also related to heavy drinking among both men and women. Of the different motives underlying college student’s alcohol use, coping
with stress is believed to be most closely linked with the development of problem drinking and the failure to "mature out" of heavy drinking following graduation.

With regard to the relationship between stress and abstinence, some authors have reported that abstainers have more adverse life contexts (Mertens et al., 1996), but the opposite has also been reported (Neff and Husaini, 1982; Cole et al., 1990). After years of research, the relationship between stress and alcohol consumption remains inconclusive (Temple et al., 1991; Pohorecky, 1991; Pierce et al., 1994).

**Social learning models**

Social learning theories focus on cognitive constructs such as expectancies, self-efficacy, and attributions to mediate the pathway from stimuli to alcohol use as a response. Expectancies of the positive effects from using alcohol develop as conditioned cognitions from repeated classical or operant pairings of alcohol use with a positive experience (i.e., reinforcement). Self-efficacy refers to the expectation by individuals that they can successfully perform a particular coping behavior and certain situations and that the behavior will be reinforced. The Social Learning viewpoint describes alcoholism as a result of a failure to cope. The self-efficacy for coping without alcohol is low among alcoholic individuals, contributing to continued use and the eventual development of dependence. Petraitis, Flay, and Miller (1995) have postulated a social learning theory model of adolescent experimentation and the eventual problem use of alcohol and other drugs.
Alcohol Expectancies

Many experimental laboratory studies of alcohol intake assess the ability of alcohol to influence certain behaviors such as the induction of aggression, increased sexual arousal, or tension reduction. These approaches all assume a cognitive influence surrounding alcohol use. An underlying assumption of such studies is that individuals have certain positive expectations of the effects of alcohol related to the behaviour being studied. Consequently, a number of specific alcohol-related expectancies have been identified. These include social facilitation, enhanced sexual performance and pleasure, increased personal power and aggression, social assertiveness, relaxation and tension reduction, as well as a general positive outcome that may result from drinking.

Several instruments are available to assess the expectancies of alcohol's effects (Brown et al., 1980; Southwick et al., 1981; Christiansen et al., 1982). These expectancies probably reflect not only a person's own experience with alcohol, but may also result from exposure to beverage alcohol advertising and from observing the behaviour of others when they are drinking (both real life and media models).

Exposure to these modeling events can begin early in life, even during childhood. Miller et al. (1990) examined the alcohol expectancies of elementary school children across the first through fifth grades. They found that the positive expectancies of the effects of alcohol increased with age, most notably among 8-10 year olds. Importantly, a variety of studies have shown that positive expectancies of alcohol's effects predict initiation of drinking, intention to drink, and drinking rates among middle school (Christiansen et al., 1989) and college students (Stacy et al., 1990).
Although originally linked to attitudes and beliefs about the reinforcing properties of alcohol, expectancies are more recently believed to be related to memory processes. Thus, positive expectancies of alcohol use may be encoded in close association with usual drinking practices and be easily retrieved from memory in future drinking situations.

On the other hand, negative expectancies arising from unpleasant drinking experiences are probably less likely to be associated with usual drinking practices, but may be more closely tied to heavy drinking episodes. Consequently, among light-to-moderate drinkers, negative expectancies of alcohol’s effects are less likely to be activated or to play an inhibitory role in most drinking situations.

Social influences to drink may also help shape positive alcohol-related expectancies and, in combination, further promote the initiation and escalation of adolescent alcohol use. Parents' alcohol use and adolescents' perceived peer norms were found to affect the development of positive expectancies prospectively. The more parents drank and the more adolescents thought their peers drink, the more positive the adolescents' alcohol expectancies were. Moreover, positive alcohol-related expectancies (e.g., alcohol promotes relaxation) were found to be associated with adolescent drinking (Christiansen et al., 1989). Finally, other research testing different components of alcohol expectancies has demonstrated that positive expectancies have a large predictive effect and are a more important predictor than negative expectancies (Aarons et al., 2003).

It is important to recognize that each of these etiological models (psychoanalytic, behavioral, cognitive, and social learning) have led to the development of different treatment methods for alcohol use disorders. To date, however, no single particular psychological treatment method has
consistently been demonstrated to be superior to another across groups. Furthermore, newer pharmacological agents, such as naltrexone and acamprosate, appear to be effective in reducing drinking in some clients, particularly when used in conjunction with psychotherapy or other behavioral intervention approaches. Together, these findings also point to the importance of integrating biological and psychological factors in the treatment of alcoholism, and in understanding its etiology

**Socio Cultural Models of Etiology**

**Family violence**

Alcohol use is present in a substantial proportion of domestic violence incidents reported in the general population. An estimated 67% of persons who victimize an intimate partner (e.g., spouse, boy/girlfriend, ex-partner) have used alcohol acutely or chronically at the time of the arrest, compared to 38% who victimized an acquaintance or 31% who victimized a stranger (NIAAA, 2000). Because both alcoholism and family violence have some demonstrated family "transmission" patterns, social workers may assume that there is a strong relationship between family of origin alcoholism and present family violence. However, a careful and critical reading of the research literature does not provide clear and consistent evidence. Many published studies are based upon small samples, do not adequately separate different types of partner abuse, sample from populations or agencies that are likely to have high rates of both alcoholism and violence, and/or do not use adequate comparison groups. While alcohol use and violence are clearly associated, the causal relationships between parental alcoholism, family violence, and alcohol problems among the offspring have not been firmly established.
It is also possible that some aspects of family violence, including sexual abuse of children and adolescents, may differentially affect girls and boys. These differences may appear as differences in susceptibility to poor adult outcomes, including the development of alcohol use disorders. Several studies indicate that the prevalence of early sexual abuse is much higher among female alcoholic clients than that found in the general population of adult females.

**Family interaction**

Implicit in the discussion to this point is the notion of alcohol (and other drug) use disorders as being multiply determined by a complex association of genetic, environmental, personality, and other factors. Frequently, more than one member of the nuclear or extended family experiences a substance dependency. This complicates the identification of specific influences that family environment, child-rearing practices, or inter-parental interaction may play in the development of alcoholism. Three general contemporary models of family influences can be identified: a family disease model, a family systems model, and a behavioral family approach (McCrady & Epstein, 1996; McCrady, Kahler, & Epstein, 1998).

The family disease model is based on an assumption that all family members suffer from some degree of either alcoholism or codependency. Further, alcoholism and codependency are interrelated in such a manner as to enable (perpetuate) the alcohol problem. Although in this model the specific etiology is regarded as biological, alcoholism is being maintained by the family disease (Sheehan & Owen, 1999).

In the family systems model, the etiology of alcoholism and substance abuse is focused on the behavior of family members around drinking, with particular attention paid to the family of origin and the role of the spouse/partner (O'Farrell & Fals-Stewart, 1998; Steinglass, Bennett,
Wolin, & Reiss, 1987; Steinglass, Weiner, & Mendelson, 1971). The model assumes that, over time, alcohol use stabilizes the family system and that the family organizes their interactions and structure around alcohol use to achieve and preserve system 'homeostasis.' In other words, the family maintains the alcohol problem despite the associated problems because it is requires less effort than changing or because it allows the family to avoid changing a more disturbing problem (e.g., sexual abuse).

The behavioral family approach focuses on the family members' behaviors (especially those of the spouse/partner), as both antecedents to and reinforcers of, alcohol or substance use. These responses are thought to help develop and maintain the drinking problem. Bennett and Wolin (1990) found that continuing interaction between adult offspring and their alcoholic parents is associated with increased rates of alcoholism, at least among the male offspring. On the other hand, certain family rituals, such as eating dinner together or celebrating holidays together, may serve to protect offspring against the development of alcoholism (Bennet et al., 1987). It is important to note that family member behavior can influence the alcoholic individual to consider change, act to change, maintain the change, or relapse to drinking (Walitzer, 1999).

**Peer influence**

Adolescents often cite an increased ability to socialize with friends, reducing tension and anxiety (especially in mixed gender situations), reducing boredom, and/or getting high as reasons for their alcohol and other substance use. As indicated above, expectations of alcohol's effects in these areas are associated with both initiation of alcohol use and drinking rates, particularly among adolescents. Peer influences are consistently cited as risk factors for initiating alcohol, tobacco, and other drug use among children and adolescents (cf. Kandel & Yamaguhi, 1999; Wills, Vaccaro, & McNamara, 1992; Averna & Hesselbrock, 2001).
Peers influence adolescents' values, behaviors, attitudes, and choice of other friends. However, the closeness of the specific peer relationship is an important determinant of the strength of peer influences on drinking behavior. Alcohol use by an adolescent's best friend is more predictive of alcohol use and maintenance of drinking behavior than reports of use by other friends. Characteristics of peers may also be relevant. Reports of use by same-age peers do not appear to be related to either initiation or maintenance of drinking during adolescence (Morgan & Grube, 1991; NIAAA, 1994). Associating with deviant friends tends to promote the acceptance of deviant behaviors, including the use of alcohol and other drugs (Loeber, Stouthamer-Loeber, Van Kammen, & Farrington, 1991; Robins & McEvoy, 1990). However, it is not clear if associating with deviant peers is a risk factor for, or the result of, maladaptive behaviors. Deviant peer group involvement co-occurs with several other risk factors such as family problems, other mental health problems, low self-esteem, stress, and alcohol availability. Deviant peer group involvement is typically higher among alcohol-using adolescent boys than girls. Peer and friend relations (Ohannessian & Hesselbrock, 1993) probably exert less influence on drinking behavior in adulthood than during adolescence. At least among adult persons living together in a stable relationship, social support from close family members is more predictive of drinking behavior than social support from friends.

**Social environments**

A variety of social and environmental factors may affect a person's risk for developing alcohol use disorders. Both social learning and social control theories consider that social environments provide a wider context for biological, psychological, and personality factors to interact in determining a person's susceptibility for developing alcohol abuse problems. Peer influences to
initiate or maintain use, stressful and negative life events, and family environment (including poor parenting styles) appear further to enhance the likelihood of developing alcohol or drug-related problems among adolescents and young adults who are at high risk due to a family history of alcoholism. However, an adolescent's exposure to alcohol tends to be more limited in the presence of good relations with non-using peers (particularly best friends), family rituals that actively seek to prevent alcohol use, and consistent parental supervision and discipline. Reduced exposure to alcohol use, in turn, limits the opportunity for expression of genetic, psychological, and personality susceptibility risk factors for developing alcoholism (Hesselbrock & Hesselbrock, 1990).

**Social policy issues**

Social policy, even though often ignored in etiological formulations, can have a wide influence on the risk for developing problems with alcohol abuse and its concomitants (e.g., illness, injury, etc.). Social policy can influence the availability of beverage alcohol and provide punitive measures for violation of purchase and consumption regulations. To some extent, limited access to alcohol serves to protect against the development of alcohol problems and abuse or dependence (Holder, 1999). Over the years, local, state, and federal governments have used a variety of measures to restrict the availability of beverage alcohol. Prohibition, local option, and minimum legal age for purchase have had both short- and long-term effects in restricting the availability of alcohol. Lowering the legal age for purchase in the early 1970s led to increases in both alcohol consumption and auto injuries and fatalities among adolescents. These trends were reversed when the minimum legal drinking age was again raised. The direct effect of changes in legal drinking age on other alcohol-related behaviors (e.g., assaults, teen pregnancies, sexually transmitted diseases, and accidental drowning) is more difficult to assess because the minimum
drinking age and reporting practices have varied considerably from state to state.

Taxation has also been viewed as a method for controlling the availability of alcohol, since higher taxes on alcohol typically lead to higher prices. For some individuals, raising taxes on beverage alcohol has been associated with decreased drinking. However, light and heavy drinkers appear to be less responsive to increased prices than are moderate drinkers (Manning, Keeler, Newhouse, Sloss, & Wasserman., 1991). In addition, Kenkel (1996) found that drinkers who are better informed about the risks of excessive alcohol use showed greater reductions in drinking due to price increases than did less informed drinkers. The use of taxes to increase the cost of obtaining alcohol-containing beverages is not straightforward. Even though federal taxes are applied uniformly to all units of beverage alcohol produced, manufacturers and retailers operating in different locales and competitive markets may choose to differentially pass along the cost to the purchaser. Further, the cost of a unit of beverage alcohol can vary considerably by beverage type, geographic region, bottling type, and type of establishment where the beverage is purchased.

The above sections have provided a general overview of different factors thought to be related to the etiology and natural history of alcohol. Two additional factors must also be considered: Clinical Heterogeneity and Gender Differences

**Clinical Heterogeneity / Multivariate Subtypes**

The many pathways to heavy drinking and alcohol dependence can often be reflected in the clinical heterogeneity or subtypes of alcoholism observed by the clinician. Differences in the development of the disorder can also be traced to factors more typically found in one gender versus the other.
While alcoholics share many attributes related to their disorder, clinicians have also noted many individual differences in symptom patterns, drinking patterns, co morbid psychiatric problems, pathways to alcoholism, and personality characteristics. Bowman and Jellinek (1941) were among the first to propose a set of conceptual alcoholism type. The schema resulted in a representation of 17 subtypes. Jellinek revised this scheme in 1960 to include the Alpha, Beta, Gamma, and Delta types that are more widely known today. The Alpha and Beta types were not considered to be severe forms of alcoholism. The Alpha type was thought to have psychological dependence, while the Beta type could also experience physical/medical problems due to poor nutrition and health rather than directly from drinking. Neither type was thought to experience loss of control over drinking, suffer from an inability to abstain, or experience withdrawal symptoms.

Neither of the Alpha or Beta forms of alcoholism was considered to lie within the disease concept of alcoholism, however, both the Gamma and Delta forms were considered in this manner (Jellinek, 1960). The Gamma type of alcoholism was thought to be the predominant form of alcoholism and was characterized by physical dependence, craving for alcohol, and withdrawal following cessation of a drinking episode. Even though loss of control over the amount consumed is absent among Delta alcoholics, they are unable to totally abstain from drinking. The physical consequences of drinking are typically less severe among Delta alcoholics than among Gamma alcoholics. Another type, Epsilon, was proposed to denote a special type of alcoholism based on binge drinking. Jellinek invoked heredity and genetics only when he was unable to explain the process of addiction in relation to a psychological or sociological etiology. However, Jellinek considered the Gamma type of alcoholism to be relatively homogeneous and
did not adequately address either the heterogeneity or the multidimensional nature of alcoholism often found within this category.

Over the past twenty years, a number of clinicians and researchers have made attempts to identify more homogeneous subtypes of alcoholism. More recently, multivariate statistical methods such as cluster analysis (Babor et al., 1992), discriminant function analysis (Cloninger et al., 1981), and latent class analysis (Bucholz et al., 1996) among others (Hesselbrock, M.N., 1995) have been applied to clinical data to identify homogeneous subtypes of alcoholism that may eventually prove to be differentially responsive to particular treatment modalities. Most prominent among these are the Type 1 / Type 2 alcoholisms proposed by Cloninger and associates (1981) and the Type A / Type B forms of alcoholism proposed by Babor et al., (1992).

The two formulations are remarkably similar, even though the Cloninger et al. sample was derived from a Swedish community-based adoption study sample, while the Babor et al. typology was based upon an inpatient sample. Both samples contained males and females. Both Type 1 and Type A were considered to be milder forms of alcoholism, were more prevalent among females, had a later onset of the disorder, and typically had significant anxiety and depressive symptoms. Type 2 and Type B alcoholism were characterized as having an earlier onset, the presence of childhood problem behavior risk factors, adult anti-sociality, familial alcoholism, and a more chronic treatment history.

The personality traits (reward dependence, harm avoidance, novelty seeking) so prominent in Cloninger's conceptualization do not appear to be sufficient to define Type 1 / Type 2 (Hesselbrock, M.N., 1995). Although Type 1 and Type A alcoholism are very common among women, a significant number of female alcoholics can be classified as having Type 2 / Type B alcoholism. A number of studies have attempted to replicate the Type 1 / Type 2 typologies in
other samples (clinical and non-clinical) with limited success (Glenn & Nixon, 1991; Schuckit, Irwin, & Mahler, 1990). Type 1 / Type 2 do not appear to be heritable (Gilligan, Reich, & Cloninger., 1988).

Schuckit et al. (1995a) were able to identify the Type A / Type B subtypes of alcoholism in a large sample derived from a family study of alcoholism. Mezzich and colleagues (1993) found Type A / Type B among adolescents with alcohol dependence. The heritability of Type A / Type B has not yet been examined. Other subtypes of alcoholism have been identified through the application of multivariate statistical methods to a variety of clinical assessments, such as the MMPI (Blashfield, 1984) and clinical interview data (Bucholz et al., 1996). (A review of typological classifications of alcoholism can be found in volume 20, issue 1 of Alcohol Health & Research World (NIAAA, 1996); see also Hesselbrock, 1995.)

**Gender Differences**

Up until now the data about alcoholism has been gathered from studies conducted with a predominance of male subjects since Alcoholism was once considered a problem for men but recent research is indicting that an estimated 3.9 million, or about one third of all alcohol-abusing or alcohol-dependent persons, are women [NIAAA, 1995]. The First attempt to separately examine alcoholism in women was in 1978 by the National Institute on Alcohol Abuse and Alcoholism. Prior to this research were primarily focused on males and later extrapolated to women. They assumed that gender differences were not significant but the in last three decades data has shown that drastic misconceptions. Nature does not favor the female gender and not only do women become addicts faster but the effects of alcohol are more sever in women than men.
The gender gap in drinking behaviour is decreasing because of the gradual changes in social norms. More women are now in work force, professions, and sports and besides vocational drinking incentives; however it is still one of the few universal gender differences in human social behaviour. In general population studies throughout the world, as compared to women, men are more often drinkers, consume more alcohol, and cause more problems by doing so (Almeida et al., 2004; Fillmore et al., 1991; Hao et al., 2004; Jhingan et al., 2003; Kebede & Alem, 1999; McKee et al., 2000; Perdrix et al., 1999; Rijken et al., 1998; Sieri et al., 2002; Yamamoto et al., 1993). Typically, women are less likely to consume alcohol than men, and when they do, women typically drink smaller amounts per occasion. Mortality rates among women are higher than among men who drink heavily, due to a variety of causes such as accidents, violence, suicide, and medical illnesses (NIAAA, 2000).

Studies in many cultures have found that the prevalence of alcoholism and heavy drinking generally is higher among men than among women. Still, there are many similarities among male and female alcoholics. Schuckit et al (1995) reported a high level of correspondence in the temporal sequencing of the occurrence of 19 major alcohol-related life problems among male and female alcoholics, as well as among drinking but non-alcoholic individuals. Although the age of first appearance of the different symptoms examined may vary by gender, the order of appearance was very similar between males and females. Further, once alcohol dependence develops, the clinical manifestations of the disorder show few gender differences at either the low or high end of severity (Hesselbrock, M.N., 1991a; Del Boca & Hesselbrock, 1996; Hesselbrock, Segal, & Hesselbrock, 2000).

At an intermediate level of severity of alcohol dependence, women often manifest more anxiety and depressive symptoms but lower levels of antisocial behaviors compared to men. An
antisocial type of alcoholism predominates at the more severe end of the alcohol dependence spectrum and few gender differences are noted (Bucholz et al., 1996; Hesselbrock et al., 2001). However, women tend to do as well as men following treatment for alcoholism, and in some settings, they may have a better outcome (Gomberg, 1999).

Both cultural and biological explanations have been invoked to account for this difference, but the mechanisms remain unclear. Moreover, differences in prevalence may arise even if the mechanisms underlying alcoholism development do not differ between the sexes. In this case, the same genetic factors could predispose men and women to alcoholism, but other sex specific genetic and/or environmental factors could influence whether alcoholism develops in a given person. For lucid comprehension, this chapter further cites literature on the gender differences in alcohol consumption under the following categories:

- **Epidemiological surveys** that deal with the nature and extent of alcohol consumption in various populations, countries and communities
- **Biological determinants** responsible for alcohol consumption and the adverse effects alcohol has on the body
- **Socio cultural factors** related to alcohol use such as environmental influences, religion, age, and familial influences.
- **Psychological correlates** of alcohol use with emphasis on personality characteristics and the influence of gender difference in alcohol consumption and treatment programs.

**Epidemiological surveys**

The production and consumption of alcoholic beverages in the total population have been increasing throughout most of the core world countries in the last 20 years. Between 1960 and
1972 for example, recorded production increased by 19% for wine, by 68% for beer and by 61% for distilled spirits. Both industrialized and developing countries have contributed to this increase. A study of 26 countries in various regions of the world showed that the annual consumption of alcoholic beverages in terms of 100% ethanol, was about 8 liters a head of the total population in only 2 countries in 1950, but by 1976 this level had reached in 22 countries. (WHO, 1980). In recent years, investigators have made attempts to compare drinking rates and other drinking variables across different countries. Two distinctions are made wet cultures and dry cultures. In wet cultures, alcohol is integrated into daily life and activities (e.g., is consumed with meals) and is widely available and accessible. In these cultures, abstinence rates are low, and wine is largely the beverage of preference. European countries bordering the Mediterranean have traditionally exemplified wet cultures.

In dry cultures, alcohol consumption is not as common during everyday activities (e.g., it is less frequently a part of meals) and access to alcohol is more restricted. Abstinence is more common, but when drinking occurs it is more likely to result in intoxication; moreover, wine consumption is less common. Examples of traditionally dry cultures include the Scandinavian countries, the United States, and Canada. (Bloomfield et al, 2002)

More recent comparative research, however, has found that, especially in Europe, the previous wet/dry division seems to be disappearing and a homogenization of consumption rates and beverage preferences is increasingly evident. Reports reveal that wine consumption has decreased in the traditionally wet Mediterranean countries and that overall alcohol consumption has increased in the northern European countries (Allamani et al 2000; Leifman, 2001)
In examining trends in alcohol use across as many as 15 European countries, Simpura and Karlsson (2001) reported rates of abstinence. Among women, the rate of abstention was highest in Portugal and lowest in Denmark. Among men, the abstention rate was highest in Italy and lowest in Denmark.

In a study examining episodic heavy drinking with a common questionnaire in four Scandinavian countries, Mäkelä and colleagues (2001) found that Sweden had the highest 12–month abstinence rate for men, Norway had the highest rate for women, and Denmark had the lowest rate for both genders.

Another aspect of drinking behavior often measured in comparative studies is the frequency of drinking. The study by Hupkens and colleagues (1993) involving 12 EU member states found that Spain had the highest frequency of drinking for men, Italy had the highest frequency for women, and Ireland had the lowest frequency for both genders in general frequency categories. (General frequency categories do not measure the actual number of days when alcohol consumption occurs but provide more general categories, such as “every day or almost every day,” “3 to 4 days per week,” or “never.”)

Wilsnack and colleagues (2000), with their sample of 10 countries, found the highest frequencies of drinking (i.e., number of drinking occasions in a month) among Dutch women and Czech men and the lowest frequencies was among Estonian women and men.

Binge drinking (sometimes called heavy episodic drinking) has been included as a measure in some recent comparative studies: Wilsnack and colleagues (2000), in an analysis that included 10 countries, found that Canadian men and Swedish women had the highest percentages of drinkers who had engaged in heavy episodic drinking (the definitions of this term varied among
the countries) in the last 12 months. Conversely, Israeli men and women had the lowest percentages of heavy episodic drinking. (This analysis included current drinkers only.)

Studying data from four Scandinavian countries, and considering data from all respondents (drinkers and nondrinkers), Mäkelä and colleagues (1996) found that Danish men and women had the highest annual frequencies of consuming six or more drinks on one occasion, and Norwegian men and Finnish women had the lowest frequencies.

In investigating gender differences in drinking, the International Research using the standard measures developed by IRGGA, researchers compared women’s and men’s drinking in 16 general population surveys from 10 countries: Australia, Canada, the Czech Republic, Estonia, Finland, Israel, the Netherlands, Russia, Sweden, and the United States (Wilsnack et al. 2000). In all countries, men were more likely to drink than women, and male drinkers consumed alcohol more frequently and in larger amounts, and were more likely to have alcohol–related problems than female drinkers. Using comparable measures constructed from the data sets collected in the study countries, the group found that lifetime abstention for both men and women was highest in Israel (ages 18–40 years) and lowest in the Czech Republic.

The consistency of this pattern across countries (and in other research literature) suggests that gender differences in drinking behavior may be biologically influenced.

In India, the epidemiological surveys reveal very little research that detail statistic on women consumption levels. According to Mohan (1976) who coordinated an ICMR survey, alcohol is seen to be the most widely used drug in India and is hitting the most productive section of the society. Most of the studies conducted, focus women as victims of male alcoholism or as powerful agents of community change against alcohol consumption; as in case of Imphal (in
Manipur) where women have formed an association against drunkard men and keep a vigil at night in front of liquor shops and bars. In the hills of Uttar Pradesh and tribal areas of Bihar similar movements have met with notable success. Sporadic reports of alcohol use and abuse among women are slowly emerging (Prasad, 1998; Kapoor.S.L., Malika.R., Gopinathp.S., 1998).

In a national sample survey of 471,143 people over the age of 10 years in 1995–96, Neufeld D. et al (1999) reported a prevalence of regular use of smoking tobacco to be 16.2%, chewing tobacco 14.0%, and alcohol 4.5%. Men were 25.5 times more likely than women to report regular smoking, 3.7 times more likely to regularly chew tobacco, and 9.7 times more likely to regularly use alcohol. Respondents belonging to scheduled castes and tribes (recognized disadvantaged groups) were significantly more likely to report regular use of alcohol as well as smoking and chewing tobacco. People from rural areas had higher rates compared to urban dwellers, as did those with no formal education. Individuals with incomes below the poverty line had higher relative odds of use of chewing tobacco and alcohol compared to those above the poverty line. The regular use of both tobacco and alcohol also increased significantly with each diminishing income quintile.

In Pondicherry, Surya and others found that 3.6%/1000 were alcoholics and drug addicts. In Vellore, Varghese and coworkers found that 2/1000 were addicted to alcohol. In rural communities in west Bengal, Nandi and Associates found the proportion of alcohol addicts to be 19/ 1000; And in Lucknow city, Thakkore found it to be 18. / 1000 (Chunkapura J.,1998).

The prevalence rate of alcohol consumption was 25.11% in urban and 60% in rural area, of district Amritsar. Regular users of alcohol were of the order of 10.77% and 17.03% in urban and rural area respectively. Majority of the regular users were in age bracket 40-49 (26.3%) and 50-
59 (71.4%) in urban and rural area respectively. 30.9% of these regular users in urban and 52.1% in rural area had their first drink in 20-29 years of age. 93.75% and 79.71% of the persons were married. Majority of the regular users consumed or preferred to consume alcohol with some company. More than three fourth of these in Urban (87.5%) as well as in rural (82.9%) area, were consuming alcohol daily (Singh. J.).

Deb and Jindal (1974) studied the patterns of alcohol use in selected progressive villages around Ludianha and found a prevalence rate of 741/1000 among the adult male population. Elnagar, Maittra and Rao (1971) carried out a study in a small community, comprising of 184 families with 1383 members in west Bengal. The authors reported the prevalence of addiction to alcohol and opium as 2 percent of the total population. Further, Thakore, Saxena and Kumar (1971) and Thakore( 1972) surveyed 500 families with 2,696 members in the urban population of Lucknow. They found a prevalence rate of 18.55 per 1000 for taking alcohol, cannabis, tranquilizers and stimulants. Majority of current users had started alcohol intake by the time they were 21 year old (Chunkapura, 1986).

Gupta et al, (2002 ) studied alcohol use in middle-aged and elderly population in Mumbai, India, reported that 18.8% were currently consuming alcoholic beverages, of which 32.8% drank on at least 6 days per week. The most popular beverage was locally distilled products of fruits and grain (country liquor). Seventy-five per cent of the consumers of country liquor would consume over 53grms of ethanol on a day when they drank, with 46.6% of these doing so on at least 6 days per week.

Chagas (2005) reported hazardous drinking patterns of 21% among a total sample of 984 Subject among male industrial workers in Goa. Harmful drinking was found exclusively in men
in this population. The male pattern of drinking alcohol in Goa is one of the high rates of abstention coupled with relatively high rates of harmful and dependent drinking in those who consume alcohol (Costa et al, 2006)

The prevalence rate of alcohol consumption amongst women in India is vaguely reported and studied under the umbrella of drug and substance use. In a major study conducted by Kapoor (1992) over 60% of respondents reported greater dependence on prescription pills than alcohol, while only 38% reported primary dependency on alcohol, others had frequently used alcohol in combination with other drugs. D’costa G. et al, (2009) reported women who visited medical services and who consumed any alcohol were more likely than abstainers to own their own homes, be Goan, Catholic and literate, and have higher education and higher incomes. Of the total population; 07 % women consumed alcohol at dependence levels compared to 15% men. Another data comes from Rajasthan, where 25% of people aged 15 and over (36.1% men and 13.4% women) drank alcohol, while 3% (5.6% men and 0.5% women) were found to be alcohol dependent (Sundaram et al., 1984). A more recent survey conducted across India (including Goa) reported that 18.3% of men between the ages 12 and 60 consumed alcohols (Srivastava et al., 2003). Epidemiological studies throughout the world thus report that men consume more alcohol than women.

**Biological Determinants**

Sex differences in the factors underlying the development of alcoholism (i.e., its etiology) may be manifested as differences in prevalence, in the magnitude of genetic influences, and in the sources of genetic influences (i.e., sex specific transmission of genetic risk factors). The magnitude of genetic influences on alcoholism risk may also be sex specific. Evidence from twin
and adoption studies of alcoholism in males has consistently supported the existence of moderate genetic influences, accounting for about half of the population variation in liability to develop alcoholism (Prescott 1996). However, the evidence regarding the role of genetic factors in alcoholism in women has varied across studies. Such sex differences in the magnitude of genetic influence could arise from the interactions between genes associated with alcoholism risk and other physiological processes. For example, numerous physiological differences between men and women in the rate of alcohol absorption and metabolism are likely to be genetic in origin and may influence the development of alcoholism.

The reason why the number of units is higher for men is because generally, men have a higher level of tolerance than women and metabolize (break down) alcohol more quickly than women. Women have higher levels of body fat and less water in their bodies than men which means that alcohol is not easily diluted and so remains in the body much longer than for men. This is why women often become drunker more quickly or are unable to consume as much alcohol as men although there are exceptions. Men are bigger and heavier which is why they are able to consume larger amounts where as women are smaller and lighter.

Researchers have argued that the scenario of inheritance is more complex, and what is inherited is a mix of personality traits, such as those related to antisocial behavior, rather than alcoholism itself. Genes might play a direct role in the development of alcoholism, as in affecting the body's metabolism of alcohol; or they might play a less direct role, influencing a person's temperament or personality in such a way that the person becomes vulnerable to alcoholism.

a. Genetic Influences are well documented in men but uncertain in women. Heath et al (1997) consider genetic risk factors as an important role in determining alcohol dependences risk in
women as well as men, with the exception of certain socio cultural variables such as religious affliction, the same personality. Still being studied is a marker referred to as the dopamine D2 receptor, which Blum and co-workers, Kendler, K.S., and Prescott, C.A (1997), found to be present more often in alcoholics than in nonalcoholic Prescott, C.A. (1999). In animal studies, the dopamine D2 receptor had been associated with brain functions relating to reward, reinforcement, and motivation. However, a number of researchers have been unable to duplicate the results of Blum's study (Bohman, M.; Sigvardsson, S.; and Cloninger, C.R., 1981; Cadoret, R.J.; Yates, W.R.; Troughton, E.; et al., 1986.) The relative contribution of genetic factors to women's risk for alcoholism has been debated. A survey of 2,163 female twins revealed greater similarity between identical twins compared with fraternal twins on measures of alcohol consumption (Prescott, C.A., and Kendler, K.S., 1996). Similar studies including more than 12,000 twin pairs from the general population have confirmed that among both male and female twin pairs, identical twins are more likely than fraternal twins to have similar rates of alcohol dependence, alcohol abuse, and heavy alcohol consumption (Kendler, K.S., and Prescott, C.A., 1997; Prescott, C.A., 1999). The transmission of the vulnerability to alcoholism from parents to their daughters is due largely or entirely due to genetic factors. (Kendler et al, 2000).

Studies of women who had been adopted at birth have shown a significant association between alcoholism in adoptee and their biological parents (Bohman, M.; Sigvardsson, S.; and Cloninger, C.R., 1981). In addition, antisocial personality (e.g., aggressiveness) in biological parents may predict alcoholism in both male and female adoptee (Cadoret, R.J.; Yates, W.R.; Troughton, E.; et al., 1986). However, potential interactions between genetic and environmental influences require further study.
Using laboratory animals, researchers are currently attempting to identify gender-specific genetic factors whose interactions might contribute to differential sensitivity to alcohol’s effects. (Fernandez, J.R., Vogler, G., Tarantino, L.M., et al., 1997)

b. Physiological Effects

Women absorb and metabolize alcohol differently than men. In general, women have less body water than men of similar body weight, so that women achieve higher concentrations of alcohol in the blood after drinking equivalent amounts of alcohol (Frezza, M.; Di Padova, C.; Pozzato, G.; et al. 1990; Taylor, J.L.; Dolhert, N.; Friedman, L.; et al. 1996). In addition, women appear to eliminate alcohol from the blood faster than men. This finding may be explained by women’s higher liver volume per unit lean body mass (Li, T.K.; Beard, J.D.; Orr, W.E.; et al. 1998; Kwo, P.Y.; Ramchandani, V.A.; O’Connor, S.; et al. 1998), because alcohol is metabolized almost entirely in the liver (Levitt, M.D.; Li, R.; DeMaster, E.G.; et al., 1997).

Compared with men, women develop alcohol-induced liver disease over a shorter period of time and after consuming less alcohol (Tuyns, A.J., and Pequignot, G 1984.; Gavaler, J.S., and Arria, A.M., 1995). In addition, women are more likely than men to develop alcoholic hepatitis and to die from cirrhosis (Hall, P.M., 1995). Animal research suggests that women’s increased risk for liver damage may be linked to physiological effects of the female reproductive hormone estrogen (Ikejima, K.; Enomoto, N.; Iimuro, Y.; et al., 1998).
Views of the brain obtained by magnetic resonance imaging (MRI) suggest that women may be more vulnerable than men to alcohol-induced brain damage. Using MRI, researchers found that a brain region involved in coordinating multiple brain functions was significantly smaller among alcoholic women compared with both nonalcoholic women and alcoholic men. These differences remained significant after measurements were adjusted for head size (Hommer, D.; Momenan, R.; Rawlings, R.; et al., 1996). Conversely, a study measuring metabolic energy utilization in selected brain regions found a significant difference between alcoholic and nonalcoholic men but no significant difference between alcoholic and nonalcoholic women.

These results are not consistent with a greater vulnerability to alcoholic brain damage in women. However, the female alcoholics reported less severe alcohol use compared with the male alcoholics studied (Wang, G.J.; Volkow, N.D.; Fowler, J.S.; et al., 1998).

Drinking during pregnancy can lead to a range of physical, learning, and behavioral effects in the developing brain, the most serious of which is a collection of symptoms known as fetal alcohol syndrome (FAS). Children with FAS may have distinct facial features. FAS infants also are
markedly smaller than average. Their brains may have less volume (i.e., microencephaly). And they may have fewer numbers of brain cells (i.e., neurons) or fewer neurons that are able to function correctly, leading to long-term problems in learning and behavior (NIAAA, 2004).

**Breast Cancer:**

Many studies report that moderate to heavy alcohol consumption increases the risk for breast cancer (Smith-Warner, S.A.; Spiegelman, D.; Yaun, S.S.; et al. 1998), although one recent study found no increased breast cancer risk associated with consumption of up to one drink per day, the maximum drinking level reported by most women (Zhang, Y.; Kreger, B.E.; Dorgan, J.F.; et al. 1999).

**Heart Disease:** Men and women who consume one or two alcoholic drinks per day have a lower death rate from coronary heart disease (e.g., heart attacks) than do heavier drinkers and abstainers, (NIAAA, 1999). However, Among heavier drinkers, research shows similar rates of alcohol-associated heart muscle disease (i.e., cardiomyopathy) for both men and women, despite women's 60 percent lower lifetime alcohol use (Urbano-Marquez, A., Estruch, R., Fernández-Solá, J., et al. 1995).

*Figure 2.4* show photographs of the Heart before and after excessive chronic alcohol intake (courtesy department of education U.K)
A) Normal heart  B) Alcoholic Cardiomyopathy

- weakened by chronic excessive alcohol intake.

**Fetal Alcohol Syndrome:**

This is a disorder that affects infants whose mothers have been taking excessive amounts of alcohol during pregnancy. The condition consists of facial abnormalities, small teeth, small head with mental retardation, poor coordination of movements and growth deficiency. Between 25 to 35 per cent of children born to chronic alcoholic women show evidence of fetal alcohol syndrome.

**Cognitive Impairment:**

Alcohol can produce detectable impairments in memory after only a few drinks and, as the amount of alcohol increases, so does the degree of impairment. Large quantities of alcohol, especially when consumed quickly and on an empty stomach, can produce a blackout, or an interval of time for which the intoxicated person cannot recall key details of events, or even entire events. (NIAAA, 2004)

In a survey of college undergraduates, White et al reported that these students were unable to remember the events after getting drunk especially involving if they had involved in vandalism, unprotected sex, and driving.

A woman’s tendency to black out more easily probably results from differences in how men and women metabolize alcohol. Females also may be more susceptible than males to milder forms of alcohol–induced memory impairments, even when men and women consume comparable amounts of alcohol. (Mumenthaler, M.S., Taylor, J.L., O’Hara, R., et al., 1999)
Up to 80 percent of alcoholics, however, have a deficiency in thiamine, and some of them will go on to develop serious brain disorders such as Wernicke–Korsakoff syndrome (WKS) (Morgan, M.Y., 1982; Martin, P.R., Singleton, C.K., and Hiller–Sturmhöfel, S.H., 2003).

The Psychological Correlates

Beckman (1978) found that alcoholic women were lower on self-esteem coupled with high neuroticism, anxiety ideation. Aubrey C. (1999) studied the problem of the alcoholic self-image and found that the self-image of an alcoholic is more negative than that of a nonalcoholic and that female alcoholic have a more negative self-image than male alcoholics. Beckman J.L. (1999) reports that beside slow self-esteem sex – role confusion was observed among female alcoholics. Also some research pointed out to female alcoholism and dysmenorrheal and menopause and pinpoints a relationship between episodes of heavy drinking and per menstrual tension. Soreli G.T., (1998) found that self-esteem and predominantly androgynous and masculine sex typed were observed with nonalcoholic women whereas alcoholic showed levels of low self-esteem, masculinity and femininity and psychological masculinity was the major factor distinguishing alcoholic from nonalcoholic women, as well as, better predictors of self-esteem than alcoholics.

Female alcoholics had a lower self-image than male alcoholics but not in every aspect. The alcoholic women perceived themselves more negatively when it came to self-satisfaction, personal self and social self. They were however more positive than the males in the sector of identity, behavior, physical self, moral ethical self and family self. The alcoholic male were more openly self-critical than the alcoholic female. (Piazza N.J., 1989)
Social Cultural Variables

Several reasons have been suggested for the differential in drinking patterns between men and women (Myerson, 1940; Gusfield, 1962; Lisansky, 1958). Windham and Aldridge (1965) as well as Siegel (1952) referred to the traditional belief that the use and abuse of alcohol was a male prerogative. Clark (1967) suggested that drinking differences are based largely on the expectation that female sex roles are characterized by what he termed ‘conventionality’. By this he referred to the ‘acceptance of the dominant 'official' standards of morality and propriety’. Preston (1964) similarly asserted that drinking is often a symbol that differentiates the sexes. Windham and Aldridge (1965) additionally pointed out that women traditionally tended to be economically dependent on and subordinate to men. In this regard Knupfer et al. (1963) emphasized that "other members of the population who do not earn their living by paid work also have more restricted drinking privileges than adult free males-for example, children, prisoners, mental patients, and persons on relief".

Wilsnack and Wilsnack (1978) point out that increased drinking among females might be a result of the women’s' movement and changes in women’s roles, especially changes that involve exposure to formerly masculine environments and roles. They suggest that changes in sex roles might increase women’s' exposure to alcohol and opportunities to drink; might modify traditional norms against female drinking, thereby making drinking more permissible; and might offer females new goals and aspirations, thus causing stress that alcohol might be used to reduce.

Gender’s influence on drinking patterns and problems has also been the subject of increased attention as a result of research in the United States and Canada (e.g., the work of Ferrence, Fillmore, Graham, Nadeau, and S. and R. Wilsnack; see Wilsnack and Beckman 1984) as well as
in Europe (including work by Ahlström, Haavio-Mannila, and Holmila in Finland; Kubicka in the Czech Republic; Neve in the Netherlands; and Spak in Sweden; see Haavio-Mannila 1989; Kubicka et al. 1995; Neve et al. 1996). Pioneering meta-analyses of international longitudinal surveys (Fillmore et al. 1997) found that, consistently across cultures, men drank more than women and that marriage and aging reduced both women’s and men’s drinking. Depression predicted subsequent increases in drinking among women but not among men. Such quantitative research has been complemented by a growing number of ethnographic studies on cultural patterns in the differences between men’s and women’s drinking (e.g., Gefou-Madianou 1992; McDonald 1994).

However, substantial variation in the magnitude of gender differences across countries suggests that the differences are also strongly influenced by socio cultural factors. For example, according to statistics on monthly frequency of drinking, in the Netherlands men drank 1.43 times as often as women, and in Israel men drank 3.24 times as often as women (Wilsnack et al. 2000). One hypothesis developed from these analyses proposes that relatively small biological differences in how alcohol affects women and men are magnified by cultural rules for how women and men should or should not drink. One reason why gender differences in drinking effects may be culturally magnified is that differences in drinking behavior may be a useful way to symbolize more general differences in gender roles and to make gender role differences more conspicuous.

Thus, many societies with major differences in men’s and women’s roles have also largely forbidden women (but not men) to drink (McDonald 1994; Medina-Mora 1994). Although societal attitudes toward alcoholic men have become more enlightened since the 19th century, attitudes toward alcoholic women have not changed substantially (Blume, 1997). Throughout Western history, alcoholic women have been subjected to more restrictions than alcoholic men.
and have been punished more harshly for defying codes against drinking (Sandmaier, 1992). As a result, alcoholic women confront many of the same negative attitudes today as did their counterparts of the 1800s.

**Availability**

Patterns of alcohol use are affected by culture and history and intertwined with the rhythms of work life. Recent international research on gender and alcohol has clearly demonstrated that programs and policies that try to be gender–sensitive cannot ignore cultural influences. Large cross–national variation in gender differences in drinking behavior indicates that biological factors alone cannot account for differences in how women and men drink. To be gender–sensitive, education, prevention and treatment programs, and alcohol policies must take into account both biological differences in alcohol effects and culturally defined gender roles that specify expected and tolerated drinking behavior for women and men. For example, prevention strategies targeting social norms that promote high–risk drinking behaviors among males may be particularly appropriate and needed in countries with highly gender–differentiated drinking behavior (Pyne et al. 2002).

Psychosocial factors play a key role in the onset and developmental progression of alcohol use. These include social influences from parents and peers, perceived drinking norms, and positive expectancies. Moreover, research has shown that social influences to drink outranked cognitive and behavioral factors in predicting initial involvement with alcohol longitudinally (Ellickson and Hays, 1991). Certain aspects of the particular family environment may be important influences. These include the individuals genetic heritage (Schuckit, 1987; Peale, 1986) the drug use of parents, and the nature of family environment, (Zucker& Gomer, 1986). Social learning
theory (Bandura, 1977) provides a useful theoretical framework for understanding the role of social influences, suggesting that adolescent alcohol use is a learned behavior acquired through a process of observation, modeling, imitation, and social reinforcement. In some cultures, Religious traditions serve as a barrier against drinking. In a study by Yehuda D. N. et al., examining data from a 1995 national household survey comprising of Jews and Muslim Arabs in the present day Israeli society where Jewish tradition permits controlled alcohol drinking, whereas Muslim tradition prohibits the use of any alcohol. It was found that the influence of religiosity and other factors on drinking patterns of Jewish and Arab adults were positive. Significantly higher rates of drinking were noted for secular men and women than for religious respondents in both nationality groups.

In another study by Patock-Peckham, using college students, revealed that students with no religious affiliation reported significantly higher levels of drinking frequency and quantity, getting drunk, celebratory reasons for drinking and perceived drinking norms than those of either Catholic or Protestant religious affiliation, while no significant differences across groups were found for alcohol use problems. Protestants reported significantly higher levels of perceived drinking control than Catholics. Intrinsic religiosity, reflecting one's ego involvement with the tenets of one's religion, appeared to play a more important positive role over drinking behaviour for Protestants than for Catholics.

In a large population-based sample of Dutch adolescent and young adult twins (1967 twin pairs) indicate the possible role of religious upbringing as a mediator of the shared environmental influences. Koopmans J.R. et al found higher genetic heritability for females without a religious upbringing compared to females with a religious upbringing. Genetic influences accounted for 40% of the variance in alcohol use initiation in nonreligious females, compared to 0% in
religiously raised females. Shared environmental influences accounted for 54% of the variance for nonreligious females and 88% of the variance in religious females. For males, the genetic variance was also higher in the nonreligious group compared to the religious group, but this difference was not statistically significant. Whether or not they were raised religiously, the liability to alcohol use initiation in males was moderately influenced by genetic factors (30%) and substantially influenced by shared environmental factors (60%).

In other cultures, religion acts as a facilitator; Gupta and others for e.g. reported that Hindus were more prone to drug addiction 82% and alcoholisms 64% than the followers of other religions. A similar observation was made by Dude and others who reported a higher prevalence of drug use among Hindus 63% and other religious groups 62% than among muslim40%

Some religion widely prohibits the use of alcohol and such communities therefore have low rates of alcoholism. Thus the availability and acceptability of drugs are determined largely by religious permissiveness.

**Family, Parental Influences, Child Rearing Practices:**

The family is an important early influence that can either deter or promote alcohol use. Family factors include the modeling and reinforcement of drinking behavior by parents and siblings, as well as permissive attitudes toward drinking by parents. Numerous studies have found that adolescent drinking was associated with drinking by family members (e.g., Goodwin, 1985; Hansen et al., 1987; Rachal et al., 1982). Parents who allowed their fifth-grade children to drink at home were more likely to have children who drank alcohol later (Jackson et al., 1999). Moreover, children of parents who drank were less likely to view drinking as harmful (Hawkins et al., 1997). Although congruence between adolescent and family drinking may be the result of
either genetic or environmental factors, research conducted with twins and other siblings found a social contagion dimension to adolescent drinking that was independent of genetic relatedness (Rende et al., 2005), suggesting that social influences are primary factors in initiating drinking.

According to Mcord (1965) Substance use has been attributed to family problems particularly early separating from one or both the parents. Mowrer (1942) views the family as central in the creation of the personality but sees addiction as the result of multiple sociological and psychological reasons. From (1941) suggest powerlessness, and a need to submit to another authority as cause of addiction and sees addiction as a sadomasochist trait in the addict. Chein (1969) links addiction to the degree of family emotional health. Mohan d. et al (1980) found that more users than non-users are dissatisfied with 15.83% and 8.63 % or in different 29.9% and 23.7% to their present family life.

Fergusson et al (1979) found that there is relationship between aspects of family life and differential involvement in addictive drugs and alcohol. Results of studies pointed to a negative association between degree of addiction and subjective feeling of satisfaction and involvement with as well as the ability to relay upon the family as a unit.

Dube and others observed that students whose parents, especially fathers who had received secondary educational university education had a higher drug use than those whose parents had only primary and informal education. Khan observed that students coming from highly educated families had experimented with psychotropic drugs during their school days.

Lewis and Osberg (1958) also noted that the family addicts showed lack of cohesiveness. However Rosenberg pointed out that less than half of his subject addicts came from family background where the addict had both parents live with them at least till the age of 15 yrs.
Ansubel (1961) And Bender (1963) And Robins (1966) found that addicts with psycho path personalities with alcohol and drug abuse had parents who were uninterested in them and exercised very little discipline. While Zimmering (1954) And Lewis & Osberg (1958) point out that over dominating mothers are responsible for addictive patterns traits. Hirsh’s (1961) theory suggests that some sons who are infantilized by rejecting narcissistic mother are prone to addiction. In a study conducted by Rosenberg on 50 drug addicts under the age of 31, frequent parental rejection and neglect was found. Majority of subjects came from working class families disrupted by heavy drinking broken marriages and mental or physical illness.

Roseberg (1971), Chein and Blum (1972) suggest that the presence or absence of parent is less crucial than the nature of the parent child relationship. If the parental relationship is positive then the child is less likely to become involved with drugs. The mere presence of a parent seems unimportant if that parent is not effectively involved with the child.

Fergusson et al. (1970) found that alcoholism and addiction to drugs is a social activity which takes place within a social group. In a study of 300 prisoners in India, Kodandaram and Murthi observed drug abuse to be most prevalent during adolescence and early adulthood. Empirical findings in the Indian socio-cultural context consistently revealed that the use of drugs is positively linked with family income. Khan (1982) reported family income and pocket money received as having a significant association with drug use.

Using data collected in a large general population survey, Wilsnack and colleagues (1997), found that women who reported being sexually abused in childhood were more likely than other women to have experienced alcohol-related problems (e.g., family discord or household accidents) and to have one or more symptoms of alcohol dependence. Another study found that
women in alcoholism treatment were significantly more likely to report childhood sexual abuse and father-to-daughter verbal aggression or physical violence compared with women in the general population (Miller, B.A. 1993)

Widom and colleagues (1995), consulted court records to identify cases of childhood physical or sexual abuse; These researchers found that for women, a history of childhood neglect, but not abuse, significantly predicted the number of alcohol-related symptoms experienced, independent of parental alcohol or other drug problems, childhood poverty, race, and age.

Although there is considerable research documenting the direct influence of family and peers on adolescent alcohol use, little is known about the process through which this occurs. One thesis is that social factors may influence alcohol consumption via alcohol-related expectancies. Thus family influence can affect alcohol consumption through modeling, reinforcement and neglect by dysfunctional alcoholic parents.

**Peer Pressure:**

Peers and friends also exert a potentially powerful social influence on drinking behavior and it has been identified as the cause of initial drug use. Those with strong affiliate needs are particularly likely to be influenced by the encouragement of their friends and associates to engage in drug taking. Such encouragement often appears to be an important precursor of drug use. Most research in general has found that by late adolescence peers are typically the strongest influence on personal behavior, especially with regard to alcohol and substance use (Kandel, 1980, 1985). Lo's (1995) study of first-year students at a southern university found that peer norms were stronger predictors of level of intoxication than were parental norms, with peer influence being greatest for men. Likewise, Perkins'(1985) study of a cross-section of
undergraduates at a northeastern college found peer influences (perceived friends’ drinking norm and fraternity membership) to be much stronger predictors of alcohol consumption than other background factors including religion, gender and parents' attitudes. The strength of peer influence may be the key to understanding findings where students will exhibit drinking behaviors on occasion that they oppose in terms of their personal attitudes (Robinson et al., 1993). Furthermore, peer norms may be of particular importance in "peer-intensive" college contexts, for example, undergraduate and residential institutions where students lack frequent contact with parents. Orocutt (1991) found that students disposed to drink heavily did so among friends. These students viewed the presence of peers, presumably perceived to be of like mind, as encouragement or normative support for them to act on their drinking preferences. Martin and Hoffman (1993), studying undergraduates at an eastern university, found that peer influence in terms of the number of college and non-college friends who drank was a significant predictor of personal consumption even after controlling for the individual's living environment and positive expectancies associated with alcohol use.

Adolescent drinking has been associated with alcohol-using peers in predominantly white samples (e.g., Kandel, 1986; Kandel and Andrews, 1987; Sieving et al., 2000). Research indicates that social influences to drink stem from both the initial selection of friends (i.e., choosing friends) and the subsequent maintenance of friendships with positive reinforcement and other rewards (Windle, 1999). Although most research has been conducted with predominantly white samples, some studies have also found similar relationships between adolescent drinking and social factors among minority populations. For example, cross-sectional studies conducted with black and Hispanic adolescents indicated that peer and parental use were related to adolescent drinking (e.g., Beal et al., 2001; Brook et al., 1997; Feigelman et al., 1995; Forney et
Thus previous research concerning the social influences of family and peers provides important information about the etiology of adolescent alcohol use. However, the existing literature has several important limitations: studies were conducted with predominantly white populations, findings were based on an examination of cross-sectional relationships, and data sets contained a limited array of social influence variables.

Alcohol use is not only influenced by the actual behavior of individuals in the adolescent's social environment, it is also influenced by perceptions of that behavior—even if those perceptions are erroneous. Research has shown that adolescent drinking norms for friends, peers, and adults tend to be inaccurate. For example, in a study by Prinstein and Wang (2005), adolescents' perceptions of their friends' behavior strongly predicted their own behavior. However, perceptions of their friends' drinking behavior were found to be discrepant from their friends' actual behavior, including heavy drinking. Moreover, adolescents who overestimate the prevalence of health behaviors, such as tobacco or alcohol use, have been found to be at higher risk for engaging in those behaviors (e.g., Botvin et al., 1992). The overestimation of others' behavior, referred to as the false consensus effect, serves as an additional social influence promoting adolescent alcohol use.

**Age of Initiating Drinking:**

Alcoholism has traditionally been considered a problem of middle life but recent studies are suggesting that alcohol problem might be increasing among young people.

Results of a large nationwide survey in the United States show that more than 40 percent of persons who initiated drinking before age 15 were diagnosed as alcohol dependent at some point in their lives. According to Grant, B.F., Rates of lifetime dependence declined to approximately
10 percent among those who began drinking at age 20 or older. The annual rate of this decline was similar for both genders. Although in the past women generally started drinking at later ages than men, more recent survey data show that this difference has nearly disappeared. Women’s drinking is most common between ages 26 and 34 and among women who are divorced or separated. Binge drinking (i.e., consumption of five or more drinks per occasion on 5 or more days in the past month) is most common among women ages 18 to 25 (Su, S.S.; Larison, C.; Ghadialy, R.; et al., 1997). Among racial groups, women's drinking is more prevalent among whites, although black women are more likely to drink heavily NIAAA. (1998).

Cahalan and Casin found that men aged 21 to 41 yrs had the highest rates for any age group of high drinking, loss of control and alcohol related problems with money, friends, neighbours and police. Robins indicated that non alcoholics black males reported heaviest drinking at approximately age 25. Mulford and Miller discovered that the highest rates of heavy drinking in men occurred in the youngest group studied 21 to 25 years old, while Baiely Et Al. reported a rate of alcoholism for men age between 20 to 24 yrs of 13 per 1000.

Women’s drinking is most common between ages 26 and 34 and among women who are divorced or separated. Binge drinking (i.e., consumption of five or more drinks per occasion on 5 or more days in the past month) is common among women ages 18 to 25 years (Su, S.S. et al.,1997). Severity of drinking problems appears to decrease progressively with advancing age beyond young adulthood. (Cahalan And Room, 1974)

**Psycho Social Consequences of Alcohol Consumption:**

The ill-effects of alcohol drinking behaviour affect not only the index drinker but the entire family and the society as well. In today's context, alcohol-related problems are seen as a disease
affecting the whole family and/or as a social problem and the evidence of the role of the family and society in both the etiology and management of the disease compel us to examine the psychosocial aspects of alcohol-related problems.

The family

The relationship between an alcohol addict and his/her family is complex. Family members report experiencing guilt, shame, anger, fear, grief and isolation due to the presence of an alcohol addict in the family. They are often subjected to moderate to severe forms of harassment, conflict and tense atmosphere when they confront the drinking behaviour of their alcohol-abusing family member. Spouses in families where there is chronic, excessive use of alcohol are frequently separated. Children of alcohol abusing persons report a higher incidence of emotional and school-related problems. Another complication seen in the families of alcohol abusers is that of codependence which is a term that describes a condition wherein the life of a partner or spouse of an alcohol abuser is affected and the spouse develops an unhealthy pattern of coping with life and often unconsciously maintains the abuser's condition despite being troubled about the condition at a conscious level. Other complications in the family include long absences from home, destruction of household objects in rage, lack of communication between the alcohol addict and the remaining family members, hostility and criticism that marginalize the alcohol addict, and domestic accidents.

One of the frequently occurring, but not adequately recognized effects of alcohol abuse is domestic violence. This is known to occur across all strata of the society, but is believed to occur more commonly in the lower strata and with more significant impact on women and children who are the victims. The contribution of alcohol use to the overall phenomenon of domestic violence is large. With a large proportion of families being in the lower socio-economic status in
the countries of the Region, the role of alcohol in domestic violence deserves to be specifically focused on in programmes for women's empowerment.

**Occupational Impairment**

Excess alcohol consumption results in a high degree of absenteeism, unpunctuality, poor work efficiency, loss of dexterity in skilled jobs or accidents while working with heavy machines which can permanently cripple a worker. Alcoholism among the work force directly affects the output and income generated by the industrial sector adversely. People with alcohol abuse are known to engage in petty quarrels or fights and maintain strained relationship with peers and superiors further affecting their performance at work. Not infrequently, these problems culminate in the loss of a job which further complicates the family's financial situation.

**Social and legal aspects**

Another area where frequent complications are seen due to alcohol abuse is the social and legal areas. Frequent brawls following intoxication, encounter with the police and other law enforcement agencies following thefts etc. to obtain money to maintain a regular intake of alcohol are common. Crimes committed following inebriation, including rape, sexual and/or physical assault, exploitation of women in commercial sex work and homicide makes societies with a high prevalence of alcohol abuse crime-laden and unsafe for living. Another social and legal consequence with regard to alcohol consumption is the number of traffic accidents related to people driving under the influence of alcohol. Both developed and developing societies report high rates of traffic accidents related to alcohol consumption. Statistics over the last few decades have forced people in the West to respond by formation of self-help or support groups such as ‘Mothers against Drunken Driving (MADD)’. The loss of property, destruction of automobile and the more significant loss of productive members of the
society as well as the burden of disability faced by persons following alcohol-related traffic accidents are serious concerns for any society. Campaigns against drunken driving and mobilizing public opinion against it have been found to be effective in the West. The countries in the Region have also witnessed the initiation of few such campaigns but are still far from generating public opinion on the issue. Successful campaigns of this nature are good examples of "harm reduction strategies" since the focus is not on preventing people from using alcohol but preventing them from driving under the influence of alcohol, thus focusing specifically on reducing the harm that is caused by drunken driving.

In 12 major hospitals of Bangalore city India, revealed that nearly 28% of traffic injuries were directly attributable to alcohol. Among drivers that were being tested for alcohol consumption and driving, 35% were above the legally permissible limits of 30 mg/100 ml when checked on breath analyser. It was the young male (25-39 years), literate ,with heavy drinking in bars or at parties, either alone or with friends , knowledgeable about hazards of drinking but ignorant of dangers or legal consequences, who were posing greater dangers on the road.( NIMHANS, 2008)

**Financial Implications**

Alcohol imposes a high economic cost on society. One estimate puts the yearly economic cost of alcohol abuse in the United States to be US $ 148 billion, including US$ 19 billion for health care expenditure. In Canada, the economic cost of alcohol amount to approximately US$ 18.4 billion, representing 2.7 per cent of the gross domestic product. Studies in other countries have estimated the cost of alcohol-related problems to be around one per cent of the gross domestic product.

One of the harms related to alcohol is the adverse impact on the financial status of the family of the alcohol abuser. There is an increasing level of expenditure by the alcohol addict to sustain
his/her habit. Gradually, due to the restrictions that the family income imposes, the alcohol addict begins to borrow money, steal and/or sell household objects in order to sustain his/her habit. Often the loss of a job due to poor occupational performance further affects the family income adversely.

**Pay-day drinking:**

One of the common psychosocial complications affecting many persons and families is referred to as "pay-day" drinking, which involves a heavy drinking pattern on the day that persons with blue collar jobs receive their wages. The common pattern of weekly or monthly wages being distributed in cash leads to persons with propensity for alcohol abuse to spend significant amounts of the ready cash available on the day, leading to scarcity of money for clothes, food, education of children, health and other essential family needs. Often people have to borrow money at high rates of interest and can be driven into poverty. These binge drinking episodes can also lead to domestic violence, road traffic accidents, absenteeism and other such problems.

According to Benegal V. (2009) alcohol dependent Individuals spent more than they earned. Most people take loans to support their habit, working days and some lose their jobs. Such families were supported by income from other family members – and they sent children under 15 to work to supplement family income.

**Other psychosocial complications**

When people are of the lower socioeconomic status, they often consume excessive amounts of illicit or homebrewed alcohol, in such cases, there has been many instances of poisoning and mass deaths following consumption of poor quality liquor. Often the standards of brewing and preparation are poor in order to make country liquor inexpensive and affordable. Such tragedies devastate entire families which lose their productive members. Other examples of psychosocial
consequences of alcohol use include tragedies related to ending one's life (suicide) or other's life (homicide) following intoxication. Thus the repercussions of alcohol abuse on the individual, family and society are multi-dimensional and the extent to which each of these areas is affected adversely will depend on the severity of alcohol abuse, personality of the individual, level of social and occupational functioning prior to the onset of the alcohol abuse habit, financial status of the patient, and the available social support.

**Conclusion**

Alcohol which was once considered a problem for men is slowly emerging as a concern for women today. In India, with drinking no longer taboo for the middle class urban women; young women are slowly joining the band wagon of alcohol misuse and abuse. Women find themselves visiting night clubs and bars as a way to relive work pressure, professional networking and peer pressure. With little excuse to celebrate, young women today are drinking more than the safe alcohol limit per week. Women’s drinkers account for quarter of the Indian alcohol industry’s annual 15 percent growth. Ironically however nature does not favor the fair sex when it comes to alcohol effects on the body. Alcohol has a more toxic effect on women than on men. It not only effects various body organs that is liver, pancreas, intestines reproductive system but it also cause nervous system impairment far earlier than males. Drinking more than 10-14 units of alcohol per week can seriously damage a women’s health. With scientific evidence pointing in this direction there is good reason why all efforts be made that alcohol use should not become misuse or abuse.