

SOCIAL AND PSYCHOLOGICAL FACTORS OF DRUG DEPENDENCY:
A STUDY OF MIZO YOUTH

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CERTIFICATE

This is to certify that the present piece of research titled “SOCIAL AND PSYCHOLOGICAL FACTORS OF DRUG DEPENDENCY: A STUDY OF MIZO YOUTH” is the original research work conducted by Ms. Lalremruati under my supervision. Ms. Lalremruati has worked methodically for her dissertation being submitted for the Degree of Doctor of Philosophy in Psychology of the Mizoram University.

This is to further certify that the research conducted by Ms Lalremruati has not been submitted in support of an application of this or any other university or an institute of learning

Dated 31st October 2019

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DECLARATION

I, Lalremruati, hereby declare that the subject matter of this thesis is the record of work done by me, that the contents of this thesis did not form basis for the award of any previous degree to me or to the best of my knowledge to anybody else, and that the thesis has not been submitted by me for any research degree in any other University or Institute.

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Operational Definition:

Drug dependence – The repeated use of a drug or chemical substance, with or without physical dependence. Behavioural dependence involves drug-seeking activities and related evidence of pathological use patterns, whereas physical dependence refers to the physical (physiological) effects of multiple episodes of substance abuse. Psychological dependence also referred to as habituation, is characterized by a continuous or intermittent craving (i.e., intense desire) for the substance to avoid a dysphoric state. Behavioural, physical and psychological dependence are the hallmark of substance use disorders. Physical dependence indicates an altered physiologic state caused by repeated administration of a drug, the cessation of which results in a specific syndrome

Drug Abuse and Dependence - Abuse is the first category that describes patterns associated with maladaptive patterns of substance use. According to DSM-IV (American Psychiatric Association, 1993), abuse is indicated by a continued use (at least 1 month) despite the knowledge of having persistent or recurring problems associated with the drug, or recurrent use in situations in which that use is physically hazardous. The most commonly followed diagnostic system is that published by WHO, the ICD10 (International Classification of Diseases). ICD 10 classifies Substance Use Disorder into intoxication, harmful use, dependence syndrome, withdrawal state, psychotic disorder and amnesic syndrome. Dependence syndrome has been defined in ICD10 as “A cluster of physiological, behavioural and cognitive phenomena in which use of a substance or a class of substances takes on a much higher priority for a given individual than other behaviours that once had greater value”. The ICD 10 criteria specify dependence as three or more experiences exhibited at some time during a one-year period:

a) Tolerance: there is a need for significantly increased amounts of the substance to achieve intoxication or the desired effect, or a markedly diminished effect with continued use of the same amount of the substance.

b) Physiological withdrawal state: characteristic symptoms experienced on

stoppage/reduction of a substance after prolonged use. The patient uses the same (or closely related) substance to relieve or avoid withdrawal symptoms. Every class of substance produces its own set of signs/ symptoms of withdrawal. For e.g. alcohol withdrawal would produce tremors, sweating, nausea/ retching/ vomiting, insomnia, palpitations with tachycardia, hypertension, headache, psychomotor agitation and in severe cases, hallucination, disorientation and grandmal seizures.

c) Impaired capacity to control substance use behavior in terms of its onset, termination or level of use as evidenced by the substance being often taken in larger amounts or over a longer period than intended; or by a persistent desire or unsuccessful efforts to reduce or control substance use. Thus, an individual may find it difficult to avoid using substances at particular place or time or also to limit him to a particular predetermined amount. Many researchers are of the view that loss of control is the most important criterion determining substance use.

d) Preoccupation with substance use, as manifested by important alternative pleasures or interests being given up or reduced because of substance use; or a great deal of time spent in activities necessary to obtain, take or recover from the effects of the substance.

e) Continued use inspite of clear evidence of harmful consequences, as evidenced by continued use when the individual is actually aware, or may be expected to be aware, of the nature and extent of harm.

f) Strong desire to use substance (craving): This craving may occur spontaneously or induced by the presence of particular stimuli. Exposure to stimuli where or with whom the individual would have used the substance would lead to a strong desire to consume the substance. This is termed 'cue induced' craving.

Gender - is the state of being male or female in relation to the social and cultural roles that are considered appropriate for men and women (Collins dictionary).

Gender refers to the socially constructed characteristics of women and men – such as norms, roles and relationships of and between groups of women and men. It

varies from society to society and can be changed. While most people are born either male or female, they are taught appropriate norms and behaviours – including how they should interact with others of the same or opposite sex within households, communities and work places. When individuals or groups do not “fit” established gender norms they often face stigma, discriminatory practices or social exclusion – all of which adversely affect health. It is important to be sensitive to different identities that do not necessarily fit into binary male or female sex categories.

Gender norms, roles and relations influence people’s susceptibility to different health conditions and diseases and affect their enjoyment of good mental, physical health and wellbeing. They also have a bearing on people’s access to and uptake of health services and on the health outcomes they experience throughout the life-course (WHO - <https://www.who.int/gender-equity-rights/understanding/gender-definition/en/>)

Depression - According to DSM-IV-TR, criteria for a Major depressive episode include - depressed mood and a loss of interest or pleasure as the key symptoms of depression; depressed mood may last for most of the day, nearly every day for at least two weeks. The depressed mood often has a distinct quality that differentiates it from the normal emotion of sadness or grief. Cognitive symptoms include feelings of worthlessness or guilt, thoughts of suicide, poor concentration and indecisiveness. Behavioral symptoms include fatigue or physical agitation. Other features include: often a diminished interest or pleasure in most activities, significant weight change, appetite disturbance (loss of appetite or increase in appetite), sleep disturbance (eg: insomnia), slowed movements and speech, restlessness, decreased feelings of energy, feelings of worthlessness, excessive or inappropriate guilt, difficulty thinking, concentrating, or remembering, indecisiveness and thoughts of death and suicide attempts.

According to DSM V criteria, major depressive episode clinical picture includes depressed mood state that lasts at least 2 weeks and includes cognitive symptoms such as feelings of worthlessness and indecisiveness and disturbed physical functioning such as altered sleeping patterns, significant changes in appetite

and weight, or a notable loss of energy; to the point that even the slightest activity or movement requires an overwhelming effort. The episode is typically accompanied by a general loss of interest in things and an inability to experience any pleasure from life, including interactions with family and friends or accomplishments at work or at school.

Social support - Social support has been defined as a physical and psychological comfort provided by friends and family (Sarason et al, 1987). Taylor and colleagues (2007) had described social support as a concept in which someone receives help from nearby persons to solve the problems, he/she has encountered. It is a broad term that encompasses a variety of more specific characteristics of an individual's social world that might promote well-being and/or increase resistance to health problems (Cohen, Gottlieb & Underwood, 2000). Social support processes are strongly linked to mental and physical health (House, Landis & Umberson, 1988). Lee and colleagues (2004) had defined social support as the strongest device to cope with chronic illness and tensions that make it hard and easy to encounter the problems.

Cohen (1988) has attempted to define the concept of social support in terms of a process through which help is provided to others. This process is influenced by characteristics of the social environment and individual participants, transactions that occur between participants, the resources that are provided and participants' perceptions of these transactions and their implications. He broadly classified social support into three components; social networks, perceived social support, and supportive behaviours.

Personality - Personality is a pattern of enduring characteristics that produce consistency and individuality in a given person. Personality encompasses the behaviors that make each of us unique and that differentiate us from others. Personality also leads us to act consistently in different situations and over extended periods of time. Personality characteristics are associated with distinctive patterns of thoughts, feelings, and actions that occur in response to particular situational demands (Mischel, 2004). It has been found that personality strongly correlates with life satisfaction (Boyce, Wood & Powdthavee, 2013).

The American Psychological Association (APA), has defined personality as the “individual differences in characteristic patterns of thinking, feeling, and behaving” (APA, 2017). A model of personality that seeks to identify the basic traits necessary to describe personality is called a trait theory. Traits are the consistent personality characteristics and behaviours displayed in different situations. It also refers to a distinctive set of attributes such as thinking, feeling, attitude, and behavior (McCrae & Terracciano, 2005). All trait theorists explain personality in terms of traits but they differ in terms of how many traits are seen as fundamental.

Gordon Allport (1961;1966) has defined personality as the “the dynamic organization within the individual of those psychophysical systems that determine his unique adjustments to the environment.” The other definition that he has given is - “Personality is the dynamic organization within the individual of those psychophysical systems that determine his characteristic behavior and thought” (Allport, 1961).

Hans Eysenck (1995) used factor analysis to identify patterns of traits and he came to the conclusion that personality can best be described in terms of three major dimensions: extraversion, neuroticism, and psychoticism. The extraversion dimension relates to the degree of sociability, whereas the neuroticism relates to emotional stability, and psychoticism refers to the degree to which reality is distorted.

Family environment - According to Moos (1989) family environment “is the global image that people form about their family based on the experience with family members”. Family environment include social environment which constitute conditions, circumstances and interactions among family members. Out of the socio-cultural environments, family environment is the most important. It provides significant impact in regulating and integrating the behavioural patterns of an individual.

Moos and Moos (2009) have presented a conceptual model of family environment and its associations with youth and adult adaptation. The model shows

that the family environment and family member's personal characteristics, coping skills, and well-being can affect the quality of family relationships, the emphasis on personal growth, goals, and the focus on system maintenance. Thus, when a child or adult in a family has an emotional or behavioural disorder, the family environment is likely to be affected. It has also been reported that the family environment during childhood and adolescence can shape the psychosocial adjustment and health outcomes in adolescents and young adults, both with and without chronic illness (Repetti, Taylor & Seeman, 2002).

Drug Dependency:

Over the ages, drugs of all sorts have been used. Their variety, number and users have been constantly increasing. The increasing population of drug-dependent persons is a source of an ongoing concern. Psychoactive substance use poses a significant threat to the health, social and economic structure of families, communities and nations. Consumption of drugs by human beings has had a long history, extending millennia before the first written accounts of wine consumption or the smoking of opium. Because drugs take so many different forms and are consumed in so many different ways, the most inclusive definition of "drug" is desirable. Alcohol is certainly a component of human drug repertoires, and it is one of the most ancient of plant-derived drugs. Concepts of drug abuse and drug dependence emerged as potent preparations gained popularity and established perceptions of chronic intoxication. Both of these terms aimed at representing consumers of drugs who are not necessarily addicted to them. The most commonly used drugs have been part of human existence for thousands of years. For example, opium has been used for medicinal purposes for at least 3,500 years, references to cannabis (marijuana) as a medicine can be found in ancient Chinese herbals, wine is mentioned frequently in the Bible, and the natives of the Western Hemisphere smoked tobacco and chewed coca leaves. As new drugs were discovered and new routes of administration developed, new problems related to their use emerged.

Drug use has a long history and it has become a major issue all over the world. A drug is defined as a substance (and often an illegal substance) that causes addiction,

habituation on a marked range in consciousness (Merriam-Webster Collegiate Dictionary, 1993). The definition includes drugs such as heroin, cocaine, opium, cannabis and psychotropic substances. Drugs can further be defined as simply chemicals that can change something in the body's chemistry or internal makeup. Drugs are used in foods like vitamins which can be both necessary and beneficial. We also use drugs as prescribed by doctors. Drugs are harmful or even fatal if they are used for purposes not intended, or in the wrong way (Van, Cleave, Byrd, & Revell, 1987). Many people use the terms 'drug use' 'substance abuse' and 'drug abuse' interchangeably. However, the term 'drug' is mainly used to refer to 'medicine', while substance abuse may include chemicals other than drugs, i.e., gasoline, cleaning fluids, glue, and other chemicals (Hendrikz, 1986).

Drug abuse refers to the use of a drug in such a way that normal functioning is impaired. The term “addiction” more accurately describes both the observable physiological effects and the more psychological effects of craving (Fulton, 2014). In the categorization of addiction, the user can be classified as being addicted to a single drug or to multiple/poly drugs (e.g., alcohol and nicotine). Substance use is the continued use of alcohol, illegal drugs, or the misuse of drugs that are legal or that can be purchased over the counter of a drug store (Martin, 2016). Although the Diagnostic and Statistical Manual of Mental Disorders V (DSM-V) no longer uses the terms “substance abuse” or “substance dependence”, this study will focus on data that was collected during the transition to the DSM-V and focus on dependence. The DSM-V currently refers to the terms of substance abuse or substance dependence as a “substance use disorder.” Substance use disorders happen when there is consistent use of any type of conscious-altering drug that causes significant impairment to the point of developing health problems, disability, and/or failure to live a functional life (Harrington, 2015). Substance dependence is a state in which someone can only function normally with the presence of a drug (NIDA, 2007). Substance use disorders are psychiatric conditions and like other psychiatric disorders, both biological factors and environmental circumstances are etiologically significant.

Drug abuse is defined as the use of a mood-altering drug to change the way

one feels. Drugs may be abused by inhaling, sniffing, swallowing, or injecting into oneself. The drug may be legal or illegal, all the same, it may be used for legitimate or medical reasons (Van, Cleve, Byrd & Revell, 1978). A drug or substance is considered abused if it is deliberately used to induce physiological or psychological effects (or both), and for a purpose other than for therapeutic purposes. The drug used should contribute to health risks, disruption of psychological functioning, adverse social consequences, or some combinations of these (Kauffman, 1989). Some drugs cause physical dependence, but physical dependence doesn't always accompany psychological dependence. With drugs that cause physical dependence, the body adapts to the drug when it is used continually, leading to tolerance and to withdrawal symptoms when use stops. Tolerance is the need to progressively increase the dose of a drug to reproduce the effect originally achieved by smaller doses. Withdrawal symptoms occur when drug use is stopped or when the drug's effects are blocked by an antagonist. A person undergoing withdrawal feels sick and may develop many symptoms, such as headaches, diarrhoea, or shaking (tremors). Withdrawal can evoke a serious and even life-threatening illness. Drug abuse involves more than a drug's physiological actions. For example, people with cancer whose pain is treated for months or years with opioids such as morphine almost never become narcotic addicts, although they may become physically dependent. Rather, drug abuse is a concept defined mainly by behaviours that are dysfunctional and by societal disapproval. The medical term drug abuse refers to dysfunction and maladaptation, but not dependence brought on by the use of drugs. Colloquially, drug abuse often refers to the experimental and recreational use of illegal drugs, the use of legal drugs to relieve problems or symptoms in ways not prescribed by a doctor, and the use of drugs to the point of dependence. Drug abuse occurs in all socioeconomic groups and involves highly educated and professional people as well as those who are uneducated and unemployed. Although abused drugs have powerful effects, the user's mood and the setting where a drug is taken significantly influence its effect.

Diagnosing drug abuse and dependence is a task complicated by differences among individuals and the compounds used. Although acknowledging these multiple interactions, common behaviour patterns and similarities in the development of

substance use disorders can be seen. These developmental phenomena are referred to as stages in the abuse and dependence process. These stages include; Initiation, Increased Dosing and Tolerance, Drug Preoccupation and Development of Drug-Seeking Behavior, Drug Abuse and Dependence. Abuse is the first category that describes patterns associated with maladaptive patterns of substance use. According to DSM-IV (American Psychiatric Association, 1993), abuse is indicated by a continued use (at least 1 month) despite the knowledge of having persistent or recurring problems associated with the drug, or recurrent use in situations in which that use is physically hazardous. Dependence is a category that describes more pathological drug-use patterns usually characterized by tolerance and withdrawal symptoms. Many experts distinguish between two types of dependence: psychic and physical. Psychic dependence occurs when the effects of the substance are pleasing to the individual and a psychological drive develops that motivates the individual to continue using in order to produce pleasure or avoid discomfort. Physical dependence is an adaptive state of the body. It is manifested by physical disturbances, known as withdrawal or abstinence syndromes when drug use is stopped. Both types of dependence are strong motivators of drug-seeking behaviours and prolonged use. With continued abuse of the drug and tolerance, the consequent decreased drug effects lead to increased doses in order to obtain the same desired experience. Higher and more regular doses are consumed, leading to the establishment of physical or psychic dependence or both. Withdrawal symptoms develop with the reduction or elimination of continued intake of the substance. Adverse physiological signs and cravings are common to the withdrawal experience. The nature and extent of tolerance and withdrawal symptoms vary according to the type of the drug, maximum regular dose levels, and other individual variables, such as metabolism. During prolonged dependence, dose stabilization is likely to occur. A dose plateau is reached, and dose increases level off (Milby & Schumacher, 2010).

The most commonly followed diagnostic system is published by WHO, the ICD10 (International Classification of Diseases). ICD 10 classifies Substance Use Disorder into intoxication, harmful use, dependence syndrome, withdrawal state, psychotic disorder and amnestic syndrome. Dependence syndrome has been defined

in ICD10 as “A cluster of physiological, behavioural and cognitive phenomena in which use of a substance or a class of substances takes on a much higher priority for a given individual than other behaviours that once had greater value”. The ICD 10 criteria specify dependence as three or more experiences exhibited at some time during a one-year period:

a) Tolerance: there is a need for significantly increased amounts of the substance to achieve intoxication or the desired effect, or a markedly diminished effect with continued use of the same amount of the substance. For e.g., an individual would have started with 60ml of whisky to obtain pleasure, however, with continuous use, he has to consume 180 ml of the same to obtain the same amount of high.

b) Physiological withdrawal state: characteristic symptoms experienced on stoppage/reduction of a substance after prolonged use. The patient uses the same (or closely related) substance to relieve or avoid withdrawal symptoms. Every class of substance produces its own set of signs/ symptoms of withdrawal. For e.g. alcohol withdrawal would produce tremors, sweating, nausea/ retching/ vomiting, insomnia, palpitations with tachycardia, hypertension, headache, psychomotor agitation and in severe cases, hallucination, disorientation and grandmal seizures.

c) Impaired capacity to control substance use behaviour in terms of its onset, termination or level of use as evidenced by the substance being often taken in larger amounts or over a longer period than intended; or by a persistent desire or unsuccessful efforts to reduce or control substance use. Thus, an individual may find it difficult to avoid using substances at particular place or time or also to limit himself to a particular predetermined amount. Many researchers are of the view that loss of control is the most important criterion determining substance use.

d) Preoccupation with substance use, as manifested by important alternative pleasures or interests being given up or reduced because of substance use; or a great deal of time spent in activities necessary to obtain, take or recover from the effects of the substance.

e) Continued use in spite of clear evidence of harmful consequences, as evidenced by continued use when the individual is actually aware or may be expected to be aware, of the nature and extent of harm.

f) Strong desire to use the substance (craving): This craving may occur spontaneously or induced by the presence of particular stimuli. Exposure to stimuli where or with whom the individual would have used the substance would lead to a strong desire to consume the substance. This is termed 'cue-induced' craving.

Criteria (a) and (b) are physiological, while criteria (c), (d) and (f) are psychological in nature. Thus, not one domain is sufficient to diagnose dependence. For e.g. cancer patients who are given opioid as analgesics may have tolerance and withdrawal. However, they may not be diagnosed as having dependence syndrome unless they fulfil other criteria. The dependence syndrome criteria are not an all or none state, rather one that exists in degrees of severity. With repeated use of heroin, dependence also occurs. Dependence develops when the neurons adapt to repeated drug exposure and only function normally in the presence of the drug. When the drug is withdrawn, several physiologic reactions occur. These can be mild (e.g., for caffeine) or even life-threatening (e.g., for alcohol). This is known as withdrawal syndrome. In the case of heroin, withdrawal can be very serious and the abuser will use the drug again to avoid the withdrawal syndrome (NIDA 2007).

The ICD 10 (World Health Organization, 2010) distinguishes between three levels of severity of drug use and related problems. The first, Acute Intoxication, is defined as disturbances in the level of consciousness, cognition, perception, affect or behaviour, or other psychophysiological functions and responses that are directly related to drug use. The symptoms resolve over time with complete recovery except in those cases where tissue damage has occurred which are often referred to as drug use. The second category, Harmful Use, is defined as a pattern of drug use that is causing damage to the user's physical or mental health (e.g., hepatitis from drug injection or depression due to heavy drug use), referred to as drug abuse. The third category, Dependence Syndrome, is used to refer to a cluster of behavioural, cognitive, and physiological phenomena that develop after repeated substance use.

These phenomena typically include a strong desire to take the drug, difficulties in controlling its use, persisting in its use despite harmful consequences, a higher priority given to drug use than to other activities and obligations, increased tolerance, and sometimes a physical withdrawal state, termed as Drug Dependence. Physical dependence in and of itself does not constitute addiction, but it often accompanies addiction. However, this distinction can be difficult to determine, particularly with prescribed pain medications, for which they need for increasing dosages can represent tolerance or a worsening underlying problem, as opposed to the beginning of abuse or addiction (NIDA, 2018).

The model of substance use disorders is the result of a process in which multiple interacting factors influence drug-using behaviour and the loss of judgement with respect to decisions about using a given drug. Reasons for initiating drug use vary with each person's interests, background, and motivation. There is no common etiological factor for all. Some do it for excitement, some respond to peer pressure, and others do it to satisfy their curiosity or in anticipation of relief from tension. The World Health Organization (1974) has identified seven widely recognized motives for initiating use, and Dohner (1972) has described several others. Initiation is most likely to occur in adolescence or young adulthood. Major risk periods for initiating use of cigarettes, alcohol, and marijuana and other illicit drugs, except for cocaine, typically begin during adolescence and end by age 20-21 years (Kandel & Logan, 1984). The most significant phenomenon in first use is that the individual can be strongly reinforced for his or her initial involvement by the effects of the drug itself, by social factors that encourage its repetition, or by both. As the use of the drug is repeated, typical processes begin. One is tolerance, which refers to the decreased drug effects with repeated administration. But with repeated drug use, drug preoccupation occurs. More time is spent fantasizing about the favourite drug and its effect. Such preoccupation motivates the acquisition of drug-seeking behaviours, including drug knowledge, skills, and language. As their use increases, these tendencies often lead to family, school, health, and occupational problems (Kandel, Davies, Karus & Yamaguchi, 1986; Schwartz, Hoffman & Jones, 1987). Young adult drug abusers have more difficulty making a successful transition to adult role

responsibilities and engage in more deviant behaviour while becoming immersed in a network supportive of their drug use (Kandel, 1984; Newcomb & Bentler, 1986).

It has been postulated that different factors may be more or less important at different stages of the process. Drug availability, social acceptability, and peer pressures may be the major determinants of initial experimentation with a drug, but other factors, such as personality and individual biology, probably are important in how the effects of a given drug are perceived and the degree to which repeated drug use produces changes in the brain. It has also been asserted that addiction is a ‘brain disease’, that the critical processes that transform voluntary drug-using behaviour to compulsive drug use are changes in the structure and neurochemistry of the drug user. Many argue, however, that the capacity of the drug-dependent individuals to modify their drug-using behaviour in response to positive reinforcers or aversive contingencies indicates that the nature of addiction is more complex and requires the interaction of multiple factors. As the central element is the drug-using behaviour, the decision to use drugs is influenced by immediate social and psychological situations as well as by the person’s more remote history. Drug abuse and dependence once thought to be the result of moral weakness, are understood to be influenced by a combination of biological and psychosocial factors.

1. Biological factors – Strong evidence from studies of twins, adoptees and siblings brought up separately indicates that the cause of alcohol and drug abuse has a genetic component (Kendler et al., 2012; Strain, 2009). As abused substances seemed to affect the “pleasure pathway” of the brain it, in turn, mediates the experience of reward just as one experience pleasure from certain foods or from sex. The major neurotransmitters possibly involved in developing substance abuse and substance dependence are the opioid, catecholamine (particularly dopamine), and gamma-aminobutyric acid (GABA) systems. The dopaminergic neurons in the ventral tegmental region are particularly important. This pathway is probably involved in the sensation of reward and may be the major mediator of the effects of such substances as amphetamine and cocaine.

2. Psychological factors – According to psychodynamic theories, substance abuse is a masturbatory equivalent (some heroin users describe the initial ‘rush’ as similar to a prolonged sexual orgasm), a defense against anxious impulses, or a manifestation of oral regression (i.e. dependency). Recent theories have postulated that substance use is a reflection of disturbed ego functions and therefore, it involves the inability to deal with reality. Some may also use substances as a form of self-medication – alcohol may be used to control panic, opioids may be used to diminish anger and amphetamines may be used to alleviate depression. Drug use, whether occasional or compulsive, can be viewed as behaviour maintained by its consequences. Research has indicated that to some extent all psychoactive drugs provide a pleasurable experience (Ray, 2012). The social contexts for drug-taking may encourage its use, even when the use alone is not the desired outcome. Positive reinforcement in the use and the situations surrounding the use of drugs contributes to whether or not people decide to try to continue using drugs. Many people are also likely to initiate and continue using drugs so as to escape from unpleasantness in their lives. In addition to the initial euphoria, many drugs provide escape from physical pain (opiates), from stress (alcohol), or from panic and anxiety (benzodiazepines). This phenomenon has been explored under a number of different names, including tension reduction, negative affect, and self-medication, each of which has a somewhat different focus (Ray, 2012).

3. Social factors – It has been suggested that best friends and family were influential in initial alcohol use (Kuperman et al., 2011). Research has suggested that drug-addicted parents spend less time monitoring their children than parents without drug problems (Dishion, Patterson & Reid, 1988). When parents do not provide appropriate supervision, their children tend to develop friendships with peers who supported drug use (Van Ryzin, Fosco & Dishion, 2012). Children influenced by drug use at home may be exposed to peers who use drugs as well.

Drug dependency has become increasing public health and social concern in the past decades worldwide. Drug abuse is a major problem among youth worldwide, especially in developing countries. Drug abuse causes many problems both to individuals and to societies, including loss of productivity, transmission of infectious

diseases such as HIV/AIDS, Hepatitis; crime, family and social disorder, and excessive health care expenditures which are often termed as the secondary effects of drug use. The accessibility, affordability, and consumption of abused drugs by the youths have attracted great concern among public health personnel. The impact of drug abuse in human health and well-being is substantial and its contribution ranges from medical, social, family, legal and economic problems which are created by its uncontrolled use. Therefore, drug abuse-related problems among the youth cannot go unnoticed. Evidence from around the world reveals that there is an upward trend in the misuse of psychoactive drugs among the youth.

According to WHO, the extent of worldwide psychoactive substance use is estimated at 2 billion alcohol users, 1.3 billion smokers and 185 million drug users. In the year 2000, the percentage of total life lost due to these substances has been estimated to account for 8.9% worldwide (WHO, 2006). The harmful use of alcohol results in 3.3 million deaths each year. On average, every person in the world aged 15 years or older drinks 6.2 litres of pure alcohol per year. Less than half the population (38.3%) actually drinks alcohol, this means that those who do drink consume on average 17 litres of pure alcohol annually. At least 15.3 million persons have drug use disorders. Injecting drug use reported in 148 countries, of which 120 reports HIV infection among this population (WHO, 2015). Drugs have been used, misused and abused throughout the course of human history. Addiction is a chronic relapsing condition characterized by compulsive drug-seeking behaviour and consumption, loss of control in limiting consumption and drug dependence typified by withdrawal symptoms when access to the drug is denied. According to the United Nations Office on Drugs and Crime, World Drug Report, 2014; the number of people who inject drugs globally has been estimated to be nearly 12.7 million, which corresponds to a prevalence of 0.27% (0.19%–0.48%) among those aged 15–64 years. Opioids, including heroin, remain the most harmful drug type in health terms. The use of opioids is associated with the risk of fatal and non-fatal overdoses; the risk of acquiring infectious diseases (such as HIV or hepatitis C) through unsafe injecting practices; and the risk of other medical and psychiatric co-morbidities (UNODC, 2017). According to The World Drug Report (UNODC, 2018), about 275

million people worldwide, which is roughly 5.6 per cent of the global population aged 15–64 years, used drugs at least once during 2016. Some 31 million people who use drugs suffer from drug use disorders, meaning that their drug use is harmful to the point where they may need treatment. Initial estimations suggest that, globally, 13.8 million young people aged 15–16 years used cannabis in the past year, equivalent to a rate of 5.6 per cent. Roughly 450,000 people died as a result of drug use in 2015, according to WHO. Of those deaths, 167,750 were directly associated with drug use disorders (mainly overdoses). The rest were indirectly attributable to drug use and included deaths related to HIV and hepatitis C acquired through unsafe injecting practices. The number of people worldwide using drugs at least once a year remained stable in 2016 with around 275 million people, or roughly 5.6 per cent of the global population aged 15-64 years (UNODC, 2018).

The World Drug Report (2018) finds that drug use and the associated harm are the highest among young people compared to older people. Many researches suggest that early (12–14 years) to late (15–17 years) adolescence is a critical risk period for the initiation of substance use and may peak among young people (aged 18-25 years). Drug use among the older generation (aged 40 years and older) has been increasing at a faster rate than among those who are younger. Globally, deaths directly caused by the use of drugs increased by 60 per cent from 2000 to 2015. People over the age of 50 accounted for 27 per cent of these deaths in 2000, but this had risen to 39 per cent in 2015. About three-quarters of deaths from drug use disorders among those aged 50 and older are among the ageing group of opioid users. Opioids continued to cause the most harm, accounting for 76 per cent of deaths where drug use disorders were implicated. People who inject drugs (PWID) — some 10.6 million worldwide in 2016 — endure the greatest health risks. More than half of them live with hepatitis C, and one in eight live with HIV. The headline figures for drug users have changed little in recent years, but this stability masks the striking ongoing changes in drug markets. Drugs such as heroin and cocaine that have been available for a long time and there has been an increase in the non-medical use of prescription drugs (either diverted from licit channels or illicitly manufactured). The use of substances of unclear origin supplied through illicit channels that are sold as

purported medicines but are destined for non-medical use is also on the increase. The range of substances and combinations available to users has never been wider (UNODC, 2018)

Drug abuse is a global phenomenon, affecting almost every country, but its extent and characteristics differ from region to region. India too is caught in this malevolent circle of drug abuse, and the number of drug addicts is increasing day by day. More than twenty years ago, attention was first focused on the rising uncontrolled spread of injecting drug use in many Asian countries and the virtually unnoticed but rapid spread of HIV among those who were injecting drugs. Crofts and Azim (2015) has pointed out that constantly changing trafficking routes from the Golden Triangle were exposing new populations to the use and subsequent injecting of heroin, that these populations were forming the fertile ground for explosive but largely silent epidemics of HIV and that there were structural and other reasons why these epidemics would prove difficult to control.

In 2002, the drug problem in Southeast and Southwest Asia was serious, particularly in the production of opium and heroin in Afghanistan, Myanmar, and Laos, the three largest producers of illicit opium in the world. The increasing illicit manufacture of Amphetamine Type Stimulant (ATS), particularly methamphetamine, in Southeast Asia, mainly in China and Myanmar, was also a major concern. Some reports indicated that ephedrine, used for illicitly producing methamphetamine in Southeast Asia, is diverted and smuggled out of China and India, whereas caffeine, the adulterant used for producing methamphetamine tablets, is mainly smuggled into Myanmar through its border with Thailand. Seizure data showed a dramatic increase in trafficking in MDMA through Southeast Asia. In terms of the drug epidemic, in 2002, cannabis remained overall the main drug of abuse in all of the countries of Southeast and Southwest Asia. Opiates, mainly opium and heroin, were also the drugs of choice except in Thailand, where opiate abuse declined, but ATS was the main drug of abuse due to its low cost and availability. Injecting drug use among opiate abusers has been identified as the prime cause of the rapid spread of HIV/AIDS in Southeast and Southwest Asia (Kulsudjarit, 2004). Injection drug use

is common in countries neighbouring the "Golden Triangle" (Myanmar, Laos, and Thailand), known for heroin export to other countries. HIV and injection drug use outbreaks in countries neighbouring the Golden Triangle, including the north-eastern Indian states, have been associated with drug-trafficking routes. Opium has traditionally been used for treating illnesses and alleviating physical and mental stress, as well as for recreational and social purposes. The prohibition of the sale and use of opium in Burma, Hong Kong, Malaysia, Singapore and Thailand forced many habitual opium users to switch to heroin. Over the past two decades, there has been an increasing trend towards drug use, often involving experimentation with more than one substance, among youth in and out of school. Most recent studies have shown that heroin abuse has spread further in Asia, both socially and geographically, involving such countries as India and Sri Lanka, which had no previous experience with the problem. Studies have also shown that the abuse of manufactured psychotropic substances has been increasing and that heroin addicts' resort to these substances when heroin is difficult to find. (Suwanwela & Poshyachinda, 1986).

Gender Differences

Gender is the state of being male or female in relation to the social and cultural roles that are considered appropriate for men and women (Collins dictionary). Gender refers to the socially constructed characteristics of women and men – such as norms, roles and relationships of and between groups of women and men. It varies from society to society and can be changed. While most people are born either male or female, they are taught appropriate norms and behaviours – including how they should interact with others of the same or opposite sex within households, communities and workplaces. When individuals or groups do not “fit” established gender norms they often face stigma, discriminatory practices or social exclusion – all of which adversely affect health. It is important to be sensitive to different identities that do not necessarily fit into binary male or female sex categories. Gender norms, roles and relations influence people's susceptibility to different health conditions and diseases and affect their enjoyment of good mental, physical health and wellbeing. They also have a bearing on people's access to and

uptake of health services and on the health outcomes, they experience throughout the life-course (WHO - <https://www.who.int/gender-equity-rights/understanding/gender-definition/en/>).

A common finding in substance abuse researches is that more men than women use drugs in a lifetime rate (SAMHSA, 2011; 2012). Drug use and drug addiction have been traditionally considered to be a male problem; however, the gender gap has been decreasing over the past few decades. Thus, while the prevalence of alcohol, cannabis and nicotine dependence is still overall greater among men than among women, sex/gender differences in the abuse of stimulants and opiates seem to have disappeared. Moreover, women appear to be more prone to develop drug dependence, suffer more severe physical and psychological consequences of drug abuse and have more difficulties quitting the habit. Numerous psychological, socio-cultural and biological factors have been implicated in these changing statistics. For example, while a large proportion of men initiate drug use to induce feelings of elation, energy or focus, women frequently start taking drugs to alleviate pre-existing mental health problems, including high levels of stress, feelings of alienation, depression, anxiety, or post-traumatic stress disorder. This maladaptive self-medication strategy often results in a faster transition to habitual drug use and eventually a more severe dependence. In addition, socio-cultural norms have changed dramatically over the past few decades. Thus, while there is still a more severe stigma and prejudice against women who use drugs (especially if they are pregnant or have children), overall there is much greater acceptance of women's drug use than it was several decades ago. Moreover, women have much greater access to various drugs of abuse than they used to have. Over the past couple of decades, new research started emerging pointing to some neurobiological factors that could also contribute to sex differences in drug addiction such as dopamine system, which for decades has been strongly implicated in drug reinforcement, being sexually dimorphic. The number of dopaminergic neurons, the density of the dopaminergic terminals, as well as responsiveness of the dopaminergic system to drugs of abuse, has been shown to differ between males and females and it has been shown to be modulated by sex steroid hormones, especially estrogen. For example, female rats

exhibit greater motivation to self-administer cocaine than male rats and their motivation is the highest during elevated levels of estrogen. All these psychological, socio-cultural and biological factors that contribute to sex/gender difference in drug use and drug dependence, should be considered while evaluating and treating individuals with drug addiction problem (Mendrek, 2014). According to the World Drug Report (UNODC, 2017), at least twice as many men than women suffer from drug use disorders. However, once women have initiated substance use, in particular, use of alcohol, cannabis, opioids and cocaine, they tend to increase their rate of consumption more rapidly than men. As a result, women may progress more rapidly than men to drug use disorders. Women's access to treatment for drug use disorders is also more limited than men. In the past decade, the negative health impact of drug use has increased more rapidly among women than among men. The rate of drug use disorders in 2015, particularly opioid and cocaine use disorders, was greater among women (25 per cent and 40 per cent, respectively) than among men (17 per cent and 26 per cent, respectively).

According to The World Drug Report (UNODC, 2018), the majority of people who use drugs are men, but women have specific drug use patterns, the report finds. The prevalence of non-medical use of opioids and tranquillizers by women remains at a comparable level to that of men, if not actually higher. While women may typically begin using substances later than men, once they have initiated substance use, women tend to increase their rate of consumption of alcohol, cannabis, cocaine and opioids more rapidly than men as well as rapidly develop drug use disorders. Women with substance use disorders are reported to have high rates of post-traumatic stress disorder and may also have experienced childhood adversity such as physical neglect, abuse or sexual abuse. Women continue to account for only one in five people in treatment. The proportion of females in treatment tends to be higher for tranquillizers and sedatives than for other substances. Drug use treatment and HIV prevention, treatment and care should be tailored to the specific needs of women. Trajectories of drug use and alcoholism may be different in men and women. Men tend to use addictive drugs more than women in adulthood, and the sex difference is greatest at the highest levels of consumption. However, these

differences vary by age group: the differences are smallest at the youngest ages and greatest from young adulthood into old age. Drug experimentation and progression to substance use is enhanced in adolescent humans as well as in animal models. Peak use of addictive drugs occurs during early adulthood in humans and then tapers off dramatically into adulthood. Drug use by the youngest adolescents is similar in males and females in humans and in animal models, but differences emerge with adulthood. More men than women use and become dependent upon most drugs, and drug use falls more in females than males during the transition to adulthood. However, females may progress more rapidly from initiation of use to problematic use to treatment (Kuhn, 2015).

According to Han and colleagues (2016), when comparing among Asian American and Pacific Islander Patients of both men and women in drug dependency treatment, it was found that women were more likely to have psychiatric problems than men, indicated by a greater psychiatric composite score ($t=2.7$, $p<0.01$), particularly in terms of depression ($X^2(1) = 13.9$, $p < 0.001$) and anxiety. Gender differences in patterns of drug use at intake were significant within the intake sample, including a primary drug used ($X^2(6) = 19.5$, $p < 0.01$), frequency ($X^2(4) = 11.6$, $p < 0.05$), and route of drug use. Gender differences have also been demonstrated in prior substance abuse studies of treatment entry, retention, and outcomes (e.g., Green, Polen, Dickinson, Lynch, & Bennett, 2002; B. Pelissier & Jones, 2005). Substance-abusing women are more likely to face problems with limited income, education, job skills, and living with substance-abusing individuals (Hser et al., 2004; Hser et al., 2003; Niv & Hser, 2007). Additionally, they are more likely to suffer from serious psychological disorders, including depression and anxiety (Grella & Joshi, 1999; Pelissier & Jones, 2005; Stevens, Andrade, & Ruiz, 2009). In contrast, substance-abusing men are more likely to be involved in criminal activities and experience (Hser, Huang, Teruya, & Anglin, 2003; Hser et al., 2003; Pelissier & Jones, 2005). Furthermore, men and women may use substances for different purposes. Women generally pursue substance use to alter feelings about relationships, while men prefer an independently pleasurable experience (Stevens et al., 2009). Studies have also indicated that women are more likely to experience

mood disorder and they need more responsive psychiatric services than men. (Shand, Degenhardt, Slade, & Nelson, 2011; Zhang et al., 2013).

Age at initiation of heroin and cocaine use occurred later for women, compared with men, whereas age at termination of heroin and cocaine occurred earlier for women, compared with men (Hartel et al., 2006). This finding is consistent with that of Lightfoot and others, who found that older female drug users had a greater reduction in and cessation of illicit substance use. It has also been contended that the factors leading to gender differences in drug use are not well understood, but they may result in part from women's lack of access to drugs rather than from a greater vulnerability of men to substance abuse (Van Etten, 1999). However, evidence has found that women may be more likely than men to become dependent on anxiolytics, sedatives, hypnotics, and stimulants, such as cocaine, when access to drugs is not a barrier. Kandel and colleagues (1986) reported that, when the opportunity to use drugs is equal, cocaine dependency is 17.4% among women, compared with 4.7% among men. Ping Wu and colleagues (2008) examined gender differences in patterns of the co-occurrence of alcohol abuse and depression in youth. They collected data from 1,458 youth (ages 9–17) randomly selected from the community. The findings showed that alcohol abuse/dependence was associated with elevated rates of depression in youth; comorbidity between depression and alcohol use/abuse could be partially explained by shared risk factors, and gender differences were found in the patterns of comorbidity. After controlling for other factors, the relationship between depression and alcohol abuse/dependence was no longer significant for girls, but it remained significant for boys. Among girls, however, cigarette smoking emerged as significantly related to depression.

Russell and colleagues (1994) studied 3258 randomly selected adult household residents of Edmonton who were interviewed by trained lay interviewers using the Diagnostic Interview Schedule (DIS). The lifetime prevalence of drug abuse/dependence was 6.996, with a male: female ratio of 3:1. The most commonly used drug was cannabis followed by amphetamines, opiates, barbiturates, hallucinogens and cocaine. 80.370 of those with drug abuse/dependence also had a

lifetime diagnosis of another psychiatric disorder. In those with a comorbid diagnosis, the mean age of onset for the other psychiatric disorder was generally found to be younger than for the onset of drug abuse/dependence. Different comorbid disorders were found to significantly affect patterns of drug use.

In a study done by Chaturvedi and colleagues (2013) in Arunachal Pradesh, India; it has been found that the prevalence of opium use was significantly higher (10.6%) among men than among women (2.1%). It varied according to age, educational level, occupation, marital status and religion of the respondents. Through the use of multivariate logistic regression, it was also found that opium use was significantly associated with age, occupation, ethnicity, religion and marital status of the respondents of both sexes. Multivariate rate ratios (MRR) for opium use were significantly higher (4– 6 times) among older age groups (≥ 35 years) and male respondents. In males, the MRR was also significantly higher in respondents of Buddhist and Indigenous religion, while in females, the MRR was significantly higher in Buddhists. Most of the female opium users had taken opium for more than 5 years and were introduced to it by their husbands after marriage. Use of other substances among opium users comprised mainly tobacco (76%) and alcohol (44%).

Depression

Mood disorders encompass a large group of disorders in which pathological mood and related disturbances dominate the clinical picture. Mood disorders can be traced to our earliest times. The Mood Disorders are characterized by prolonged and persistent positive and/or negative emotions, which are of such intensity that they can colour and interfere with all aspects of one's life. The emotions experienced in these disorders are typically thought to exist along a continuum with normal emotions (Beck, 1967). According to DSM-IV-TR, criteria for a Major depressive episode include - depressed mood and a loss of interest or pleasure as the key symptoms of depression; depressed mood may last for most of the day, nearly every day for at least two weeks. The depressed mood often has a distinct quality that differentiates it from the normal emotion of sadness or grief. Cognitive symptoms include feelings of worthlessness or guilt, thoughts of suicide, poor concentration and indecisiveness.

Behavioural symptoms include fatigue or physical agitation. Other features include: often a diminished interest or pleasure in most activities, significant weight change, appetite disturbance (loss of appetite or increase in appetite), sleep disturbance (eg: insomnia), slowed movements and speech, restlessness, decreased feelings of energy, feelings of worthlessness, excessive or inappropriate guilt, difficulty thinking, concentrating, or remembering, indecisiveness and thoughts of death and suicide attempts. DSM-IV-TR also includes two unipolar mood disorders – Dysthymic Disorder and Major Depression Disorder:

(i) Dysthymic disorder

Dysthymic disorder is a chronic disorder characterized by the presence of a depressed mood that lasts most of the day and is present almost continuously for at least two years. The most typical features of the disorder are feelings of inadequacy, guilt, irritability, and anger; withdrawal from the society; loss of interest; and inactivity and lack of productivity. The term ‘dysthymia’ means ‘ill-humoured’.

(ii) Major depression disorder

The diagnostic criteria for major depressive disorder require that the person exhibit more symptoms than are required for dysthymia and that the symptoms be more persistent. To receive a diagnosis of major depressive disorder, the person must be in a major depressive episode. An affected person must experience either markedly depressed moods or a marked loss of interest in pleasurable activities most of every day, nearly every day, for at least two consecutive weeks. In addition to showing one or both of these symptoms, the person must experience at least three or four additional symptoms. These symptoms include cognitive symptoms – such as feelings of worthlessness or guilt, and thoughts of suicide; behavioural symptoms - such as fatigue, or physical agitation; and physical symptoms – such as changes in appetite and sleep patterns. The diagnostic criteria also require that there has never been a manic episode or a mixed episode or a hypomanic episode.

Major depressive disorder (MDD) is characterized by a constellation of behavioural, emotional, and cognitive symptoms, including psychomotor agitation or retardation, marked weight loss, insomnia or hypersomnia, decreased appetite, fatigue, extreme feelings of guilt or worthlessness, concentration difficulties, and suicidal ideation. To meet Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR; APA, 2000) criteria for a diagnosis of MDD, a set of these symptoms has to be present for the same two-week period. Although all of these symptoms are, therefore, important in diagnosing MDD, depression is primarily a disorder of emotion dysregulation and sustained negative affect. Indeed, a diagnosis of depression requires the presence of either sustained negative effect or loss of pleasure. Depression is a term that is often used, ranging from the characterization of depressive disorders diagnosed according to DSM criteria to the characterization of a temporary mood state in otherwise healthy individuals. The symptoms of depression can become chronic or recurrent and lead to substantial impairments in an individual's ability to take care of his or her everyday responsibilities. At its worst, depression can lead to suicide, a tragic fatality associated with the loss of about 850,000 lives every year (WHO, 2006).

The diagnostic criteria given for major depressive episode by DSM-IV-TR has not changed as that given in DSM V. According to DSM V criteria, major depressive episode clinical picture includes depressed mood state that lasts at least 2 weeks and includes cognitive symptoms such as feelings of worthlessness and indecisiveness and disturbed physical functioning such as altered sleeping patterns, significant changes in appetite and weight, or a notable loss of energy; to the point that even the slightest activity or movement requires an overwhelming effort. The episode is typically accompanied by a general loss of interest in things and an inability to experience any pleasure from life, including interactions with family and friends or accomplishments at work or at school. Although all symptoms are important, evidence suggests that the most central indicators of a full major depressive episode are the physical changes which are sometimes called somatic or vegetative symptoms (Bech, 2009; Buchwald & Rudrick-Davis, 1993; Kessler & Wang, 2009), along with the behavioural and emotional “shutdown” as reflected by low scores on behavioural

activation scales (Kasch, Rottenberg, Arnow & Gotlib, 2002; Rottenberg, Gross, & Gotlib, 2005). Anhedonia or loss of energy and inability to engage in pleasurable activities or have any ‘fun’, is more characteristic of severe episodes of depression than are reports of sadness or distress (Kasch et al., 2002).

Mental health issues such as depression generally first emerge during adolescence, likely due to post-pubertal physical, social, emotional, and cognitive changes (Rivara, Park, & Irwin, 2009). The risk for developing major depression is fairly low, until the early teens, when it begins to rise in a steadily (linear) fashion (Rohde, Lewinsohn, Klein, Seeley, & Gau, 2013). The lifetime prevalence of the major depressive disorder among adolescents is 1 to 5% and sub-threshold depression (also called minor depression) is between 10–25%, although estimates vary (Costello, Erkanli, & Angold, 2006; Lewinsohn, Shankman, Gau & Klein, 2004). In a study done by Hasin and colleagues (2005) in the United States, the mean age of onset for the major depressive disorder was found to be 30 years. The incidence of depression and consequent suicide seem to be steadily increasing. Kessler and colleagues (2003) compared four age groups and found that fully 25% of people ages between 18 to 29 years had already experienced major depression. Rohde and colleagues (2013) found that the incidence of major depressive disorder was 19% in adolescence (age 13 to 17), 24% in emerging adulthood (ages 18 to 23), and 16 % in young adulthood (ages 24 to 30). Several large epidemiological studies estimating the prevalence of mood disorders have been carried out (Kessler & Bromet, 2013; Kessler & Wang, 2009; Merikangas & Pato, 2009; Weismann et al., 1991). The best estimates of the worldwide prevalence of mood disorders suggest that approximately 16% of the worldwide population experience major depressive disorder over a lifetime and approximately 6% have experienced major depressive disorder in the last year (Hasin et al., 2005; Kessler et al., 2003; Kessler, Chiu, Demler, & Walters, 2005). Studies have also indicated that women are more twice as likely to have mood disorders as men (Kessler, 2006; Kessler & Wang, 2009).

Depression is among the most prevalent of all psychiatric disorders. In fact, the rates of depression are so high that the World Health Organization Global Burden

of Disease Study ranked depression as the single most burdensome disease in the world in terms of total disability-adjusted years among people in the middle years of life (Murray & Lopez 1996). Before the 1970s, depression was usually considered a relatively rare condition involving feelings of intense meaninglessness and worthlessness often accompanied by vegetative and psychotic symptoms and preoccupations with death and dying (Shorter, 2009). Moreover, depression was more likely to be associated with hospitalized patients than with clients of general physicians or outpatient psychiatrists. Before the twentieth century, professionals and laypeople alike were likely to regard the varied combination of symptoms of depression as a problem of "nerves," emphasizing the somatic side of complaints (Shorter, 1992). Depression now dominates clinical practice, treatment, and research psychiatry as well as images of mental culture (Horwitz & Wakefield, 2007). Depression is the single most common topic of online searches for pharmaceutical and medical products, attracting nearly 3 million unique visitors over a three-month period in 2006 (Barber, 2008). Importantly, depression is a highly recurrent disorder. More than 75% of depressed patients have more than one depressive episode, often relapsing within two years of recovery from a depressive episode (Boland & Keller 2009). Indeed, it has been anticipated that between one-half and two-thirds of people who have ever been clinically depressed will be in an episode in any given year over the remainder of their lives (Kessler & Wang 2009). This high recurrence rate in depression suggests that there are specific factors that increase people's risk for developing repeated episodes of this disorder.

Depression is frequently comorbid with other mental and physical difficulties, most often with anxiety disorders, but also with cardiac problems and smoking (Carney & Freedland, 2009). Significant economic and social costs of depression have also been studied. Kessler and colleagues (2006), for example, estimated that the annual salary-equivalent costs of depression-related lost productivity in the United States exceed \$36 billion. There is also mounting evidence that depression adversely affects the quality of interpersonal relationships and, in particular, relationships with spouses and children. Not only is the rate of divorce higher among depressed than among non-depressed individuals (Wade & Cairney,

2000), but children of depressed parents have also been found to be at elevated risk for psychopathology (Joorman et al. 2008). Social factors influence whether we become depressed (Beach et al., 2009). The risk of depression for people who live alone is almost 80% higher than for people who live with others (Pulkki-Raback et al., 2012).

Substantial studies have supported the hypothesis of the existence of some genetic factors in mood disorders. Twin studies consistently show that identical twins are far more concordant for mood disorder than fraternal twins. Allen (1976) had reviewed that concordance rates for monozygotic twins for unipolar depression are at 40% as compared to monozygotic twins for bipolar disorder at 72% and no significant differences in concordance rates for dizygotic unipolar (11%) and bipolar (14%) twins. In an attempt to understand more about the factors of depression, much attention has been given to neurotransmitter deficiencies as core deficits in depression. Neurotransmitters such as the catecholamines, norepinephrine and dopamine (Schildkraut, 1965), indolamine, serotonin (Glassman, 1969) were considered to play an important role in depression. As diseases of endocrine glands are often present with depressive symptoms, endocrine models of depression have been developed. The plasma cortisol levels are elevated in a high proportion of depressed persons. Studies of thyroid function also suggest the possibility that hypothyroidism may be implicated in depression. Low levels of secretion produce symptoms that mimic depression, and thyroid replacement relieves depression in a small percentage of cases. Thyroid – releasing hormone (TRH) has a diminished effect on thyroid-stimulating hormone (TSH) in regulating thyroid hormone production, but this may be due to extraneous factors (Loosen & Prange, 1982). The possibility of dysregulating biological clock mechanisms in depression has also been studied where it has been suggested that circadian rhythm in depression has a 4 – to 6 – hour clock advance in the sleep-wake cycle and in temperature regulation. REM sleep has also been found to be significantly reduced for many depressed patients (Kupfer & Foster, 1972). The diagnosis of seasonal affect disorder (SAD) wherein depression regularly occurs in some individuals has also been observed (Rosenthal et al., 1984). Ehlers, Frank and Kupfer (1988) have suggested a connection between the

research on biological rhythms and research on stress as precipitants of episodes of depression, where they note that biological rhythms are set by the pace of life events which they termed as zeitgebers (“time givers”). Zeitgebers include persons, social demands, and tasks that we encounter in regular patterns. If social rhythms are disrupted by relationship changes or losses, increases or decreases in demands, or task changes, this social disruption may result in unstable biological rhythm and thus induce depression in vulnerable people.

Diathesis-stress model has often been discussed in the biological contributions to depression. Biological predisposition or risk is a diathesis that is insufficient to produce depression except in interaction with life stress. Life events precede depression and, in some cases, it also precipitates episodes of depression (Llyod, 1980; Ellicott et al., 1990). Brown and Harris (1978) have suggested the importance of social support in the onset of depression. In a study of a large number of women who had experienced serious life stress, they discovered that only 10% of the women who had a friend in whom they could confide became depressed, compared with 37% of women who did not have a close supportive relationship. As with biological models, psychological diathesis or vulnerability factors interact with environmental stress to precipitate depressions. Psychodynamic theory has contributed to a number of models to the understanding of depression. Freud’s classic psychoanalytic paper “Mourning and Melancholy” (1917,1957) describes depression as the reaction to the loss of an unconscious object. Because of the loss of part of oneself, anger and reproach become self-directed. Abraham (1911; 1949) suggested that this anger may be a projection of self-hatred. Arieti and Bemporad (1980; 1971) emphasized the failure to internalize standards as the basis of dependency depression and internalization of stringent standards as a basis for dominant goal depressions. The individual who has failed to internalized standards depends on the judgements of others for self-esteem. Dominant goal personalities are vulnerable to depression when they fail to meet their own unrealistically high standards. Blatt (1974) differentiates anaclitic or dependency depressions, which stem from an early loss, from introjected or self-criticism depressions that are based on later acceptance of external negative evaluations. Beck (1983) uses the term

‘sociotropic’ versus ‘autonomous’ depressions. Sociotropic individuals depend on interpersonal relationships or positive self-evaluation, and autonomous individuals depend on achievement and status. The type of loss a person suffers (interpersonal or status) would produce depression only for the person with the corresponding personality type. A Sociotropy-Autonomy Scale (Beck, Epstein, Harrison & Emery, 1983) was developed to measure the concepts as two independent dimensions. Hammen, Ellicott, Gitlin and Jamison (1989) reported results supporting the idea that interpersonal life stresses were more likely to precede depression for individuals high on sociotropy, whereas achievement stresses were higher before depression for individuals high on autonomy.

The idea of a depressive personality defined by various traits has had a long history in psychodynamic personality theory. Results demonstrating such a personality type have been mixed at best. Recent research seeing personality factors as interacting with life stress is a more fruitful line of enquiry; several reviews cover the area (Barnett & Gotlib, 1988; Chodoff, 1974; Hirschfeld & Cross, 1982; Nietzel & Harris, 1990).

Behavioural approaches to depression have a basic assumption that depression arises from a disruption of response-reinforcement relationships. According to Ferster, C.B. (1973) depression is a result of a generalized reduction of rates of response to external stimuli. Lewinsohn (1974) theorizes that depression is a response to a loss or lack of response – contingent positive reinforcement. Insufficient reinforcement in major life domains leads to dysphoria and a reduction in behaviour, which are the primary phenomena of depression. Other symptoms of depression, such as low self-esteem and hopelessness, follow from the reduced level of functioning.

Several theorists have identified social skills deficits as a primary cause of depression. Wolpe (1979) saw an anxiety-based inability to control interpersonal situations as one route to neurotic or reactive depressions, which he saw as always secondary to anxiety. Gotlib and Colby (1987) have suggested that interpersonal deficits as being central to depression. Joiner and Coyne (1999) have also viewed

depression as a phenomenon that should be seen as interpersonal. Nezu, Nezu, and Perri (1989) argued that depressed persons are deficient in problem-solving skills, especially interpersonally. Lewinsohn, Mischel, Chaplin, and Barton (1980) demonstrated that depressed individuals are perceived by themselves and by others as low in social skill. Interestingly, depressed subjects rated their own skills at the same level as they were rated by others. There are studies that have also demonstrated that depressed persons have a negative impact on those with whom they interact (Coyne, 1976). Martin E. P. Seligman (1974) has devised a depression theory of learned helplessness. According to this theory, people become depressed when they believe that they have no control over the stress in their lives. The learned helplessness theory was revised by Abramson, Seligman, and Teasdale (1978) by adopting the concepts of attribution of responsibility from social psychology. The revised model hypothesizes that a particular attributional style is typical of people at risk of depression. Depression-vulnerable individuals habitually attribute negative outcomes to internal, stable, global causes and positive events to external, unstable, specific causes. In other words, following a failure, the depression-prone person accepts blame and assumes that the cause is general and persisting. Following a success, the same person takes no credit and assumes that it has no implication for other behaviour or for the future. A person with this depressive cognitive-diathesis is likely to make a depressive attribution when a major aversive event occurs. To make such an interpretation is to perceive one as helpless.

Abramson, Alloy and Metalsky (1988) have asserted that helplessness leads to depression when it leads the person to be hopeless about the future. The learned helplessness theory has also been employed to explain the problem of differential sex ratio in depression. Dweck suggested that children receive differential feedback as to the causal attributions for their failures (Dweck & Bush, 1976; Dweck, Davidson, Nelson & Enna, 1978). In effect, boys are told that their failures are due to lack of effort (an unstable cause), whereas girls are more likely to be told that failure is due to lack of ability (a stable cause). The implication is that women are more likely to be socialized to make depressive attributions for failure. Radloff (1975) had employed the helplessness model to explain sex differences in an analysis of epidemiologic

data that partition the contributions of marriage, out-of-home employment, and satisfaction with job and marriage to depression in women. Susan Nolen-Hoeksema (1987) have noted that some people tend to ruminate over the causes and implications of the event and thereby maintain and extend the depressive mood; while others may use strategies to minimize the psychological impact of an aversive event, such as distraction or purposefully focusing on more pleasant topics, which help to terminate a depressive mood. Women are more likely to have a ruminative style, and men are more likely to have a distracting style.

Beck (1972) defined depression in cognitive terms. According to him, the essential elements of depression includes the cognitive triad: negative view of a self, negative view of the world, and the negative view of the future. The depressed person views the world through an organized set of depressive schemata that distort experience about self, world, and future in a negative direction; schemata are complex units of stored information that also serve as templates for interpreting new experience. A number of typical forms of cognitive distortions were identified which includes arbitrary inference, selective abstraction, magnification and minimization, and inexact labelling. According to the cognitive approach, a schematic interpretation always mediates between an experience and the emotional response to that experience. The schematic inferences and interpretations that a person makes in a particular situation are termed automatic thoughts. They are automatic in the sense that the person is not aware of the interpretive process and may not even be aware of the thought itself, but only of the emotional consequence of the thought.

There has been a significant gender difference in many studies on depression. Almost 70% of individuals with major depressive disorder and dysthymia are women (Hankin & Abramson, 2001; Kessler, 2006; Kessler & Bromet, 2013). It may be that gender differences in the development of emotional disorders are strongly influenced by perceptions of uncontrollability (Barlow, 1988; Barlow et al., 2013). The source of these differences can be cultural, in the sex roles assigned to men and women in our society. Males are strongly encouraged to be independent, masterful, and assertive; females, by contrast, are expected to be more passive, sensitive to other

people, and, perhaps, to rely on others more than males do (needs for affiliation) (Cryanowski, Frank, Young & Shear, 2000; Hankin & Abramson, 2001). Kessler (2006) has studied about the sudden surge in depression among girls during puberty. It has also been noted that low self-esteem emerges quickly in girls in seventh grade if the school has a seventh through ninth-grade middle school, but low self-esteem among girls does not emerge until ninth grade when the school has a kindergarten through eighth grade primary school and a 4-year high school (Simmons & Blyth, 1987). This result suggests that younger girls entering a new school find it stressful. Also, girls, who mature early physically, have more distress and depression than girls who don't (Ge, Conger & Elder, 1996).

Women are at a disadvantage in our society. They experience more discrimination, poverty, sexual harassment, and abuse than do men. They also earn less respect and accumulate less power. Women tend to place a higher value on intimate relationships than men, which can be protective if social networks are strong, but may also put them at risk. Disruptions, in such relationships, combined with an inability to cope with the disruptions, seem to be far more damaging to women than to men (Nolen-Hoeksema & Hilt, 2009; Rudolf & Conley, 2005). Myers and Prescott (2005) also observed that women tend to have larger and more intimate social networks than men and that emotionally supportive groups of friends protect against depression. Nolen-Hoeksema (1990, 2000) has suggested rumination as the reason for the gender difference in depression. Women tend to ruminate more than men about their situation and blame themselves for being depressed. This response style predicted later development of depression when under stress (Abela & Hankin, 2008). Men tend to ignore their feelings, perhaps engaging in activity to take their minds off them (Addis, 2008). This male behaviour may be therapeutic because an 'activating' person (getting them busy with something) is a common element of successful therapy for depression (Jacobson, Martell, & Dimidjian, 2001).

Depression has been found to be common among persons diagnosed with substance abuse or substance dependence. About one third to one half of all those with opioid abuse or opioid dependence and about 40% of those with alcohol abuse

or alcohol dependence meet the criteria for major depressive disorder sometime during their lives (Sadock & Sadock, 2003). Studies have also found that among adolescents, the onset of major depressive disorder almost always preceded alcohol or substance abuse suggesting the possibility of self-medication as a factor in the development of alcohol or substance abuse (Deykin et al., 1987). Lewinsohn, Hops, Roberts, Seeley and Andrews (1993) found that substance use disorder, major depressive disorder, anxiety, and disruptive behaviour disorder constituted the four most common disorders of adolescence. Adolescents with the major depressive disorder had high lifetime rates of anxiety (20%), and adolescents with anxiety had exceptionally high rates of major depressive disorder (49%).

Rates of youth depression are the highest of all psychological disorders in this age group; the disorder affects millions of youngsters and their families. Depression is impairing and is associated with many problems, such as school difficulties and dropout, unwanted pregnancies, health problems, drug and alcohol abuse and smoking, intimate partner violence, and problematic peer and family relationships, as well as anxiety, eating, and disruptive-behaviour disorders. Tragically, it can also be fatal due to its association with suicide. There has also been a significant emergence of gender differences in rates of depression in adolescence, matching the 2:1 ratios of female to male depression observed in adulthood. However, for many depressed adolescents, perhaps especially girls, the lives they create are dysfunctional and entrapping and may portend a vicious cycle of recurring depression and stress.

According to Gotlib and Hammen (1992), over 100 million people worldwide have depression. In a study done by Robbins (1974) on heroin-addicted patients, many of the patients were found to have strong depressed feelings and 75% of all psychiatric hospitalizations are depression cases. The prevalence of psychiatric disorders among the opioids dependents when assessed along with the severity of their addiction profile; it was found that the major comorbid psychiatric conditions were major depression (30%), personality disorder (6%), generalized anxiety disorder (4%), phobic disorder (4%), panic disorder (2%), dysthymic disorder (2%) (Ahmad et al., 2001). Khantzian's (1985) has stated that certain affective states may

be associated with the use of specific drugs. It may be that drugs like cocaine and heroin provide better "relief" from depression (or perhaps the use of these drugs is more likely to cause it; Geoffrey et al., 2000). Also, high rates of depressive disorders have been reported among IDUs (Rabkin et al., 1997). Depression is associated with substantial physical morbidity and disability, as well as mental suffering (Lyketsos et al., 1996)

The co-occurrence of substance use disorder (SUD) and major depressive disorder (MDD) is a common problem with serious consequences. According to Deykin, Buka & Zeena (1992), approximately one in four adolescents receiving treatment for substance use disorder has a concurrent major depressive disorder, whereas almost one in three adolescents receiving treatment for major depressive disorder has substance use disorder (King et al., 1996). Adolescents with both disorders face increased risk of a range of negative outcomes such as increased severity of illness, relapse, and suicidal ideation, attempts, and completions (Brent, 1995; King et al., 1996; Riggs, Baker, Mikulich, Young, & Crowley, 1995; White et al., 2004). It has also been observed that when substance use disorder occurs first, depressive symptoms are associated with increased frequency and severity of substance use disorder illness (Riggs et al., 1995) and increased the likelihood of relapse (White et al., 2004). Substance use disorder symptoms also worsen existing major depressive disorder, resulting in longer and more severe depressive episodes (King et al., 1996). Some studies have indicated that adolescents with comorbid substance use disorder and major depressive disorder have worse functional outcomes than adolescents with either disorder alone, including lower global functioning (Rao et al., 1999), less social support, and more peer conflict (Aseltine, Gore & Colten, 1998).

Family Environment

The family is the basic unit of society. To a large extent, culture, values, personality pattern, including mental health and wellbeing of a person is rooted within the family. Family is the institution which is responsible for maintaining and building relationships among family members as well as with the community. A

family system is hierarchically organized, containing many subsystems which are understood by their boundaries (i.e. the extent and type of contact between the family and other subsystems). It has been postulated that a change in one family member will influence the entire system (Wright & Leahey, 2005). Family is a primary socialization unit and is, therefore, considered to be a very important factor in influencing the development of a child (Ozcinar, 2006). The family environment includes social environment which constitutes conditions, circumstances and interactions among family members. Out of the socio-cultural environments, family environment is the most important. It provides significant impact in regulating and integrating the behavioural patterns of an individual.

Moos and Moos (2009) have presented a conceptual model of family environment and its associations with youth and adult adaptation. The model shows that the family environment and family member's personal characteristics, coping skills, and well-being can affect the quality of family relationships, the emphasis on personal growth, goals, and the focus on system maintenance. Thus, when a child or adult in a family has an emotional or behavioural disorder, the family environment is likely to be affected. It has also been reported that the family environment during childhood and adolescence can shape the psychosocial adjustment and health outcomes in adolescents and young adults, both with and without chronic illness (Repetti, Taylor & Seeman, 2002). In typically developing children, negative family environments (e.g., high in conflict) have been associated with poorer physical, health, and psychosocial functioning in adulthood (Repetti, Taylor & Seeman, 2002).

As each family is made up of different individuals in a different setting, each family environment is unique. The environments can differ in many ways. For example, one obvious difference lies in the socio-economic level and parenting practices (Zastrow & Kirst-Ashman, 2013). Dasgupta and Sanyal (2008) have reported that family serves as an enriching ground for early socialization and personality development of children. Family environment with the provision of unconditional love and acceptance had a positive impact on behavioural of children.

Kamble (2014) also reported that family is the first and major agency of socialization has great influence and bearing on the behaviour of children.

Family environment whether it is positive or negative affects the psychosocial development and wellbeing of adolescence (Sharma, Jagiriti & Malhotra, 2010). Adolescents who are nurtured in a positive family environment such as warm, supportive, cohesion and expressiveness have shown more mental health (Farokhzad, 2014). Adolescents self-reported levels of wellbeing are related to the perception of the family environment. It has also been found that adolescent perception of low cohesion within their families was associated with heightened feelings of depression and reduced social acceptance (Wentzel & Feldman, 1996; Mckeown, Garrison, Jackson, Cuffe, Addy & Waller, 1997). Reinherz, Stewart-Berghauer, Pakiz, Frost and Moeykens (1989) suggested that low cohesion expressed by 'feelings of not belonging' is associated with children's feelings and behaviour that are reflective of their family environment.

Divya and Manikandan (2012) reported that family environment and self-esteem are significant variables in developing hostility among individuals. In another study, Divya and Manikandan (2012) have found that locus of control and assertiveness of an individual significantly contributes the development of hostility among adolescents. Hostility is a strong impulse inspired by the feelings of anger and everyone has them from time to time. Hostility includes emotional, behavioural and cognitive elements. Anger constitutes the behavioural component. The cognitive element consists of negative expectations and attitudes towards others such as cynicism, suspiciousness and harmful intentions (Smith, 1994). Hostility affects the adolescence mental and psychosocial areas such as poor academic achievement, impaired social functioning, suicide and substance abuse. Additionally, hostility is associated feature of numerous externalizing and internalizing problems like bullying, arguing, depression, anxiety and withdrawal (Festen, 1996; Whalen, Jammer, Henker & Delfino, 2001; Hampson, Andrews & Barckley, 2007). Houston and Vavak (1991) stated that low positive involvement; high levels of hostile controlling behaviour from the parents are the important factors for the development

of hostility among adolescence. The demographic variables such as religious affiliation, educational status and ordinal position along with family environment have also been found to be influencing the adolescents' hostility (Divya & Manikandan, 2012).

The patterns of interaction and behaviour of the family members play a vital role in the behaviour and adjustment patterns of an individual (O Leary, 1995). Parents who are friendly with their children provide information about how people deal with one another in a social situation, follow certain procedures, and engage in cooperative behaviour (Lindsey et al., 1997). It was also confirmed through various studies that if the family relationship has been good the adolescent will develop into a well-adjusted individual (Woolf, 1963). The family environment can be a strong source of support for developing adolescents, providing close relationships, strong parenting skills, good communication, and modelling positive behaviours. It can also be a problematic environment when those supports are lacking, or when negative adult behaviours like smoking and heavy drinking are present. Where adolescent health is concerned, clearly the family matters, and parents' matter. Evidence has also indicated that most adolescents enjoy healthy family environments, with large majorities reporting the capacity to talk with mothers about things that really bother them (68%), parents who know who their child's friends are (80%), know where their child is after school (88%), and who do not smoke (79%) or drink heavily (well over 90%), and who report very close relationships with their (79%) adolescents (Aufseeser et al., 2006).

According to McFarlane and colleagues (1994), the family environment plays a very important role in the emotional adjustment of adolescents to understand the social adaptation pattern. The family environment continues to be of crucial importance throughout adolescence and young adulthood (Van Wel, 2000). Parental control, exercised in a supportive environment is widely recognized as a facilitator of social development in adolescents (Adams & Bennion, 1990). A research study made by Mohanraj and Latha (2005) also found that the relationship with parents is the strongest factor that moulds a child's personality.

Family cohesion (i.e., the emotional bonding among family members and the feeling of closeness) is expressed by feelings of belonging and acceptance within the family system (McKeown et al., 1997). Cohesion has been viewed as a positive factor and it has been suggested that cohesiveness and bonding may have progressive effects on adolescent development as cohesive families ensure better psychosocial development in adolescents and that families marked by cohesion and moderate amount of control with moderate independence serve as the right combination for adolescents' growth by reducing their stress and anxiety (Tung & Sandhu, 2008). Cohesion in a family is also known to be essential in assisting children's development and performance (Arshat, Chai Yoke, Ng & Pai, 2016; Pai & Arshat, 2016; Lucia & Breslau, 2006). Reinherz and colleagues (1989) has suggested that low cohesion, expressed by feelings of not belonging, is associated with children's and adolescents' feelings and behaviour that are reflective of their family environment. It has been found that family with high cohesion, support and communications produces a better adolescent (Loeber et al., 1998). The emotional bonding is the affection showed by family members through the sense of belongingness and acceptance in the family (McKeown et al., 1997). Highly cohesive family convey the sense of care towards its members and that each and every one of the members is as important as the others (Kliewer et al., 2006). Therefore, adolescent from this family is able to function well in society as they know how they worth. In addition, adolescent who grew up in a cohesive family enjoys the abundant safety and security provided by the family (Kliewer et al., 2006). Family cohesion exists when all family members take pleasure in the activity they are doing and are always concerned about each other (Kliewer et al., 2006). Researches have suggested that adolescents who grew up in happy and positive family surroundings have higher self-control than those who were raised in a problematic family (Tangney, Baumeister & Boone, 2004). Families with a high level of cohesion, moderate amount of control are characterized by effective communication, emotional support and efficient cooperation, thus creating an environment in which the adolescents demonstrate the development of general competence and responsibility (Peterson & Leigh, 1990; Arnett, 2001). Similarly, high control in the family marked by rigidly enforced rules and regulations make

adjustment to adolescence difficult and thereby making them frustrated by increasing their stress and anxiety (Macoby & Martin, 1983; Lee, Statuto & Kedar-Voivodas, 1983).

According to Farrell and Barnes (1993), effective family functioning is defined by cohesion, expressiveness and high personal growth which are in turn related positively to peer relations and role compliance. The more cohesive a family, the better the individual family members function, the better the communication between parents and children and the greater the marital consensus and better the behaviour outcomes for adolescent children. Family cohesion which has been defined as strong emotional bonds of closeness between family members (Behnke et al., 2008), has also been found to be a pivotal family factor among Latinos (Baer & Schmitz, 2007; Basáñez & Lac, 2010) as it has been found to have an association with lower levels of substance abuse such as alcohol (Bray, Adams, Getz & Baer, 2001; Marsiglia, Kulis, Parsai, Villar, & Garcia, 2009) and illicit drug use (Gil, Vega & Biafora, 1998). The more cohesive the family is, the more similar the goals of the family members and the better chances of enjoying the time they spend with each other. This, in turn, gives them the environment of valuing interdependence as well as better emotional and instrumental support. A study conducted by Herman and colleagues (2007), also found that family cohesion and supportive relationships between family members are associated with adolescent psychological adaptation and lower depression.

Negative family environmental factors such as lack of family cohesion, lack of affection, neglect, aggression negatively affect adolescence self-esteem (Vangelisti et al., 2007). Various studies have also attempted to find the association of family conflict with many issues. Conflict among family members does harm the adjustment of adolescents of the family. It has also been found that adolescents from families which have low conflict show better adjustments (37.90) than the adolescents from families which have average (49.27) and high (70.94) conflict (Ramaprabou, 2014). Family with conflict environment is associated with adolescent's insecurity and psychological distress, as well as aggressive behaviour

and conduct disorder (Wissink et al., 2006). Ramaprabou (2014), in studying the effect of family environment on the adjustment patterns of adolescents, results indicated that family environment factors, namely; cohesion, expressiveness, conflict, acceptance and caring, independence, active-recreational orientation, organization and control together showed significant effect on the adjustment patterns of adolescents. Paul (1996), revealed the presence of significant degree of conflict with less cohesion and organization in the emotionally disturbed families. This finding was supported by the research study carried out by Johnson and colleagues (2001). They proved that decreased family cohesion can be associated with problems in adolescents' social interactions.

The poor family environment in terms of parental hostility, rejection and inconsistencies can all contribute to psychological problems viz., anxiety, stress, neuroticism, depression and many others (Sharma, Verma & Malhotra, 2008). Research has shown that family environment continues to be crucial importance in adolescence and adulthood (Van-Wel, 2000). There is strong evidence that the family environment has a major influence on the present and future development of children's behaviour and well-being. These findings have been presented across different cultures, contexts and countries (Lee & Yoo, 2015; Viner et al., 2012).

Bala, Balda and Kumari (2018), had conducted a study in a rural and urban area of Hisar district, India; on a sample of 240 adolescents in the age group of 16-18 years, 120 from rural area and 120 from urban area, representing both the sexes in equal number. The study examined the family environment and psychosocial problems of adolescents. Correlations, ANOVA and regression analyses were used to analyse the data. A maximum number of adolescents belonged to lower-income group followed by middle and high-income groups. Results revealed that different aspects of family environment and overall family environment, except conflict, were significantly negatively correlated with different aspects of youth problems and total score of youth problems. Conflict in family was positively correlated with youth problems. Adolescents who perceived family environment as low, i.e., poor experienced more problems than those who perceived family environment as average

and high. The study also revealed that overall family environment and personal growth dimension of family environment were significant predictors of psycho-social problems among adolescents.

Numerous important family environmental variables have been identified as important in adolescent alcohol or drug abuse/dependence (Anderson & Henry, 1994; Brody & Forehand, 1993; Denton & Kampfe, 1994; Johnson & Pandina, 1991; Webb et al., 1991; 1995). These variables may be grouped into categories such as:

- i) family structure (e.g., number of members of a household, family size, father presence/absence),
- ii) family process (e.g., cohesion, conflict, ambiguity in relationships), and
- iii) family-related alcohol- or drug-misusing behaviours (e.g., paternal alcohol or substance abuse, maternal alcoholism, sibling substance abuse).

The Family Environment Scale, FES (Moos & Moos, 1981) includes three sets of dimensions under which there are ten subscales. The FES comprises of ten subscales that measure the social-environmental characteristics of all types of families (Moos & Moos, 1986). The family environment scale (FES) is one of ten Social Climate Scales (Moos, 1987). The three dimensions are relationship dimensions, personal growth (or goal orientation) dimensions, and system maintenance dimensions. Each item had to identify an aspect of the family environment that could reflect the emphasis on interpersonal relationships (such as the degree of cohesion), the emphasis on an area of personal growth (such as the degree of achievement or moral-religious emphasis), or the emphasis on the organization of the family (such as the degree of organization) (Moos and Moos, 1986). The FES subscales and descriptions are given as follows:

Social environment	Sub-area	Definition
Interpersonal	Cohesion	The degree of perceived commitment, support and help family members

relationships		provide for each other
	Expressiveness	The degree to which family members are encouraged to express feelings and problems
	Conflict	Aggression, and conflict among family members
	Independence	The extent to which family members are assertive, make own decisions and are self-sufficient
	Achievement orientation	The extent to which school and work activities are cast as indices of achievement or areas of competition
Personal Growth	Intellectual cultural orientation	The extent to which family members showed an interest in political, social, intellectual, and cultural activities
	Active recreational orientation	The extent to which family members emphasized participation in social and recreational activities
	Moral-religious emphasis	The extent to which family members emphasized ethical and religious issues and values
System Maintenance	Organization	The extent to which the family endorses clear organization and structure in planning family activities and responsibilities

	Control	The extent to which rules and procedures are followed and enforced by family members
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- The FES has been modified by Bhatia and Chadha (2004), where the scale has eight components namely (i) cohesion, (ii) expressiveness, (iii) conflict, (iv) acceptance and caring, (v) independence, (vi) active recreational orientation, (vii) organization; and (viii) control.
- Cohesion: It is a degree of commitment, help and support of family members provide for one another.
- Expressiveness: It is the extent to which family members are encouraged to act openly and express their feelings and thoughts directly.
- Conflict: It refers to the amount of openly expressed aggression and conflict among family members.
- Acceptance and Caring: It is the extent to which the members are unconditionally accepted and the degree to which caring is expressed in the family.
- Independence: It is the extent to which family members are assertive and independently make their own decisions.
- Active Re-Creational Orientation: It refers to the extent of participation in social and recreational activities.
- Organization: It connotes the degree of importance of clear organization structure in planning family activities and responsibilities.
- Control: It is the degree of limit set within a family.

Social Support

Social support has been defined as a physical and psychological comfort provided by friends and family (Sarason et al., 1987). Taylor and colleagues (2007) had described social support as a concept in which someone receives help from nearby persons to solve the problems he/she has encountered. It is a broad term that

encompasses a variety of more specific characteristics of an individual's social world that might promote well-being and/or increase resistance to health problems (Cohen, Gottlieb & Underwood, 2000). Social support processes are strongly linked to mental and physical health (House, Landis & Umberson, 1988). Lee and colleagues. (2004) had defined social support as the strongest device to cope with chronic illness and tensions that make it humble and easy to encounter the problems. The studies on social support have seen immense growth since its emergence from the 1970s. Many researchers had attempted to find the relationship between social support and health, including mental health. They had emphasized that much or most of the beneficial health effects of social relationships are due to their buffering properties in the presence of stress (Cassel, 1976; Cobb, 1976; Caplan, 1974), although the relevance of the type of support or relationship to the problem or stress has also been found to determine the likelihood of observing a buffering effect (Cohen & Wills 1985). That is, social support may serve a stress-buffering function by reinforcing self-efficacy and problem-solving behaviour (Cohen & Wills, 1985). Still others had asserted that "social supports are likely to be protective of health only in the presence of stressful circumstances." (Kaplan et al., 1977).

In an effort to better understand the structures and processes through which social relationships affect human being and well-being; House, Umberson and Landis (1988) had distinguished two elements of social relationship structure:

- (a) social integration, which refers to the existence or quantity of social relationships, and
- (b) social network structure, referring to the structural properties that characterized a set of relationships.

They had further identified three social processes through which these structures may have their effects:

- (i) social support, which pertains to the emotionally or instrumentally sustaining quality of social relationships;
- (ii) relational demands and conflict, referring to the negative or conflictive

- aspects of social relationships; and
- (iii) social regulation or control, referring to the controlling or regulating quality of social relationships.

There has been a diverse explanation of the concept and measures of social support. In an attempt to simplify the matter, Barrera (1986) had organized social support into three broad concepts: social embeddedness perceived social support and enacted support. Social embeddedness refers to the connection that individuals have to their significant others in their social environment. Sarason, S.B. (1974) has stated that being socially connected is an important element in one's psychological sense of community. Gottlieb (1983) has stated that social embeddedness constitutes the flip side of social isolation and alienation. Social embeddedness can include social ties such as marital status, participation in community organization, or contact with friends. Perceived social support has been considered to characterize social support in terms of the cognitive appraisal of being reliably connected to others. Perceived social support tends to measure the perceived availability as well as adequacy of supportive ties. Social support has also been conceptualized as actions that render support to a focal person. Tardy (1985) has described such behavioural descriptions of support as 'enacted' and distinguishing it from 'available' support which is measured by scales of perceived availability as well as social embeddedness. Swindle (1983) had provided a model of social support and coping that depicted the social-environmental connections, perceived support and support seeking/provision. In this model, the availability of social connections contributes to the individual's perception that he or she can rely on others for aid or emotional sustenance. The perceived availability of support is related to an individual's decision to seek out support and ultimately to the provision of support by those who are available and equipped to deliver the needed assistance.

House (1987) had distinguished three aspects of social relationships, in an attempt to explain social support: -

- (1) their existence or quantity (i.e., social integration),

(2) their formal structure (i.e., social networks), and

(3) their functional or behavioural content (i.e., the most precise meaning of "social support").

He had also described causal relationships between the structure of social relationships (social integration and networks) and their functional content (social support).

Social support has often been studied in terms of the relationships to promote and maintain physical and mental health and well-being, and especially to buffer or enhance the potentially deleterious effects of psychosocial stress on health (Cobb, 1976; Hall & Wellman, 1985, House, 1987). The terms social relationships, social networks, and social support have important causal effects on health, exposure to stress, and the relationship between stress and health (House, 1981).

Cohen (1988) has attempted to define the concept of social support in terms of a process through which help is provided to others. This process is influenced by characteristics of the social environment and individual participants, transactions that occur between participants, the resources that are provided and participants' perceptions of these transactions and their implications. He broadly classified social support into three components; social networks, perceived social support, and supportive behaviours. Social networks refer to the structure of social relationships in terms of the existence, quantity and type of relationships. Perceived social support refers to the function of social relationships; it indicates the perception that social relationships will (if necessary) provide resources such as emotional support or information. Supportive behaviours refer to the mobilization and receipt of behaviours intended to aid persons in the face of stressful events. It is believed that social support facilitates social integration and is, therefore, conducive to the experience of positive emotions, self-worth, and a sense of predictability.

Thoits (1995) has defined social support as instrumental, emotional or informational assistance from significant others, and social support has been found to

be one of the major coping resources for people experiencing stressful life events or chronic strains.

According to Cutrona and Russell (1990), social support may provide emotional, instrumental, informational or appraisal support, as well as companionship and validation where each of these functions may be differently useful for various types of problems or stressors. Cullen and his colleagues (Colvin et al. 2002; Cullen 1994) has adopted a broad definition of social support, defining it as the “the perceived or actual instrumental and/or expressive provisions supplied by community, social network, and confiding partners.” Instrumental forms of social support involve efforts to assist the recipient with goal attainment and may include, for example, the provision of advice and guidance, transportation to a job interview, or financial assistance. Expressive forms of social support focus on the recipient’s needs for love and affection, self-worth, and belonging and companionship. Examples of expressive social support include a verbal affirmation of the recipient’s self-worth and positive qualities, expressing empathy, and acting as a sounding board for ideas, feelings, and problems.

A distinction can be made between perceived social support (the perception that support is available when needed) and enacted social support (social support that is actually provided), with the former consistently found to have protective effects on mental health (Thoits, 1995). Zhou and colleagues (2015) have also explained social support in terms of received social support and perceived social support. Received social support mainly refers to structural components, including an interpersonal social network’s quantitative properties and its members’ contact frequency, as well as reciprocal support and the quality of that support (Goebert & Loue, 2009). In contrast, perceived social support expresses the functional components of the perceived level of received support (Ekback, Benzein, Lindberg & Arestedt, 2013), which refers to a recipient’s subjective judgment on whether or not they can get help from social networks in a given situation (Gurung, 2006; Vaingankar, Abidin & Chong, 2012). Compared with received social support, perceived social support has greater impacts on treatment results and recovery (Eom et al., 2013; Khalil & Abed,

2014; Zhou et al., 2015). Measures of received social support are designed to assess the specific supportive behaviours that are provided to recipients by their support networks. Perceived social support measures assess recipients' perceptions concerning the general availability of support and/or global satisfaction with support provided (Sarason, Sarason & Pierce, 1990). Because received support measures instruct raters to recall specific examples of behaviour rather than general impressions, they are thought to more accurately reflect actual support provided by the environment than other types of support measures (Barrera, 1986). It has been contended that perceived support measures may be subjected to individual differences in perceptual, judgment, and memory processes that may result in distinctive perception of supportive events (Lakey & Drew, 1997), or may be influenced by value judgments regarding the relationship contexts in which the supportive events occur (Sarason, Sarason & Pierce, 1995).

Social support has also been explained in terms of the perception and reality that an individual can get assistance from other people in his or her social network (Gabert-Quillen et al., 2011; Lin, 2016). The supportive resources can be physical or tangible such as financial assistance, emotional such as nurturance, informational in terms of giving advice, and companionship such as the sense of belonging (Dunst, Trivette & Cross, 1986; Uchino, 2004). Therefore, social support is a multidimensional and complicated term (Cullen, 1994; Nausheen, Gidron, Peveler & Moss-Morris, 2009).

The term social support, and related terms such as integration and social networks, are often used interchangeably to three distinct aspects of social relationships-their existence or quantity, their formal structure, and their functional content or the degree to which they involve flows of affect or emotional concern, instrumental or tangible aid, information, and the like (Gottlieb, 1985; House & Kahn, 1985). House and Kahn (1985) has described social support in terms of explaining the different domains or aspects; where aspects such as the existence of social relationships, quantity, type, source of social support as well as that of social

networks can affect stress or health such as in reducing stress, improve health, or buffer the relationship between stress and health.

Social support may have negative as well as positive effects on health and well-being (Cohen & Syme, 1985). Psychological well-being very much depends on how a person is valued by those around him. Considerable evidence has suggested that positive social and family relationships can moderate the effects of stress on a person and can even reduce illness and early death (Monroe & Steiner, 1986). Conversely, the lack of external support, personal or material, can make a given stressor more potent and weaken a person's capacity to cope with it. While some studies have supported that while perceptions of support are generally associated positively with health and well-being, it has been also shown that reports of actual supportive transactions are sometimes unrelated or even negatively related to health and well-being (House, 1987). Perceptions of the availability of support, levels of supportive behaviours, as well as actual supportive behaviours and transactions could affect the paradoxical relationships. Thoits (1986) had suggested that social support processes assist individuals with coping efforts in a similar manner to their own coping strategies. Several studies have found that social support has a positive effect on handling life predicaments and stressful life events and can help individuals recover from depression and trauma (Baek, Tanenbaum & Gonzalez, 2014; Giesbrecht et al., 2013). Social support also has a positive impact on treatment results (Dobkin, De, Paraherakis & Gill, 2002; Wang et al., 2014). The health-enhancing effects of social support stem directly from the quality of support behaviour in the environment, as determined by the objective match between the needs of the support recipient and the type of support provided. Such views, which have been referred to broadly as the stress and coping perspective on social support (Lakey & Cohen, 2000), has suggested that for social support to have a positive effect on health and well-being, the relationship between received and perceived support should be relatively high, particularly under certain conditions, such as when the support needs match the type of support provided (Cutrona & Russell, 1990).

The relationship between social support and health is evident throughout the life course. There has been an abundance of research evidence that suggested the importance of social support in the maintenance of health and wellbeing (Berkman, Vaccarino, & Seeman, 1993). Children whose parents provided ample support to report fewer psychological and physical symptoms during their childhood than do children who receive less parental support (Wickrama, Lorenz & Conger, 1997). It has also been reported that people with abundant parental support during childhood are likely to have relatively good health throughout adulthood whereas people with inadequate parental support while growing up are likely to have poorer health as adults (Shaw et al., 2004). Similarly, the health of adults and older adults is predicted by contemporaneous levels of social support (House, Landis & Umberson, 1988). Among young people, social support tends to have benefits whether it is provided by family members, teachers, or peers (Chu et al., 2010). The concept of the life course trajectory (Elder, George & Shanahan, 1996) suggested that different points of an individual's life course are intimately connected with one another. Significant events and conditions at one point in the life course may play a role in shaping the course of events and conditions experienced in subsequent years, thereby suggesting the existence of a link between independent findings involving the health effects of social support and life course.

The relationship between personality and social support has been vastly studied. It has been emphasized that how much support a person actually receives may be as much or more a function of how well individuals generate and utilize supportive relationships as of how much support is available or provided by the environment or social structure in which they are located (Heller, 1979). However, empirical attempts to explain social support effects terms of personality have not been very successful (Wethington & Kessler, 1986).

Gender differences have also been considered as an important determinant in terms of the quality and consequences of social integration, networks, and support. Studies repeatedly find that men benefit more than women from being married. In prospective mortality studies, being married has much more beneficial effects on

longevity among men than among women. In many of these same studies, women appear to benefit more than men from contact with friends. Since friends tend to be of the same sex, the hypothesis emerges that women are better at providing social support than are men and hence that social relationships with women are more beneficial to health and well-being than relationships with men (House, 1986). A series of studies have indicated that for both sexes, time spent interacting with women is inversely related to felt loneliness, while amount of contact with men is unrelated to loneliness. Similarly, relationships with women are described as more intimate and self-disclosing (Wheeler, Reis & Nezlek, 1983). Thus, women appear, on average, to be better providers of social support than men. Women's greater capacity to form intimate relationships can also appear to bear greater burdens than men of providing support for friends and relatives with consequent adverse effects on their mental and perhaps physical health (Kessler & McLeod, 1984). Cobb (1976) has noted that excessive attention to, control of, and provision for another can be debilitating, and he thus sought to distinguish between what he termed "mothering" and "smothering." Cobb considered only "mothering" and not "smothering" to be a form of social support.

Studies on the impact of social relationships on mortality have found that the impact of social support is generally stronger among men than among women. This pattern of results is consistent with other evidence that being married is more beneficial to health, and becoming widowed more detrimental, for men than for women (Gove, 1972 & 1973; Helsing & Szklo, 1981). However, women seem to benefit as much or more than men from relationships with friends and relatives that tend to run along same-sex lines. It has also been suggested that both men and women seem to benefit more from relationships with women than relationships with men. This hypothesis is consistent with evidence that among both male and female college students, time spent interacting with women is inversely related to loneliness, while time spent interacting with men is unrelated to loneliness (Wheeler et al., 1983). If relationships with women are more supportive or healthful, there may be costs, in terms of mental health, for example, to women of providing such support (Belle, 1982; Kessler & McLeod, 1985).

An abundance of studies has been conducted in an effort to have a better understanding of the relationship between social support and mental health. The health impact of perceived support receives much more attention, and most studies use data from community surveys. In a study conducted by Ross and Mirowsky, (1989), it was found that perceived support (i.e., having someone to talk to or run to for support) has a main negative effect on depression. The results further suggested that perceived social support mediates some positive effects of marriage and education but not those of family income or race/ethnicity. Jackson, (1992), in examining a four-item perceived spouse support, and four-item perceived friend support, the relationship of support with depression was found to depend on the sources of support and the nature of stressors. It was also found that spouse support reduces the depression effect of all five kinds of stressors (i.e., marital strain, parental strain, work strain, economic strain, and physical health), while friend support plays similar roles only for three kinds of stressors (i.e., marital strain, economic strain, physical health strain). Turner and colleagues (Turner & Lloyd, 1999; Turner and Marino (1994) had measured perceived support from partners, relatives, friends, and co-workers based on twenty-five items. Perceived support was found to have main negative effects on both depressive symptoms and major depressive disorder. It mediates some effects of gender, age, marital status, and socioeconomic status on depressive symptoms, but does not mediate their effects on major depressive disorder. Elliott (2000) had used two indicators of social support: emotional support (i.e., presence of a confidant) and social integration (i.e., frequency of social interaction). Both types of social support reduce depressive symptoms and protect physical health, but only for residents of higher-SES neighbourhoods.

Social support goes beyond its traditional function as a stress buffer and plays multiple roles in the social organization of health and illness. It may protect health directly, or indirectly by reducing other health risks. It may mediate and moderate health effects of other determinants (Song et al., 2011).

Not all studies of social support found an inverse relationship with psychological dysfunction. Chadda (1995) has mentioned that the relationship

between social support and psychological dysfunction appears complex because certain elements of social support have a healthy relationship while others can have an unhealthy relationship. Some research studies which have examined both positive and negative aspects of social support have suggested that negative social interactions can have an adverse impact on mental health. It is important to consider the importance of the content of social relations, age of the recipient and the provider-recipient relationship as well as the context of life events in which social support is studied (Rook, 1984; Abbey, Abramis & Caplan 1985; Davis & Rhodes 1994; Okun & Keith, 1998). Ingersoll-Dayton, Morgan and Antonucci (1997) had suggested that equal effects of the two constructs, i.e., both positive and negative aspects of social support, can also occur.

Cullen (1994) for example, has observed that the theme of social support is implicit in many theories of crime and delinquency under certain conditions. Cullen and his colleagues had argued that the absence of social support is key to the genesis of crime. Further, the provision of social support may play a pivotal role in the prevention and control of crime (Colvin et al. 2002; Cullen 1994). In general, Cullen and his colleagues (Colvin et al., 2002; Cullen, 1994) further stated that involvement in illegal behaviour is negatively related to social support. Based on the sources of support, social support may promote offending behaviour. Timothy Brezina and Andia M. Azimi (2018), had studied an elaborated version of “differential social support” where the results indicated that, among adolescents who associate with delinquent peers, peer social support is associated with an increase in delinquent behaviour, either directly or indirectly by fostering loyalty to delinquent peers.

Social support is an important determinant that affects addiction and the role of perceived social support in the prevention and treatment of drug abuse and relapse has been studied comprehensively. Davis and Jason (2005) have mentioned that social support is among the factors that have a special role in maintaining the withdrawal of drug-dependent people. It has been suggested that the existence of supportive structures and networks, as well as supportive interventions such as spiritual and familial support, plays a major role in the promotion of treatment goals

in drug abusers and prevention of relapse (Spoth & Redmond, 1994; Blume et al., 1994). It has also been shown that there was a positive relationship between drug abstinence duration and receiving social support (Davis & Jason, 2005) and that perceptions regarding social support can improve the psychosocial functioning during the treatment process in drug abuse (Chong & Lopez, 2005). Atadokht and colleagues (2015) revealed that perceived social support from family and the family expressed emotions predicted 12% of addictions relapse. Nashee and colleagues (2014) revealed a negative relationship between perceived social support and addiction relapse. MacDonald and colleagues (2004), however, had suggested that social support cannot always predict the improvement stages in the treatment of substance abuse.

Personality

Personality is a pattern of enduring characteristics that produce consistency and individuality in a given person. Personality encompasses the behaviours that make each of us unique and that differentiate us from others. Personality also leads us to act consistently in different situations and over extended periods of time. Personality characteristics are associated with distinctive patterns of thoughts, feelings, and actions that occur in response to particular situational demands (Mischel, 2004). It has been found that personality strongly correlates with life satisfaction (Boyce, Wood, & Powdthavee, 2013). The American Psychological Association (APA), has defined personality as the “individual differences in characteristic patterns of thinking, feeling, and behaving” (APA, 2017). A model of personality that seeks to identify the basic traits necessary to describe personality is called a trait theory. Traits are the consistent personality characteristics and behaviours displayed in different situations. It also refers to a distinctive set of attributes such as thinking, feeling, attitude, and behaviour (McCrae & Terracciano, 2005). All trait theorists explain personality in terms of traits but they differ in terms of how many traits are seen as fundamental.

Allport (1961, 1966) has defined personality as “the dynamic organization within the individual of those psychophysical systems that determine his unique

adjustments to the environment.” The other definition that he has given is - “Personality is the dynamic organization within the individual of those psychophysical systems that determine his characteristic behaviour and thought” (Allport, 1961). According to Allport (1961), there are three fundamental categories of traits: cardinal, central and secondary. Using factor analysis, personality psychologist Raymond Cattell (1965) suggested that 16 pairs of source traits represent the dimension of personality. He even developed the Sixteen Personality Factor Questionnaire or the 16 PF, a measure that provides scores for each of the source traits (Cattell, Cattell, & Cattell, 1993; 2000). Hans Eysenck (1995) has also used factor analysis to identify patterns of traits and he came to the conclusion that personality can best be described in terms of three major dimensions: extraversion, neuroticism, and psychoticism. The extraversion dimension relates to the degree of sociability, whereas the neuroticism relates to emotional stability, and psychoticism refers to the degree to which reality is distorted. Lewis Goldberg may be the most prominent researcher in the field of personality psychology. He broke down Raymond Cattell’s 16 “fundamental factors” of personality into five primary factors, similar to the five factors found by fellow psychology researchers in the 1960s. The five factors Goldberg identified as primary factors of personality are Extroversion, Agreeableness, Conscientiousness, Neuroticism and Openness to experience. This five-factor model caught the attention of two other renowned personality researchers, Paul Costa and Robert McCrae, who confirmed the validity of this model. This model was termed the “Big Five” and launched thousands of explorations of personality within its framework, across multiple continents and cultures and with a wide variety of populations. Costa and McCrae define personality relying on the Big Five factors model which includes neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness.

Extroversion and neuroticism capture the social dimension of personality and they describe individual differences in emotional response across a range of situations and may contribute to a predisposition for psychiatric disorders. Extraversion is the tendency to be positive, assertive, dynamic, kind, and sociable. Extroverts prefer to seek and engage in social interactions (McCrae & Costa 1991;

Larsen & Ketelaar 1991). They tend to be enthusiastic, talkative, assertive, and gregarious. Extroversion may also be characterized as sensitivity to positive or pleasure cues in the environment (Larsen & Ketelaar, 1991; McCrae & Costa, 1991). Further, research suggests that individuals who rate high on a scale for extroversion are differentially sensitive to reward cues (Pickering & Gray, 2001) and may have a propensity to experience positive affect (Lucas & Diener, 2001). Neuroticism refers to the tendency to experience negative emotions such as fear, sadness, impulsivity, and vulnerability to pressure (De Fruyt et al., 2009). Neuroticism is the tendency to experience anxiety, stress, hostility, impulsivity, shyness, irrational thought, depression and low self-esteem. It is characterized by a pervasive sensitivity to negative or punishment cues in the environment (McCrae & Costa 1991; Watson & Clark, 1992). Individuals who rate high on a scale for neuroticism tend to avoid social situations, are reserved or socially awkward, and prefer solitary activities to social ones. Further, they tend to have negative views of themselves and the world, regardless of the objective reality (McCrae & Costa, 1991). Openness to experience is the tendency to be curious, interested in arts, intellectual, flexible, creative, and innovative. Agreeableness is the tendency to be forgiving, kind, generous, trusting, sympathetic, obedient, devoted, and loyal. And finally, conscientiousness is the tendency to be organized, efficient, dependable, restrained, logic-oriented, and reflective (De Fruyt et al., 2009).

Personality has also been defined as a complex hierarchic system that may be split into two main features, temperament and character (Cloninger et al., 1993). According to Cloninger's theory, which may be defined as a psychosocial theory, personality takes form the interaction between temperament and character: while temperament reflects biological features provided to us at birth and that will lead us to act in specific ways; character may be influenced from the environment the individual grows in. Temperament reflects differences among people when they need to react unexpectedly to environmental stimuli: it involves basic emotional reactive patterns activated by these stimuli, such as anger, attachment and exploration. In other words, different reactions reflect biological variability. Temperament can be understood during childhood and tends to remain steady for the whole life.

Cloninger's psychobiological model of personality is a seven-factor model that includes four dimensions of temperament (Harm Avoidance, Novelty Seeking, Reward Dependence and Perseverance) and three dimensions of character (Self-directedness, Cooperativeness and self-transcendence). The different dimensions are explained as follows:

1. **Harm avoidance** – refers to sensitivity to, and avoidance of, punishing stimuli. It is the tendency to react intensely to negative stimuli. This is likely to bring excessive preoccupation for the consequences of these individuals' own actions. These people tend to be cautious, sensitive to criticism and punishment.
2. **Novelty seeking** - a tendency toward exhilaration or excitement in response to cues of potential reward or relief of punishment. It is the tendency to react excitedly to novelties. This personality dimension implies the necessity of a higher level of stimulation; it is related to enthusiasm and exploration. These people tend to get bored easily and to be impulsive.
3. **Reward dependence** – refers to a tendency to respond to positive signals such as social approval and to maintain rewarded behaviour. It is the tendency to react intensely to situations that might lead to a reward, particularly social approval, affective signs or help to offer.
4. **Persistence** - It is the tendency to carry on with a type of behaviour known to bring frustration and tiredness. It also refers to a tendency to continue a task or activity regardless of frustration, dissatisfaction, or fatigue.
5. **Self-directedness** – refers to the extent to which individuals are goal-oriented and resourceful. It is related to the willingness, ability to control, regulate and adapt behaviour for goal achievement in a functional and effective way. It is an index of responsibility, maturity and reliability.
6. **Cooperativeness** – refers to the extent to which individuals relate to others and implies identification, acceptance of others, availability to help and cooperation. It is associated with empathy, availability tolerance and supportive skills.
7. **Self-transcendence** – refers to the extent to which individuals are

transpersonal, spiritual, and idealistic. It is the ability to feel part of everything (nature, universe), to perceive a whole consciousness. It is associated with creativity, altruism and spirituality.

In addition, the model proposes a link between certain temperaments and specific neurotransmitters: that is, between novelty seeking and dopamine, between harm avoidance and serotonin, and between reward dependence and norepinephrine. Major character traits, however, are said to be related to insight learning and shaped both by temperament and environmental factors. Character is the way people relate to themselves and to others; it reflects individual differences based on what they have experienced and learned. Character traits are not heritable and they origin from life experiences; nevertheless, temperament may lead individuals to have certain kinds of experiences. Although this doesn't happen gradually, character traits tend to change during life: on these bases, the character may be defined as "temperament's non-linear function" and it is influenced by social learning and life events.

It has been postulated that Novelty Seeking was highly correlated with Extraversion and Conscientiousness of the NEO (De Fruyt et al., 2000). High correlations between Novelty Seeking and Impulsive Sensation Seeking (Zuckerman-Kuhlman Personality Questionnaire; Zuckerman, Kuhlman, Joireman, Teta & Kraft, 1993; Zuckerman & Cloninger, 1996) and Eysenck's Psychoticism factor has also been found (De Fruyt et al., 2000). Both novelty seeking and sensation-seeking measures have been known to have strong relationships with antisocial behaviour, antisocial personality, and substance abuse, but little or no relationship to neurotic or anxious personality disorders. Both scales correlate negatively with the enzyme monoamine oxidase (MAO) suggesting a common biological basis. Zuckerman and Cloninger (1996) have defined novelty or sensation seeking as a fundamental dimension of temperament, unlike the big five systems where sensation seeking is regarded as an aspect of extraversion and impulsivity as an aspect of neuroticism. There is empirical evidence that Eysenck's Psychoticism factor splits into two components, one negatively related to Conscientiousness, the other negatively associated with Agreeableness (De Fruyt, Buyst & Mervielde,

1993). Zuckerman and Cloninger (1996) had suggested that Harm Avoidance correlates more specifically with the Zuckerman and Kuhlman's Personality Questionnaire (ZKPQ) neuroticism scale than with the Eysenck's Personality Questionnaire's (EPQ) Neuroticism (N) scale. Harm avoidance has also been found to be highly positively correlated with Neuroticism and negatively related to Extraversion. The third temperament dimension, Reward dependence, is found to be correlated with both Extraversion and Openness (De Fruyt et al., 2000). The strongest relationship with the EPQ is a negative one with Psychoticism (P), perhaps reflecting the egocentricity of the high P scorer. Persistence has been found to be moderately correlated with the ZKPQ Activity scale, reflecting the preference for hard or challenging work in the latter scale. However, Activity also includes a high energy level and restlessness and difficulty in just relaxing and doing nothing. Zuckerman and Cloninger reported a positive correlation between Persistence and the ZKPQ Activity scale and a negative correlation with Eysenck's Psychoticism factor. Cooperativeness has been found to have accurate predictability by Agreeableness. Cooperativeness shows a strong negative correlation with the ZKPQ Aggressive–Hostility scale and a moderate negative relationship with Eysenck's Psychoticism scale (Zuckerman & Cloninger, 1996), both known to be negatively correlated with Agreeableness. Self-transcendence is substantially correlated with Openness and moderately with Extraversion. However, Openness is not included in Zuckerman's or Eysenck's models. Self-Directiveness was found to be negatively correlated with anxiety, aggression–hostility and neuroticism scales. However, Self-Transcendence was not related to the basic traits in either ZKPQ or EPQ and self-transcendence is not included in either Zuckerman's or Eysenck's models.

Personality has been considered as an important factor that plays a role in the predisposition, precipitation or perpetuation of drug abuse or dependence. Drug dependence results from a series of factors, including social and family issues, availability or fashion trends. It is now generally agreed that individuals with substance-use disorders as a whole differ from controls on several broadly-defined personality dimensions, but it is unclear to which degree of specificity these traits may be differentially linked to particular classes of substances. Much attention has

been given to the so-called addictive personality. People who are addicted often found to have low self-esteem, are immature, are easily frustrated, and have difficulty solving personal problems and relating to people of the complementary sex. Addicts may try to escape reality and have been described as fearful, withdrawn, and depressed. Some have a history of frequent suicide attempts or self-inflicted injuries. Addicts have sometimes been described as having dependent personalities, grasping for support in their relationships and having difficulty taking care of themselves. Others exhibit overt and unconscious rage and uncontrolled sexual expression. Evidence has suggested that most of these traits emerged as a result of long-term addiction and are not necessarily an antecedent of drug abuse. At times, family members or friends may behave in ways that allow an addict to continue to abuse drugs or alcohol; these people are considered co-dependents (also referred to as “enablers”). Co-dependents may call in sick for an addict or make excuses for the person’s behaviour. The co-dependent may plead with the addict to stop using drugs or alcohol but rarely does anything else to help the addict change her/his behaviour. A family member or friend who cares should encourage the addict to stop abusing drugs and to enter a treatment program. If the addict refuses to seek help, the family member or friend may eventually have to threaten to pull back from regular contact. Such an approach seems harsh but can be coupled with a professionally guided intervention. This can be one way to convince an addict that behavioural changes must be made.

It is suggested that addictive behaviour, so-called, fits into a psychological resource model. In other words, the habits in question are acquired because they serve a useful function for the individual, and the nature of the functions they fulfil is related to the personality profile of the ‘addict’. For some people, this resource function develops into a form of addiction, and it is suggested that the reason this occurs is related to excessive dopamine functioning. This, in turn, is used to suggest the nature of the addictive personality. Excessive dopamine functioning is related to the personality dimension of psychoticism, and evidence is cited to the effect that psychoticism is closely related to a large number of addictions. The precise reasons for the addictive effects of dopamine are still being debated, but clearly there is a

causal chain linking personality and biological factors together in the production of addictive behaviour. There are two major models of addiction, the medical or chemical (physical addiction) and the psychological (resource model). What is meant by 'personality' is much more than just a characterization of a person in terms of traits of one kind or another? It has been greatly suggested that psychometric traits do indeed fill the centre of the picture, but such trait characterization is only part of a much larger nomological network (Eysenck & Eysenck, 1985). There is much evidence that all aspects of personality are strongly determined by genetic factors (Eaves et al., 1989).

Eysenck's major dimensions of personality, P (psychoticism), E (extraversion) and N (neuroticism); are found to be uncorrelated with each other, and therefore, cover different areas of personality (Eysenck & Eysenck, 1985). However, it is particularly the psychoticism dimension that has been found to be correlated with addictive behaviour. The underlying theory states that there is a dimension of personality which relates to a person's liability to functional psychosis (Eysenck, 1992). Psychoticism measures a dispositional variable; P has to be combined with stress to produce actual psychiatric symptoms. In order to have a deeper understanding about addictive behaviour is largely determined by P, and to a smaller extent by N (neuroticism); studies by Gossop (1978), and Teasdale and colleagues (1971) showed that drug-dependent groups had typically high levels of psychoticism, together with elevated scores on neuroticism; they also had somewhat lower levels of extraversion than controls. A larger and more detailed study comparing drug addicts and controls was carried out by Gossop and Eysenck, (1980) who found that for both males and females' high level of P was an important discriminant, with high neuroticism (N) also important, but less so for women than for men. Low extraversion (E) scores were also again characteristic of drug addicts. The test used also contained a Lie Scale (L) which essentially measures conformist behaviour, and usually correlates negatively with P; low L scorers were characteristic of the drug addicts. On this scale, addicts had mean scores almost twice as high as controls (Gossop & Eysenck, 1980). The personality patterns of criminals are similar to those of drug addicts, particularly in having high P and N scores (Eysenck & Gudjonsson,

1989). Gossop and Eysenck (1983) tested 221 drug addicts and over 1000 criminals on the P, E, N and L scales. They found addicts higher on P, lower on E, higher on N (particularly the women), and lower on L. In other words, the differences in personality patterns are similar to those obtained with normal controls. These studies were done with traditional drug takers. Smokers, if we are willing to consider them 'addicted' in the sense of continuing to smoke cigarettes in spite of many health warnings, have been found to have high-P scores (Spielberger & Jacobs, 1982; Gilbert, 1995). The first resembles psychoticism, with characteristics like impulsivity, inattention and character disorders. The second is neuroticism, or 'negative emotionality', with a tendency to experience negative moral states and psychological distress.

Depression and Gender Difference

There has been a significant gender difference in many studies on depression. Almost 70% of individuals with major depressive disorder and dysthymia are women (Hankin & Abramson, 2001; Kessler, 2006; Kessler & Bromet, 2013). It may be that gender differences in the development of emotional disorders are strongly influenced by perceptions of uncontrollability (Barlow, 1988; Barlow et al., 2013). The prevalence of major depression is higher in women than in men (Cryanowski et al., 2000). In 2010, the global annual prevalence of depression in women and men was 5.5% and 3.2%, respectively, representing a 1.7-fold greater incidence in women.1,8 (Whiteford et al., 2013; Baxter et al., 2014). The source of these differences can be cultural, in the sex roles assigned to men and women in our society. Males are strongly encouraged to be independent, masterful, and assertive; females, by contrast, are expected to be more passive, sensitive to other people, and, perhaps, to rely on others more than males do (needs for affiliation) (Cryanowski, Frank, Young & Shear, 2000; Hankin & Abramson, 2001). Early research emphasized macrosocial risk factors for depression, such as poverty, low educational status, poorer employment opportunities, and lack of control over decision making, and suggested that they are unequally distributed between sexes in several cultures (Nolen-Hoeksema, Larson & Grayson, 1999). In addition, role-gender interaction theory

proposes that the lower social status of women negatively influences the quality of their social roles (Gove, 1972). The unrewarding and stressful nature of these roles may account for the higher rate of depression in women. Depression is about twice as common in women, and greater depressive symptoms are consistently found in women compared to men across Western and Asian countries (Besser & Shackelford, 2007; Kim, 2016).

Kessler (2006) has studied about the sudden surge in depression among girls during puberty. It has also been noted that low self-esteem emerges quickly in girls in seventh grade if the school has a seventh through ninth-grade middle school, but low self-esteem among girls does not emerge until ninth grade when the school has a kindergarten through eighth grade primary school and a 4-year high school (Simmons & Blyth, 1987). This result suggested that younger girls entering a new school find it stressful. Also girls, who mature early physically, have more distress and depression than girls who don't (Ge, Conger & Elder, 1996). For instance, gender differences in depression begin to emerge at age 14 (Wade, Cairney & Pevalin, 2002), and during the period from ages 15 to 18 the female rate of depression rises to double the prevalence rate for males (Hankin et al., 1998).

Women are at a disadvantage in our society. They experience more discrimination, poverty, sexual harassment, and abuse than do men. They also earn less respect and accumulate less power. Women tend to place a higher value on intimate relationships than men, which can be protective if social networks are strong, but may also put them at risk. Disruptions, in such relationships, combined with an inability to cope with the disruptions, seem to be far more damaging to women than to men (Nolen-Hoeksema & Hilt, 2009; Rudolf & Conley, 2005). Even when women and men are confronted with similar stressors, women may be more vulnerable than men to developing depression and related anxiety disorders such as posttraumatic stress disorder (Breslau, Davis, Andreski, Peterson & Schultz, 1997). Women's greater reactivity compared with men has been attributed to gender differences in biological responses, self-concepts, and coping styles.

Myers and Prescott (2005) also observed that women tend to have larger and more intimate social networks than men and that emotionally supportive groups of friends protect against depression. Susan Nolen-Hoeksema (1990, 2000; Nolen-Hoeksema, Wisco & Lyubomirsky, 2008) has suggested rumination as the reason for the gender difference in depression. Women tend to ruminate more than men about their situation and blame themselves for being depressed. This response style predicted later development of depression when under stress (Abela & Hankin, 2008). Nolen-Hoeksema (1987) have noted that some people tend to ruminate over the causes and implications of the event and thereby maintain and extend the depressive mood; while others may use strategies to minimize the psychological impact of an aversive event, such as distraction or purposefully focusing on more pleasant topics, which help to terminate a depressive mood. Women are more likely to have a ruminative style, and men are more likely to have a distracting style. Men tend to ignore their feelings, perhaps engaging in activity to take their minds off them (Addis, 2008). This male behaviour may be therapeutic because an 'activating' person (getting them busy with something) is a common element of successful therapy for depression (Jacobson, Martell & Dimidjian, 2001).

The learned helplessness theory has been employed to explain the problem of differential sex ratio in depression. Dweck suggested that children received differential feedback as to the causal attributions for their failures (Dweck & Bush, 1976; Dweck, Davidson, Nelson & Enna, 1978). In effect, boys are told that their failures are due to lack of effort (an unstable cause), whereas girls are more likely to be told that failure is due to lack of ability (a stable cause). The implication is that women are more likely to be socialized to make depressive attributions for failure. Radloff (1975; Radloff & Rae, 1979) employed the helplessness model to explain sex differences in an analysis of epidemiologic data that partition the contributions of marriage, out-of-home employment, and satisfaction with job and marriage to depression in women.

Hankin and Abramson (2001) proposed a cognitive vulnerability-transactional stress theory of depression, in which girls' responses to negative events

would be characterized by rumination and a negative inferential style. Although a few studies have failed to support this hypothesis (Hankin, Abramson & Siler, 2001; Lewinsohn, Joiner & Rohde, 2001), Hankin and Abramson (2002) found that cognitive characteristics, such as negative inferences about the self, mediated gender differences in depressive symptoms.

Calvete and Cardenoso (2005) has assessed gender differences in cognitive variables as an explanation for gender differences in depression and behaviour problems; 856 adolescents (491 females and 365 males), aged 14–17, were studied. It was found that female adolescents' lower levels of positive thinking and higher scores on negative problem orientation need for approval and success, and self-focused negative cognitions partially mediated gender differences in depressive symptoms. Males' higher scores on justification of violence beliefs and the impulsivity/carelessness style of problem-solving partially accounted for differences in delinquent behaviour. The influence of need for approval and success on depressive symptoms was higher among adolescents at ages 14–15 than among older adolescents. Justification of violence did not influence delinquent behaviour among girls at age 14–15.

The possibility that males might be as depressed as females have been not taken seriously and therefore has received little research. Some researchers have stated that those women may not be more depressed than men, because men may not reliably report, or through various ways may mask or camouflage their depressive symptoms (Meichenbaum, Price, Phares, McCormick & Hyde, 1989; Hammen, 1989; Freudenberger, 1987; Kleinke, Staneski & Mason, 1982). There is also some evidence that males may conceal the presence of depression out of concern for social rejection, that it is inappropriate for them to openly express depressive feelings. (Vredenburg et al., 1986). It has also been reported that men and women differ in the way they respond to depression. For example, Vredenburg, Krames and Flett, (1986) had suggested that men only express depressive symptoms consonant with their traditional male sex role, and therefore more likely to report sex-role appropriate symptoms such as work-related problems and somatic concerns. Also, males tend to

endorse test items in a less "depressed" direction when items were presented explicitly as measuring depression but would endorse more depressive content when items were presented in a context of daily hassles (Page & Bennesch, 1993; Page, 1999).

Depression and Personality

Although it has been contended that no single personality trait or type uniquely predisposes a person to depression; all humans, of whatever personality pattern, can and so become depressed under appropriate circumstances, the relationship between depression and personality, especially of neuroticism has been studied widely. Barlow et al. argued that neuroticism is core psychopathology for emotional disorder, and temperamental vulnerability should be targeted by behavioural intervention and effective strategies to increase positive affect should be provided.

Several studies have suggested that depression is linked to traits such as neuroticism/negative emotionality, extraversion/positive emotionality, and conscientiousness. Moreover, personality characteristics appear to contribute to the onset and course of depression through a variety of pathways. Personality has traditionally been conceptualized as having two components: temperament, which refers to biologically based, early-emerging, stable individual differences in emotion and its regulation, and character, which refers to individual differences due to socialization. However, the distinctions between these constructs are questionable, as a large body of evidence has accumulated indicating that personality traits have all the characteristics of temperament, including strong genetic and biological bases and substantial stability over the lifespan (Krueger & Johnson, 2008; Watson et al., 2006). Hence, the terms "personality" and "temperament" are now often used interchangeably (Caspi & Shiner, 2006; Clark & Watson, 1999). A variety of personality classifications have been proposed over the past century, amongst them, the Five-Factor Model (FFM) posits that personality is ordered hierarchically from a large number of specific traits to five general characteristics (Digman, 1994; Goldberg, 1993; Markon et al., 2005). These "Big Five" traits which are neuroticism,

extraversion, conscientiousness, agreeableness, and openness to experience; are further reduced to three dimensions of negative emotionality, positive emotionality, and disinhibition versus constraint that form the next level of the personality hierarchy (Clark & Watson 1999; Markon et al., 2005). This “Big Three” model is used in studies of temperament as well as personality, although disinhibition is often labelled as effortful control in the child literature (Caspi & Shiner, 2006; Rothbart & Bates, 2006). The Big Five and Big Three schemes are closely related, with neuroticism being essentially identical to negative emotionality and extraversion corresponding to positive emotionality (Clark & Watson, 1999; Markon et al., 2005); these two dimensions are referred to as neuroticism/negative emotionality (N/NE) and extraversion/positive emotionality (E/PE), respectively.

Akiskal and colleagues (2005) provided the basis for including depressive temperament as a personality disorder in the DSM-IV appendix. The terms “depressive temperament,” “depressive personality,” and “depressive personality disorder” have been used interchangeably in the literature to refer to the following constellation of traits: introversion, passivity, and non-assertiveness; gloominess, cheerlessness, and joylessness; self-reproach and self-criticism; pessimism, guilt, and remorse; being critical and judgmental of others; conscientiousness and self-discipline; brooding and given to worry; and feelings of inadequacy and low self-esteem.

Clark and Watson (1999) posited that depressive disorders are characterized by high levels of N/NE and low levels of E/PE. A large number of cross-sectional studies have evaluated these relations as well as the links between depression and the other FFM dimensions. Kotov et al. (2010) recently conducted a meta-analysis of this literature, which revealed that MDD is associated with very high N/NE (Cohen’s $d = 1.33$) and low conscientiousness ($d = -0.90$). The link to low E/PE was more modest ($d = -0.62$) and inconsistent, with some studies finding positive effects. The associations with the other two traits were weak and unremarkable. The N/NE finding is consistent with expectations, but the effect for E/PE was smaller and that for conscientiousness was larger than anticipated. Dysthymic disorder exhibited a

more extreme profile with remarkably strong and consistent links to E/PE ($d = -1.47$), N/NE ($d = 1.93$), and conscientiousness ($d = -1.24$). This is not surprising as a dysthymic disorder is thought to be more trait-like than MDD, and a greater contribution from personality might be expected. Many studies have found that individuals with MDD report higher levels of N/NE when they are depressed than when they are not depressed (Hirschfeld et al., 1983; Kendler et al., 1993; Ormel et al., 2004).

Arieti and Bemporad (1980; Bemporad, 1971) emphasized the failure to internalize standards as the basis of dependency depression and internalization of stringent standards as a basis for dominant goal depressions. The individual who has failed to internalized standards depends on the judgements of others for self-esteem. Dominant goal personalities are vulnerable to depression when they fail to meet their own unrealistically high standards. Blatt (1974) differentiates anaclitic or dependency depressions, which stem from an early loss, from introjected or self-criticism depressions that are based on later acceptance of external negative evaluations. Beck (1983) uses the term sociotropic versus autonomous depressions. Sociotropic individuals depend on interpersonal relationships or positive self-evaluation, and autonomous individuals depend on achievement and status. The type of loss a person suffers (interpersonal or status) would produce depression only for the person with the corresponding personality type. A Sociotropy-Autonomy Scale (Beck, Epstein, Harrison & Emery, 1983) was developed to measure the concepts as two independent dimensions. Hammen, Ellicott, Gitlin and Jamison (1989) reported results supporting the idea that interpersonal life stresses were more likely to precede depression for individuals high on sociotropy, whereas achievement stresses were higher before depression for individuals high on autonomy.

The idea of a depressive personality defined by various traits has had a long history in psychodynamic personality theory. Results demonstrating such a personality type have been mixed at best. Recent research seeing personality factors as interacting with life stress is a more fruitful line of enquiry; several reviews cover

the area (Barnett & Gotlib, 1988; Chodoff, 1974; Hirschfeld & Cross, 1982; Nietzel & Harris, 1990).

In a study that attempt to assessed the genetic relation between neuroticism, major depression and gender in a population of twins (both monozygotic and dizygotic twins) by Fanous and colleagues (2002); the results contained only additive genetic and individual-specific environmental factors for both Neuroticism (N) and Major Depression (MD). The within-sex genetic correlations between N and MD were estimated at +0.68 in men and +0.49 in women. This model fitted only slightly better than one in which the N-MD within-sex genetic correlation was constrained to be equal across the sexes, and estimated at +0.55. There may be sex-specific genes influencing both N and MD, however, this study failed to establish a significant sex difference in the genetic correlation between N and MD. Bienvenu (2003), also found that there was no sex difference in genetic correlations between neuroticism and major depression.

Studies have shown that personality characteristics such as higher neuroticism and lower extraversion, conscientiousness, and agreeableness were associated with the onset and prognosis of depressive disorders (Koorevaar et al., 2013; Rosellini & Brown, 2011). Different types of personality may be associated with variable reactivity to stress, such as emotional regulation or coping styles (Carver & Connor-Smith, 2009; Panayiotou, 2014). Higher neuroticism has been linked with increased negative feelings and maladaptive behavioural responses to stressful experiences (Roesch, 2009). Extraverted persons are likely to experience more positive affect and less stress (Lee-Baggley, Preece & Delongis, 2005). Agreeable individuals are likely to avoid interpersonal conflict and experience less social stress (Bono, Boles, Judge & Lauver, 2002). Higher conscientiousness is associated with more effective coping strategies such as active problem solving to deal with stress (Lee-Baggley, Preece & Delongis, 2005). Thus, individual differences in reaction and perception of stress after experiencing negative life events may depend on their personality traits. It is well known that the majority of depressive episodes are preceded by stressful life events, and severe stressful

experiences increase the risk of developing depression (Garnefski, van Egmond & Straatman, 1990). Perceived levels of stress after negative life events differ across individuals (Mohamadi et al., 2013), and specific factors may contribute to differences in vulnerability to stress, which in turn, increases the likelihood of developing depressive symptoms (Hamilton, 2013). Among various stress vulnerability factors, a high neuroticism level is longitudinally associated with episodic stress and depressive episodes (Kendler, Kuhn & Prescott, 2004). Higher neuroticism and lower extraversion partially account for depressive or social anxiety, and these personality traits explain shared associations between life stress and mood disorders (Uliaszek et al., 2010). A previous study examining the relationship between five-factor personality traits and negative mood reported that perceived stress mediates these relationships (Besser & Shackelford, 2007). Conscientiousness is known to be associated with stress management and tolerance (Besser & Shackelford, 2007) and lower risk of depression, but the links between agreeableness and openness with stress or depression are inconsistent (Roesch et al., 2009; Koorevaar et al., 2013; Lee-Baggley, Preece & DeLongis, 2005).

Kendler and colleagues (1993), in studying the nature of the etiologic relationship between personality and major depression in women using a longitudinal twin design, they found that Extraversion was unrelated to lifetime or 1-year prevalence of major depression, Neuroticism was strongly related to lifetime prevalence of major depression and robustly predicted the prospective 1-year prevalence of major depression in those who, at time 1, denied previous depressive episodes. However, controlling for levels of neuroticism at time 1, levels of neuroticism at time 2 were moderately elevated in those who had had an episode of major depression between times 1 and 2 ("scar" effect) and substantially elevated in those experiencing an episode of major depression at time 2 ("state" effect). In those who developed major depression, levels of neuroticism did not predict time to onset. In the best-fit longitudinal twin model, the proportion of the observed correlation between neuroticism and the liability to major depression that is due to shared genetic risk factors was estimated at around 70%, that due to shared environmental risk factors at around 20%, and that due to a direct causal effect of major depression

on neuroticism (via both "scar" and "state" effects) at around 10%. Approximately 55% of the genetic liability of major depression appeared to be shared with neuroticism, while 45% was unique to major depression. They concluded that in women, the relationship between neuroticism and the liability to major depression is substantial and largely the result of genetic factors that predispose to both neuroticism and major depression.

In a longitudinal study of Swedish twins on personality and major depression, Kendler and colleagues (2006) had conducted elegant and sophisticated analyses of genetically determined risk for neuroticism and major depression. The results showed that levels of neuroticism strongly predicted the risks for both lifetime and new-onset MD (major depression). Twin modelling indicated that the association between neuroticism and MD resulted largely from shared genetic risk factors, with a genetic correlation of +0.46 to +0.47. Levels of extroversion were weakly and inversely related to the risks for a lifetime and new-onset MD. However, this effect disappeared when it was controlled for the level of neuroticism. Twin modelling produced similar results. They concluded that results from both longitudinal and genetic analyses support the hypothesis that neuroticism strongly reflects the liability to major depression. This association arises largely because neuroticism indexes the genetic risk for depressive illness. However, substantial proportions of the genetic vulnerability to MD are not reflected in neuroticism. By contrast, extroversion is only weakly related to risk for MD.

Kim and colleagues (2016) had investigated the associations among five-factor personality traits, perceived stress, and depressive symptoms in South Korea. Result of the study showed that a higher degree of neuroticism and lower degrees of extraversion, agreeableness, and conscientiousness were significantly associated with greater perceived stress and depressive symptoms. Neuroticism and extraversion had significant direct and indirect effects (via stress as a mediator) on depressive symptoms in both genders. Agreeableness and conscientiousness had indirect effects on depression symptoms in both genders. The result also suggested that the links

between personality factors and depressive symptoms are mediated by perceived stress.

Depression and Social Support

A good healthy social network can help most individuals deal easily with major stressors in life. A proper support network consists of a reinforcing family and friends who can help the affected individual to work through any problems, such as the death of a family member, loss of a job, major injury, or any of a number of other stressors that can contribute to psychological illnesses, such as depression. For individuals with an undeveloped social network, or those with a negatively reinforcing social network, these major life events can cause greater harm to the individual because of a lack of support leading to having thoughts of hopelessness, failure, and being worthless. Without this social support, it is more likely for that individual to develop symptoms of depression (Wade & Kendler, 2000). The lack of social support from a parent can also be a factor in the development of childhood depressive symptoms, or in clinical childhood depression (Billings & Moos, 1983). Kenney-Benson and Pomerantz (2005) found that parents' heightened use of control, especially that of the mother, caused perfectionistic traits in children, which led to heightened depressive symptoms when the child was not able to achieve highly. The parent's high expectations for their children, seen often in families of foreign students, has been shown to lead to depressogenic thoughts and early symptoms of depression. One study measured the intelligence and creativity of adolescent students and found that among students of high academic ability the most creative and intelligent often had a depressive attributional style (DeMoss, Milich & DeMers, 1999). This depressive style has been shown to negatively affect other social relationships in a person's life. A study conducted to determine the relationship between social support and depression found that individuals who are mildly depressed often end up creating situations where friends can no longer take the constant assurance-seeking and cut off the relationship with the individual, leading to more serious depression (Wade & Kendler, 2000).

Wentzel and Feldman (1996), and McKeown and colleagues (1997) have found that adolescent perceptions of low cohesion within their families were associated with heightened feelings of depression and reduced social acceptance.

In an attempt to examine the association of social relationships with depressive symptoms, Franks and colleagues (1992) has developed a self-report questionnaire that measures family emotional involvement and perceived criticism to assess the main components of family expressed emotion. 83 family practice patients older than 40 yrs. responded to a survey assessing depressive symptoms, social support, life events, and expressed emotion. Perceived criticism, intense emotional involvement, and negative life events were all independently associated with depressive symptoms. The association of low social support with depressive symptoms was no longer statistically significant after controlling for expressed emotion. Results also supported the primacy of family interactions (with high perceived criticism and emotional involvement) over low social support in explaining the association between social relationships and depression.

A number of studies have indicated that social support is associated with the course of depression. However, few have ruled out the potentially confounding effects of personality factors, such as neuroticism. Lara and colleagues (1997) had examined whether social support was related to the course of depression after controlling for neuroticism and several possible confounding clinical variables. Participants were 59 patients meeting DSM criteria for major depression. All participants received structured diagnostic interviews and completed self-report measures of social support and neuroticism. Results of follow-up assessments at 6 months indicated that social support significantly predicted both severities of depression and recovery from depression at follow-up over and above the effects of initial depression severity, dysthymia, and neuroticism.

In an attempt to study the relations between social support and depression, Stice, Ragan and Randall (2004) had investigated the differential direction of effects for parents and peer support among adolescent girls. Result of the study showed that deficits in parental support but not peer support predicted future increases in

depressive symptoms and the onset of major depression. The result also showed that initial depressive symptoms and major depression predicted future decreases in peer support but not parental support. The researchers further stated that depression promotes support erosion but this effect may only occur with peer support during this period.

Shaw and colleagues (2004) had attempted to study the relationship between receiving emotional support from parents early in life and an individual's health in adulthood. Analysis of data from a sample of adult's ages 25–74 years suggested that a lack of parental support during childhood is associated with increased levels of depressive symptoms and chronic conditions in adulthood. They had further stated that these associations between early parental support and adult health persist with increasing age throughout adulthood. However, personal control, self-esteem, and social relationships during adulthood account for a large portion of these long-term associations.

Social factors influence whether we become depressed (Beach et al., 2009). The risk of depression for people who live alone is almost 80% higher than for people who live with others (Pulkki-Raback et al., 2012). Compared to men, women have larger and more intimate social networks and higher rates of major depression. Brown and Harris (1978) first suggested the importance of social support in the onset of depression. Brown and Harris (1978; Brown, Bhrolchain & Harris, 1975) proposed a model in which provoking events interact with psychosocial vulnerability factors. In their study of women in a suburb in London, they found that four vulnerability factors increased the probability that provoking events would produce depression: (1) the lack of a confiding relationship with a male, (2) having three or more children under 14 in the home, (3) not having a job outside the home, and (4) loss of the subject's mother before the age of 11. The study results that of a large number of women who had experienced serious life stress, only 10% of the women who had a friend in whom they could confide became depressed, compared with 37% of women who did not have a close supportive relationship.

In a study done by Kendler and colleagues (2005) on 1,057 pairs of opposite-

sex dizygotic twin pairs ascertained from a population-based register to assess the sex differences in the relationship between social support and major depression; women reported higher levels of global social support than their twin brothers. Women were found to be more sensitive than men to the depressogenic effects of low levels of social support, particularly from the co-twin, other relatives, parents, and spouses. Levels of social support did not explain the sex difference in risk for major depression. Emotionally supportive social relationships are substantially more protective against major depression for women than for men.

In a longitudinal study done by Eisman and colleagues (2015) on youth from mid-adolescence (i.e., high school years) to young adulthood in which data were collected from 850 adolescents at-risk for high school dropout at the beginning of the ninth grade in four public high schools in a Flint, Michigan; it was found that depressive symptoms on average increase from year one to two of high school and then are stable or decline from years two to four. Researchers have found, for example, that among youth exposed to violence, mother support reduces the risk of negative outcomes, including depressive symptoms (Rosenfeld et al., 2006). Mother support was also found to be associated with decreased depressive symptoms over time (Eisman et al., 2015). Social support may help reduce depression risk, even when adolescents are exposed to violence.

Kessler and colleagues (2012) found lower SES was associated with higher rates of mental health disorders. Low socioeconomic status also appears to be a depression vulnerability factor, especially for women (Radloff, 1975). As suggested by Brown and Harris, there is also evidence that social support may have a mitigating effect that decreases the effect of life stress (Barnett & Gotlib, 1988; Monroe, Bromet, Connell & Steiner, 1986). Hooley, Orley and Teasdale (1986) presented evidence that the level of expressed emotion in families is a moderator of relapse in depressed persons. The importance of social support in preventing depression holds true in China (Wang, Wang & Shen, 2006) and every other country where it has been studied.

Dalgard and colleagues (2006) had investigated the differences in negative life events, vulnerability and social support in relation to the gender difference in depression. The researchers had employed a cross-sectional, multinational, community survey from five European countries, namely, Finland, England, Ireland, Spain and Norway. The participants were assessed with the Beck Depression Inventory, whereas negative life events and social support were measured by various questionnaires. Results showed that in both genders, significant relationship between general social support and depression was found, and there was no interaction between gender and support with respect to depression. For all three indicators of general support, and for both genders, the rate of depression decreases by increasing social support. Result of the study also showed that women reported slightly more negative life events than men do, mainly related to the social network, but more social support in general and in connection with reported life events. This trend was found in all participating countries except Spain, where there is no gender difference in the reported support. In general, women were found to be more vulnerable to negative life events than men. However, women with no social support, who are exposed to life events, were found to be more vulnerable than men without support. The higher rate of depression in women is not explained by gender differences in negative life events, social support or vulnerability.

Risser and friends (2010) had social support and depression in relation to gender differences. The participants for the study included Injection Drug Users who were recruited and interviewed from the Centers for Disease Control and Prevention's National HIV Behavioural Surveillance Program in Houston, Texas. The participants were assessed with a depression scale and perceived social support scales. Results of the study had indicated that seventy-five per cent of male and female participants had depressive symptoms. In multivariate logistic regression, depressive symptoms among men were found to be positively associated with frequent use of speedballs (injecting heroin and cocaine together) and never having tested for HIV, and negatively associated with perceived social support from a special person. Among women, depressive symptoms were positively associated with currently smoking cigarettes, having no health insurance, and more years of injection

drug use, and negatively associated with perceived social support from a special person. The results suggested that lack of social support from a special person or significant other was associated with depressive symptoms in both males and females.

Depression and Family Environment

Of all the interpersonal cases that can contribute to the onset of a depressive disorder, it can be mentioned that the ambience of a family has the most weight and impact on a depressed individual. In the case of spouses, the well-being of one spouse will have a notable impact on the other spouse and on the welfare of their marriage. The reason why a spouse might have a unipolar mood disorder could be due to their relationship being "characterized by friction, hostility, and a lack of affection" (Gotlib & Hammen, 1992). Marital distress can also be caused by the impact of having a child. When a woman is pregnant, she can experience a whole range of emotions due to the changing of interpersonal relationship with husband and the building of a new relationship with the unborn child. For example, the building of a new interpersonal relationship with the child can be very tasking and become a major stressful life event that can cause a mood disorder to develop (O'Hara, Lewis, Schlechte & Varner, 1991).

Sharma, Verma and Malhotra (2008) had examined the role of pathogenic family patterns in the development of anxiety. Results of the study suggested that poor family environment in terms of parental's hostility, rejection and inconsistencies can all contribute to psychological problems viz. anxiety, stress, neuroticism, depression and many others.

The impact of depressed parents can have an effect on their children. In a study on the relationship between depressed adolescences and depressed mothers (Hammen & Brennan, 2001), it was found that the depressed children of depressed mothers had more negative interpersonal behaviour as compared with depressed children of non-depressed mothers. This is reinforced when a study (Chen & Rubin, 1995) shows that the parents of depressed children are less warm and caring and

more hostile than parents of non-depressed children. Because of this negative interpersonal relation between kids and their parents, children can develop a negative view of their family. This negative view can lead to the feeling of lack of control and having a high risk of conflict, rejection, and low self-esteem (Asarnow, Carlson & Guthrie, 1987). Cummings (1995) stated that any changes in a family environment due to parental depression increase the risk of developing a mood disorder in children. The result of this can be found as early as preschoolers and infants, due to the insecure attachment they develop with their parents. The emotional distress of children can also have an effect on their parents, causing depression that in turn will also affect the children, theoretically creating a never-ending cycle unless they seek treatment. Sometimes It is not the depressed parents that lead to the onset of depression in their children, but rather it is the change in the family environment that stems from the parents' depression that causes the children to become depressed. Some studies suggest that marital troubles are a better predictor for the onset of depression than the depression of the parents or the children themselves (Cummings, 1995).

Depressed persons often perform poorly in marriage and relationship with family members and they also might respond negatively to others, which have the ability to create stressful life events, which as a result might drive the person further into depression. Depressed people are dependant on other people and constantly seek reassurance in such a way that drives people away. Hammen and Brennan (2001) found that 13% of the sons and 23.6 % of the daughters who were depressed had depressed mothers as compared to 3.9% of the sons and 15.9% of the daughters who were depressed lacked a depressed mother. Depressed children can be like depressed parents, expressing sadness, anger, shame, and self-directed hostility (Brown & Siegel, 1988). Just like adults, depressed children tend to blame themselves for bad events and accredit the environment for good events--they do not give themselves credit when due (Blumberg & Izard, 1985). This is why oftentimes, children will feel guilty if their parents get divorced and they believe that they were at fault but realistically, it was the parents' marital distress that was the cause of the divorce, not the

children's depressive mood disorder. Rudolph, Kurlakowsky and Conley (2001) has demonstrated that family disruption, as well as exposure to chronic stressful circumstances within the family, peer and school settings, predicted decrease in perceptions of control and increase in helpless behaviour in academic and social situations. These maladaptive beliefs and behaviour were in turn associated with depression.

Family and peer social support may be significant promotive factors for youth by helping them cope with difficult challenges and reducing depression risk, particularly for those living in high-risk environments (Rosenfeld, Richman, Bowen & Wynns, 2006). Despite changes in family relationships during adolescence (Steinberg, 1999), parents continue to be a vital source of support for youth (Cobb, 2007). These results are consistent with Helsen and colleagues (2000) who reported that parents remain a key source of support during adolescence. This may be because youth rely on parents to process and cope with significant events such as violence, whereas they may be more likely to rely on friends to share daily hassles (Cobb, 2007).

Truong (2003) conducted a study to examine emotional autonomy, the family environment and adolescent depression. For the study, a sample of 46 adolescents was taken which constituted 23 depressed and 23 non-clinical adolescents and their parents. Results of the study revealed that adolescents who were depressed reported higher levels of emotional autonomy than non-clinical adolescents. The results also showed that depressed adolescents had families in which parents reported greater levels of parental expressed emotion, maladaptive levels of cohesion and adaptability compared to non-clinical adolescents.

While researchers such as Laible, Carlo & Raffaelli, (2000), have found that both peer and parental support play a role in adolescents' mental health, others suggested that parental support is more robustly associated with reducing risk of depressive symptoms (Stice, Ragan & Randall, 2004). In families that are high in conflict and criticism, the probability of relapse is increased. Later studies also confirmed the importance of social support (or lack of it) in predicting the onset

of depressive symptoms at a later time (Joiner, 1997; Kendler et al., 2005; Monroe et al., 2009). Depressive symptoms were elevated across adolescence with higher levels of violence observation and conflict in the family environment. Violence observation and conflict in the family were each associated with increased depressive symptoms during the high school years (Eisman et al., 2015).

Lau and Kwok (2000) examined the relationships among family environment, depression and self-concept of adolescents in Hong Kong. The study involved a total of 2,706 adolescents. The results of the study showed that all the three domains of family environment i.e., relationship, personal growth and system maintenance, correlated significantly with the three depression aspects such as emotionality, lack of positive experience and physiological irritation. The relationship domain of the Family Environment Scale (FES) appeared to correlate more strongly than the other two domains with the depression aspects. The Family Environment Scale domains also correlated strongly and positively with the four domains of self-concept: academic, appearance, social and general. Both the relationship domain and system maintenance domain correlated more strongly than the personal growth domain with the self-concept domains. Regression analyses showed that family relationship was most predictive of various aspects of depression and self-concept. Sex difference was found in the prediction of both boys' and girls' depression and self-concept. Analysis of variance showed that students high on family relationship, personal growth and system maintenance were low in different depression aspects, but high in various self-concept domains. It was concluded that a cohesive, orderly and achieving family environment is conducive to more positive development in adolescents, in terms of lower depression and higher self-concept.

Aydin and Oztutuncu (2001) conducted a study to examine adolescents' negative thoughts, depressive mood and family environment. For the study 311 students with age range of 16-17 years were selected. The Family Environment Scale, the Automatic Thoughts Questionnaire and the Beck Depression Inventory

(BDI) were used to collect data. Results of the study showed that family cohesion was found to be related to the degree of negative thoughts and depressive mood of the adolescents. A study conducted by Sharma and Khan (2014) examined the relationship between depression and family environment among adolescents in Chandigarh. Beck Depression Inventory-II and Family Environment Scale were used for collection of data. Correlation analysis showed that depression was found to be significantly and negatively correlated with cohesion, expressiveness, independence and recreational orientation dimensions of family environment. No significant gender difference was observed in the variable of depression. Boys and girls significantly differed only on organization dimension of family environment. Regression analysis showed that expressiveness, cohesion and independence significantly contributed to depression independently as well as conjointly. Further, it was suggested that adolescents having families high on expressiveness, cohesion and independence exhibited lower level of depression.

Sagrestano and colleagues (2003) conducted longitudinal research on familial risk factors for depression among inner-city African American adolescents. For this research, a sample of 302 urban, low-income, African American adolescents (age 9-15 years) and their parents were selected and 2 waves of data collection were used. Results of data showed that 7.3% of parents and 3% of children at Time 1 and 5.4% of parents and 2.8% of children at Time 2 were clinically depressed. Regression analyses demonstrated that changes in family functioning were concurrently associated with changes in depression for both children and parents. Specifically, increases in conflict and decreases in parental monitoring were associated with increases in child depressive symptomatology, and increases in conflict and decreases in positive parenting were associated with increases in parental depressive symptomatology. Herman, Ostrander and Tucker (2007) conducted study to examine the relationship between family cohesion, family conflict and depression for African American and European American adolescents (age ranges from 12 to 17 years) and also to find out the influence of cognitive variables on these relationships. Results of the study showed that low family cohesion was associated with depression for African American

adolescents, whereas high family conflict was predictor of depression for European American adolescents. It was also found that high self-discrepancy (a cognitive variable) mediated the effect for the European American adolescents, but not for African American adolescents.

In a study that aimed to investigate the relationship among depression, family environment and self concept of adolescents; Kaur and Sapra (2014) had found that depression is negatively and significantly correlated with four dimensions of family environment namely cohesion, active recreational orientation, independence and organization whereas it is positively correlated with conflict in the family. Significant differences were also found in the family environment and the self concept of adolescents scoring high and low on depression.

Lee and colleagues (2006) conducted research to examine the perceptions of school and family contributing to depression and suicide ideation in Hong Kong adolescents in two studies. It was found that low levels of family cohesion, support and high levels of parent-adolescent conflict were positively related to depression and suicide ideation in both the genders. Across both studies, depression mediated associations between academic and family-related variables and suicide ideation. Wentzel and Feldman (1996), and McKeown and colleagues (1997) have found that adolescent perceptions of low cohesion within their families were associated with heightened feelings of depression and reduced social acceptance.

Depression and Drug Dependency

According to Gotlib and Hammen (1992), over 100 million people worldwide have depression. Depressive symptoms may increase the risk of educational failure, poor social relationships, and harmful behaviours such as smoking, substance abuse, and suicide (Fletcher, 2010). Depression has been found to be common among persons diagnosed with substance abuse or substance dependence. About one third to one half of all those with opioid abuse or opioid dependence and about 40% of those with alcohol abuse or alcohol dependence meet the criteria for major depressive disorder sometime during their lives (Sadock & Sadock, 2003). Studies have found

that among adolescents, the onset of major depressive disorder almost always preceded alcohol or substance abuse suggesting the possibility of self-medication as a factor in the development of alcohol or substance abuse (Deykin et al., 1987). Clinical syndromes, such as anxiety or depression have been frequently associated with alcohol and substance abuse. Lewinsohn and colleagues (1993) found that substance use disorder, major depressive disorder, anxiety, and disruptive behaviour disorder constituted the four most common disorders of adolescence. Adolescents with major depressive disorder had high lifetime rates of anxiety (20%), and adolescents with anxiety had exceptionally high rates of major depressive disorder (49%). According to Miller and colleagues (1996), 43% of (lifetime) major depression was found in a very large group of patients with substance use disorder. In another study, 39% of drug addicts were shown to suffer from phobic disorder, 12% from dysthymia and 10% from generalized anxiety (Compton et al., 2000). Rates of youth depression are the highest of all psychological disorders in this age group; the disorder affects millions of youngsters and their families. Depression is impairing and is associated with many problems, such as school difficulties and dropout, unwanted pregnancies, health problems, drug and alcohol abuse and smoking, intimate partner violence, and problematic peer and family relationships, as well as anxiety, eating, and disruptive-behavior disorders. Tragically, it can also be fatal due to its association with suicide.

Khantzian (1985) had hypothesized that substances as a form of self-medication, may be taken for pleasure and disinhibition, but also to escape stress, to cope with depression or to avoid withdrawal symptoms at a later stage. And it is likely that they, in turn, produce stress, anxiety and depression (especially for illegal drugs), as withdrawal shows clear reductions of stress-related scales (Zuckerman et al., 1975) or depression and anxiety scales (Le Bon et al., 1997). Wise and Koob (2014) argued that positive and negative reinforcement are the two main processes of addiction, and that heroin-dependent people display drug-seeking behaviour for pleasure and to escape suffering. During periods of abstinence, negative reinforcement can be crucial for relapses because negative emotional status (i.e., depression) is believed to be an important risk factor (Baker et al., 2004).

Depression is found to be associated with substantial physical morbidity and disability, as well as mental suffering (Lyketsos et al., 1996). In a study done by Robbins (1974) on heroin-addicted patients, many of the patients were found to have strong depressed feelings, depression; and 75% of all psychiatric hospitalizations are depression cases. The prevalence of psychiatric disorders among the opioids dependents when assessed along with the severity of their addiction profile; it was found that the major comorbid psychiatric conditions were major depression (30%), personality disorder (6%), generalized anxiety disorder (4%), phobic disorder (4%), panic disorder (2%), dysthymic disorder (2%) (Ahmad et al., 2001). Khantzian's (1985) has stated that certain affective states may be associated with the use of specific drug and that drugs like cocaine and heroin provide better "relief" from depression (or perhaps the use of these drugs is more likely to cause it) as stated by and colleagues in 2000. Also, high rates of depressive disorders have been reported among Injecting Drug Users (Rabkin et al., 1997). Preclinical studies have reported that rats self-administered heroin to reduce a negative affective state. Blum and colleagues (2013) found that heroin-dependent people reported more severe depression than did healthy controls, but that their depression was significantly lower post-injection. They argued that opioid use dysregulated the reward system, and activated the circuits of the stress-system and obsessive-compulsive system. Therefore, heroin abusers could not easily stop using heroin, especially for depression. It has also been suggested that heroin-dependent patients might take higher doses to reduce the severity of depressive symptoms (Sordo et al., 2012) indicating that depression might be a significant predictor of heroin use.

The co-occurrence of substance use disorder (SUD) and major depressive disorder (MDD) is a common problem with serious consequences. According to Deykin, Buka and Zeena (1992), approximately one in four adolescents receiving treatment for substance use disorder has a concurrent major depressive disorder, whereas almost one in three adolescents receiving treatment for major depressive disorder has a substance use disorder (King et al., 1996). Adolescents with both disorders face increased risk of a range of negative outcomes such as increased severity of illness, relapse, and suicidal ideation, attempts, and completions (Brent,

1995; King et al., 1996; Riggs, Baker, Mikulich, Young & Crowley, 1995; White et al., 2004). It has also been observed that when substance use disorder occurs first, depressive symptoms are associated with increased frequency and severity of substance use disorder illness (Riggs et al., 1995) and increased the likelihood of relapse (White et al., 2004). Substance use disorder symptoms also worsen existing major depressive disorder, resulting in longer and more severe depressive episodes (King et al., 1996). Some studies have indicated that adolescents with comorbid substance use disorder and major depressive disorder have worse functional outcomes than adolescents with either disorder alone, including lower global functioning (Rao et al., 1999), less social support, and more peer conflict (Aseltine, Gore & Colten, 1998).

In a study done on depression and its associated factors among male inpatients admitted for substance use disorders in Saudi Arabia (Alzahrani et al., 2015), it was found that high prevalence of depression existed among substance users. High BDI scores were reported by 95.2% of participants with more than two-thirds scoring severe (37%) or very severe (33.9%). Prevalence and comorbidity are significantly associated with duration of substance abuse. Such findings have implications for treatment and service development as patients with these comorbidities will require complex management. Multivariate logistic regression was used, the result of which indicated that those who had abused substances for more than 10 years were double the risk for depression compared to participants who had abused substances for less than 5 years (AOR = 2.16; 95% CI: 1.09–9.11). Those abusing substances for a duration of 5–10 years were likely to have a threefold risk for depression relative to participants who had substance abuse history of fewer than 5 years (AOR = 3.08; 95% CI: 1.23–43.6).

Disorders associated with aggressiveness, overactivity, and substance abuse occur far more often in men than in women (Barlow, 1988; 2002). There has also been a significant emergence of gender differences in rates of depression in adolescence, matching the 2:1 ratios of female to male depression observed in adulthood. However, for many depressed adolescents, perhaps especially girls, the

lives they create are dysfunctional and entrapping and may portend a vicious cycle of recurring depression and stress.

Ping Wu and colleagues (2008) examined gender differences in patterns of the co-occurrence of alcohol abuse and depression in youth. Data were from 1,458 youth (ages 9–17) were randomly selected from the community. The child and one parent/guardian in each household were interviewed regarding childhood psychopathology, alcohol and drug use, and a wide array of risk factors. The findings showed that: (1) alcohol abuse/dependence was associated with elevated rates of depression in youth; (2) comorbidity between depression and alcohol use/abuse could be partially explained by shared risk factors; and (3) gender differences were found in the patterns of comorbidity. After controlling for other factors, the relationship between depression and alcohol abuse/dependence was no longer significant for girls, but it remained significant for boys. Among girls, however, cigarette smoking emerged as significantly related to depression.

Ozietta (2011) had conducted an exploratory investigation of the variables linking adolescent substance abuse and depression using the “grounded theory” qualitative research approach. A convenience sample was drawn from African American adolescents, aged 12 to 18 years, who reside in a public housing community in Baltimore, Maryland. The results revealed approximately 5% of the sample openly admitted to using drugs because they are sad, feel like a failure, lack energy and because they have family problems. Moreover, 26% of the respondents reported drinking alcoholic beverages; 26% of the population reported smoking marijuana and 16% of the respondents reported they smoke cigarettes.

Depression is an important problem to be addressed among HIV-positive IDUs. Studies suggest increased rates of depression among people with HIV (Belkin et al., 1992; Ciesla & Roberts, 2001; Dew et al., 1997). Some studies with drug users indicate significant associations between depression and HIV/AIDS-risk taking behaviours (Rahav et al., 1998; Hawkins et al., 1998). Moreover, an association between psychiatric morbidity and non-adherence to HIV medications has been found among HIV positive IDUs (Ferrando et al., 1996).

Family Environment and Gender Difference

Gender differences have been seen in the relation of family environment and problems severity. There have been many studies that have attempted to examine the effect of various factors of family environment on gender. For example, Autor et al. (2016) and Lundberg (2016) found that adolescent boys appear to be more sensitive than girls to family environment. Gender differences in the effects of family structure are weak and when there are significant differential effects, they show greater responsiveness for women. Hammack and colleagues (2004) had examined the role of family stress as a mediator of the relationship between poverty and depressed mood among African American adolescents, results showed that approximately half of the adolescents (47%) reported clinical depressive symptoms. Also, it was found that females reported higher levels of family stress and higher poverty index, and these were related to increased rates of depressed mood.

Interpersonal relationships dimension (Cohesion, Expressiveness, Conflict, and Achievement Orientation)

Meyerson and colleagues (2002) had conducted research on the contributions of sexual abuse, physical abuse, family cohesion and family conflict in predicting the psychological functioning of adolescents. For the study, 131 adolescents (age ranges from 16-18 years) were selected. The adolescents were administered with psychological assessment tools to assess abuse history, family environment characteristics and current adjustment. Results of the study demonstrated that physically abused females perceived their family environments as more conflictual and less cohesive than females without physical and sexual abuse. Also, it was found that physically abused males reported more conflict than males without physical abuse, but did not differ with regard to family cohesion. Multiple regression analyses showed that family conflict, family cohesion, and history of sexual and physical abuse predicted depression and distress.

Lewis and colleagues (2015) in their study on “Gender differences in adolescent depression: Differential female susceptibility to stressors affecting family

functioning”; they had aimed to examine the associations between family-based stressors and depressive symptoms in adolescents (10–14-year-olds). Depressive symptoms and pubertal development were assessed using the self-report Short Mood and Feelings Questionnaire and the Pubertal Development Scale. Three indicators of stress exposure were examined- low emotional closeness to parents, residential and school transitions, and family conflict. The effect of gender, stress exposure and the interaction of gender and stress exposure on depressive symptoms were tested using multivariate logistic regression. They found that high family conflict, residential instability and low emotional closeness with parents were independently associated with adolescent depressive symptoms. In addition, females who had reported low emotional closeness to their parents were 2.3 times more likely to report high depressive symptoms than females reporting high emotional connections with parents.

Biglan and colleagues (2014) had conducted a study on the role of experiential avoidance in the relationship between family conflict and depression among early adolescents. Experiential avoidance (EA) consists of efforts to control or avoid unwanted emotions, upsetting memories, troubling thoughts, or physical pain and the contexts that occasion them, even when doing so creates problems over the long run. Results of the data which were obtained from students in grades 6, 7, and 8 (81.8% white, with Hispanic students the largest group of minority participants-8.8%), suggested that EA is associated with depression and is more likely in families with high conflict. Female adolescents had higher EA and were differentially affected by family conflict.

In a study that aimed to investigate the relationship between family environment, the home adjustment and academic achievement in adolescents, the majority of the sample perceived their family as cohesive, organized, achievement-oriented and emphasizing on moral – religious issue with minimal conflict, cohesion, conflict, control, intellectual – cultural orientation and independence. The results also showed that conflict and control were significantly related to gender. Girls perceived more conflict in the family and boys perceived more control. The researchers had

further explained the difference in terms of the cultural roles and expectations that girls are subjected to; such as being involved in heavy sex-role constraints, more vulnerable to social criticism as well as having to contend with culturally created values. Boys, on the other hand perceived more control i.e., they perceived that their family has set rules and emphasized on following rules in the family (Mohanraj & Latha, 2005).

Wu and colleagues (2004) had found gender differences in studying the family environmental factors and substance abuse among adolescents. Results of the study indicated that girls had more negative perceptions of family experience than boys and they had also scored higher in family conflict.

Sharma (2014) and, Tung and Dhillon (2006) reported a significant difference in cohesion dimension of family environment among girls as compared to boys. Tung and Dhillon (2006) had examined gender differences and the family environment correlates of emotional autonomy amongst males and females of middle and late adolescence. A sample of 250 males and females of age group 14 - 16 1/2 years (middle adolescence) and 250 males and females of age group 17-21 years (late adolescence) were drawn from public schools and colleges respectively. Gender differences were found out using t-ratios. The results showed significant differences in males and females on the deidealization dimension of emotional autonomy, with females capable of deidealizing the parents at an early age than the males. The mean scores were higher for females on emotional autonomy. Females reported more cohesive environment and they were also found to have higher moral religious emphasis in the family. Correlations for studying the relationship between emotional autonomy and family environment revealed that; for females in both the age groups, the family environment dimension of cohesion, expressiveness, independence, organization etc. had significant negative correlations with emotional autonomy dimensions. Positive correlations were found with conflict and control in relation to emotional autonomy dimensions. In case of males during middle and late adolescent years, lesser family environment variables were significantly correlated with emotional autonomy dimensions. For males the issues of cohesion were found to be

not as pervasive as it was in the females. Dhillon and Tung (2004), and Sandhu and Tung (2006) have also reported that family environments marked by openly expressed conflicts, anger and aggression hamper the well-being and mental health of the adolescents thereby decreasing their achievement of an identity.

Wentzel and Feldman (1996) had examined family cohesion and power in relation to depressive affect, social self-concept, and behavioural restraint in young adolescents, within the context of mother-child, father-child, and mother-father relationships. Correlations result indicated that parent-child cohesion had a more consistent relation to adjustment for girls than for boys. In contrast, the power differences in both of the parent-son dyads were related more consistently to boys' adjustment. The results also revealed that compared with girls, boys who perceived mothers to have more power than fathers reported more depressive affect.

In a longitudinal study of adolescent health, Kopak and colleagues (2011) had examined the ability of family cohesion, parental control, and parent-child attachment to prevent adolescents with a history of drug or alcohol use from experiencing subsequent problems related to their use. Family cohesion was found to be a protective factor and that Mexican heritage males experienced greater protection from family cohesion compared to females. Females have been found to experience less protection from family cohesion because they may spend more time at home compared to their male siblings (Lac et al., 2011; Yabiku et al., 2010). Mexican heritage males may be more protected by family cohesion because they are more likely to encounter opportunities for drug use outside the home, where family cohesion can act protective, compared to their female counterparts. Spending more time at home has been considered as a protective factor, mainly because it limits the opportunities for offending and therefore decreases the chance of being exposed to risk factors (Hirschi, 1969; Fagan et al., 2007; Moffitt et al., 2001).

In an attempt to study the family environment as perceived by youth, Ninaniya and colleagues (2019) studied 200 adolescents between the age group of 16-18 years. Results of the study revealed that significant differences were noted between cohesion, acceptance, caring and control aspects of family environment. In

gender-wise comparison, results showed that boys had better quality of family environment as results showed higher percentages on different aspects of family environment like expressiveness (19%), conflict (15%), and acceptance and caring (21%), active recreational orientation (19%) and independence (22%) than their counterparts. It was also found that girls scored higher on organization (19%) and control (20%) aspects of family environment as compared to boys and they were found less organized and had less control of family on them. In addition, the results also showed that girls had more cohesion (M=53.30) and control environment (M=15.04) as compared to boys (M= 50.34) and control environment (M=14.81) in their family. In terms of acceptance and caring aspects of family environment, boys received more acceptance and caring (M=45.35) from their family as compared to girls (M=42.95).

Cumsille and Epstein (1994) had studied on family cohesion, family adaptability, social support and depressive symptoms in adolescents. Results of the study indicated that family cohesion and family social support were inversely related to depression. It was also found that family characteristics were more strongly associated with depression among boys than among girls, and social support from friends did not act as a buffer against depression. The strongest predictor of depressive symptoms was adolescents' levels of satisfaction with the cohesiveness and adaptability in their families. The study further suggested the importance of subjective cognitive appraisal in the link between family functioning and depression.

Sharma, Jagriti and Malhotra (2010) had attempted to examine the role of family environment in stress and anxiety of adolescents in Himachal Pradesh, India. Results of the study indicated that of all the variables of family environment, conflict turned out to be the most significant and common predictor of anxiety and stress in both males and females' sample, which was followed by cohesion. It was also found that females become the chief targets of conflicts as the results revealed that conflict has shared 20% of variance in anxiety (state 13% and trait 7%), 18% of variance in stress; whereas, in males' sample, conflict has shown 19% of variance in anxiety (state 11% and trait 8%) and 10% of variance in stress.

In an attempt to examine the perceptions of adolescents about their family environment, results of the study revealed that majority of the adolescents studied had an average perception about cohesion, expressiveness, acceptance and caring and active recreational orientation dimensions of family environment. Two-thirds of the sample studied scored low on independence dimension. The study also found that adolescent boys and girls did not differ significantly on any dimension of family environment (Devi & Kavitha, 2014). The adolescents studied were all from intact families.

Weng-Lin and colleagues (2008) found males score higher than females in expressive hostility behaviour and females have significantly higher scores in suppressive hostility than males. Weng and Jiang (2010) found that both suppressive hostility and expressive hostility is found high among females.

Skeer and colleagues (2011) had examined whether the association between childhood family conflict and the risk of substance use disorders (SUD) in adolescence differs by gender. Using a logistic regression model, results of the study suggested that the association between childhood family conflict and SUDs in adolescence differed by gender ($p=0.04$) and that family conflict was significantly associated with SUDs among females (OR: 1.61; CI: 1.20, 2.15), but not among males (OR: 1.00; CI: 0.76, 1.32). Females living in families with elevated levels of conflict were more likely to engage in acting out behaviours, which was associated with the development of substance use disorders. The elevated risk of SUDs among females exposed to a family conflict was partly explained by girls' conduct problems but not anxious/depressive symptoms.

Shanti Balda, Sheela Sangwan and Arti Kumari (2019) had conducted a study on the family environment as perceived by adolescent boys and girls. Data of the study included adolescents of ages 16 – 18 years from Hisar district. A total sample of the study constituted of 240 adolescents, 120 from rural area and 120 from urban area. These 240 adolescents included 120 boys and 120 girls. Results revealed that urban adolescents perceived family environment as more cohesive, more expressive, more accepting and caring, and more independent as compared to rural adolescents.

While rural adolescents perceived family environment more organized than urban adolescents. Urban adolescents perceived family environment significantly much better than those from rural area. The result of the study also showed that adolescent boys perceived family environment as more expressive, more accepting and caring, more independent, while, adolescent girls perceived family environment as more organized and controlling. Overall, adolescent boys perceived family environment better than adolescent girls. The reason for this was interpreted in terms of cultural norms and expectation for gender roles where boys were encouraged to act openly and express their feelings and thoughts directly as compared to girls. Boys have also been found to receive more encouragement for personal growth through acceptance and caring attitude and independence; as well as through participation in social and recreational activities as compared to their female counterparts. Verma and Ghadially (1985) also reported that male children received more independence and encouragement than females because of cultural roles assigned to both the sexes in adult life.

Personal growth – Intellectual cultural orientation, Active recreational orientation, Moral-Religious emphasis

Pinki Ninaniya, Santosh Sangwan and Shanti Balda (2019); in their study on perception of family environment by youth; results had shown that males showed higher percentages on different aspects of family environment like expressiveness (19%), conflict (15%), and acceptance and caring (21%), active recreational orientation (19%) and independence (22%) than their counterparts. It was also found that girls scored higher on the organization (19%) and control (20%) aspects of family environment as compared to boys and they were found less organized and had less control of family on them.

It has also been reported that females reported more cohesive environment and they were found to have a higher moral religious emphasis in the family (Tung & Dhillon, 2006).

System maintenance – Organization, Control

Pinki Ninaniya, Santosh Sangwan and Shanti Balda (2019) have found that girls scored higher on the organization (19%) and control (20%) aspects of family environment as compared to boys and they were found less organized and had less control of family on them. In addition, the results also showed that girls had more cohesion (M=53.30) and control environment (M=15.04) as compared to boys (M=50.34) and control environment (M=14.81) in their family. In terms of acceptance and caring aspects of family environment, boys received more acceptance and caring (M=45.35) from their family as compared to girls (M=42.95).

In their attempt to investigate the relationship between family environment, the home adjustment and academic achievement in adolescents, Mohanraj and Latha, (2005) have found that boys perceived more control i.e., they perceived that their family has set rules and emphasized on following rules in the family. Verma and Ghadially, (1985) had suggested that male children received more independence and encouragement than females because of cultural roles assigned to both the sexes in adult life.

Family Environment and Social Support

The family domain is a salient influence in the development of healthy youth. Family and peer social support may be significant protective factors for youth by helping them cope with difficult challenges and reducing depression risk, particularly for those living in high-risk environments (Rosenfeld, Richman, Bowen & Wynns, 2006). Despite changes in family relationships during adolescence (Steinberg, 1999), parents continue to be a vital source of support for youth (Cobb, 2007). Helsen and colleagues (2000) had reported that parents remain a key source of support during adolescence. This may be because youth rely on parents to process and cope with significant events such as violence, whereas they may be more likely to rely on friends to share daily hassles (Cobb, 2007).

The relationships among adolescent depressive symptoms and self-reported family cohesion, adaptability, satisfaction with family functioning, family structure, and social support received from family and friends were investigated in a sample of

93 families attending family therapy at an outpatient clinic by Cumsille and Epstein (1994). Results of the study indicated that family cohesion and family social support were inversely related to depression. In contrast to nonclinical samples, family characteristics were more strongly associated with depression among boys than among girls, and social support from friends did not act as a buffer against depression. As the adolescents' levels of satisfaction with the cohesiveness and adaptability in their families were seen as the strongest predictor of depressive symptoms, the importance of subjective cognitive appraisal is suggested in the link between family functioning and depression.

Nitz, Ketterlinus, and Brandt (1995) had studied the role of stress, social support, and family environment in adolescent mothers' parenting behaviours. Data of the study included 75 African-American, mother-infant pairs participated wherein each mother was administered a questionnaire and observed in a ten-minute teaching task with her baby. The study found that the adolescent mother's mother was the most frequent provider of support and the baby's father was the most frequent source of conflict. Mothers who identified more individuals as a source of conflict tended to have less positive parenting behaviours. The child's age and interpersonal conflict were found through to be significant predictors of maternal behaviour. Furthermore, it was also found that social support moderated the effects of interpersonal conflict when conflicted networks were large.

In an attempt to examine the association of social relationships with depressive symptoms, Franks and colleagues (1992) has developed a self-report questionnaire that measures family emotional involvement and perceived criticism to assess the main components of family expressed emotion. 83 family practice patients older than 40 yrs. responded to a survey assessing depressive symptoms, social support, life events, and expressed emotion. Perceived criticism, intense emotional involvement, and negative life events were all independently associated with depressive symptoms. The association of low social support with depressive symptoms was no longer statistically significant after controlling for expressed emotion. Results also supported the primacy of family interactions (with high perceived criticism and

emotional involvement) over low social support in explaining the association between social relationships and depression.

Farrell and Barnes (1993) had studied on family systems and social support amongst adolescents (13 -16 years) selected from 691 families. They had examined the effects of cohesion and adaptability on the family members' psychological functioning, behaviour, and perceptions of family relationships. Dependent variables used included depression, anxiety, identity diffusion, individuation, self-esteem, deviance, school misconduct, grades, marital agreement, and parent-child communication. Results of the study had indicated that the more cohesion in a family, the better all family members function, and this linear relationship holds true across a wide range of outcome indicators of psychological functioning, relationship quality, and behaviour. While family environmental factors influence early stages of drug involvement and choice of peers, socialization by peers significantly influences both initiation and continued substance use (Steinberg et al., 1994).

Milburn and colleagues (2005) had examined predictors of perceived family bonds among homeless young people who initially left home one year earlier. Newly homeless young people aged 12-20 years who had recently left home were recruited in Los Angeles County, United States (n = 201) and Melbourne, Australia (n = 124) and they were followed longitudinally at 3, 6, and 12 months (follow-up rates ranging from 72% to 86% overall). Results of the study indicated that these homeless young people varied substantially in their bonds to their families. The study also showed that having more emotional support and more instrumental financial support were significantly associated with having better cohesiveness in the family.

Research has indicated that social support has “stress-buffering” effects on health behaviours (Cohen & Wills, 1985), and more specifically, on substance use behaviours (Peirce et al., 2000). Skeer et al., (2009) had attempted to investigate whether external social support mitigates the adverse effects of familial conflict on the development of substance use disorders (SUDs). As external social support later in adolescence might offer greater protection against the effects of familial conflict, the researchers hypothesized that social support received outside of the immediate

family (because the stress is coming from within the family) will buffer the effects of familial conflict on subsequent SUDs in late adolescence. Results of the study showed that external social support, was not significantly associated with SUDs in adolescence as the main effect, and furthermore, it was not found to buffer the effects of familial conflict on subsequent SUDs in late adolescence. It was further contended that in the face of an adverse family environment, children may receive their support from their immediate family members.

Family cohesion may be another crucial family factor among Latinos (Baer & Schmitz, 2007; Basáñez & Lac, 2010) as it has been found that members of cohesive families have similar goals, enjoy spending time together, and value interdependence and the exchange of emotional and instrumental support; therefore, they may be less likely to seek support from people outside the family, including peers who engage in delinquent behaviours.

Family Environment and Drug Dependency

The family environment is an important factor affecting an individual's substance use. The disorganized family environment is considered as one of the key parameters that make a normal individual get inclined to the world of drug addiction (Kothari & Nair, 2010) In such situations and with no concern on responsibilities towards family these individuals are prone to external pressures.

There have been various studies that examined the relationship between family and drug dependency. Some dimensions of the family environment can serve as an important protective factor against substance use initiation and continued use. Research has identified family as a significant source of protection against drug and alcohol abuse among adolescents (Chen et al., 2010; Hawkins et al., 1992). Studies have shown evidence that indicated familial factors such as family cohesion (Duncan, Tildesley, Duncan, & Hops, 1995), parental monitoring (Clark et al., 2011), and parent-adolescent relationship (Clark, Belgrave & Abell, 2012) as protective factors that helps to prevent substance use.

Developing healthy family relationships can enhance the ability of parents to communicate prosocial norms to their children (Rankin & Kern, 1994), allowing parents to establish and enforce sanctions against adolescents' undesirable behaviours, such as substance use. Positive attachment to parents has consistently been identified as a protective factor against illicit drug and alcohol use among adolescents (Kostelecky, 2005; van der Vorst et al., 2006). In addition, research has shown that parents' attentiveness to adolescents' behaviour and associations through various monitoring techniques can decrease substance use involvement (Chapple et al., 2005; Coombs & Landsverk, 1988).

Various researches have examined the relationship between parental monitoring and substance abuse. Parental monitoring, knowing where, how, and with whom the child spends time; is an important factor in adolescent substance use. Parental monitoring and selective supervision were among the most powerful predictors of adolescent substance abuse and problem behaviours. Higher levels of monitoring and supervision predicted lower problem severity. Adolescents perceiving less monitoring were more likely to have a history of alcohol and marijuana use and more frequent use in the past 30 days (Steinberg et al., 1994; Mulhall, 1996). Childcoat & Anthony (1996) found that children in the lowest quartile of parent monitoring-initiated drug use at an earlier age. Parental monitoring was also an important predictor of drinking, delinquency and problem behaviours (Barnes & Farrell, 1992).

Parental monitoring has also been associated with elements of parental control such as imposing rules and restrictions on children's activities and associations (Borawski et al., 2003; Nash, McQueen & Bray, 2005). Monitoring of adolescents' behaviour, which includes tracking and surveillance, is an essential parenting skill. A large amount of studies has shown that well-monitored youths are less involved in delinquency and other norm-breaking behaviours (Cleveland, Feinberg, Osgood & Moody, 2012; Stattin & Kerr, 2000). Although parental monitoring has been proven to be an important factor in substance abuse, not all studies have found this connection. For example, in a study conducted in Pakistan;

Sobia Masood & Najam Us Sahar (2014) have found that 75% of the drug addicts under study stated that their parents were aware of their whereabouts, and yet, the participants were still involved in norm-breaking behaviours. An explanation in terms of the cultural factors wherein there is lessened mobility restrictions on males in Pakistani culture was highlighted.

Family environment has also been found to have impacts on the choice of peer groups and attitudes towards and susceptibility to drug use (Cohen et al, 1994). Clark et al. (2012) found that parental monitoring moderated the impact of peer risky behaviour on substance use among 5th-, 8th-, and 12th-grade students. The influence of peer pressure and modelling on adolescent drug use has been repeatedly examined. Perception of peer substance use, association with drug-using or deviant peers, and peer pressure are associated with higher probability of drug use and increased use (Bryant et al, 1993). While family environmental factors influence early stages of drug involvement and choice of peers, socialization by peers significantly influences both initiation and continued substance use (Steinberg, et al 1994). Peer modelling and association with drug-using friends may relate to level of severity of drug use.

Children in non-intact families have been shown to have higher levels of lifetime drug use and are more at advanced stages of drug use (Flewelling & Bauman,1990; Brook et al.,1985). Studies have also shown that in homes without fathers or stepfathers, the relationship between peer pressure and drug use is stronger than in homes with fathers or stepfathers (Farrell & White, 1998). Parental substance use correlates with adolescent substance use, and often, but not always, the same substance is involved (Andrews et al., 1993; Hops et al 1990). Bahr and colleagues (1995) found that adolescents living in families whose members have a drug problem are more likely to have friends who use drugs.

Parental support and connectedness, which include emotional support and expressions of interest in the child (Anderson & Henry, 1994) is another important protective factor. Teenagers with a high level of support have a lower incidence of alcohol-related problems and are also less likely to initiate smoking (Barnes &

Welte, 1986; Chassin et al., 1996). Family bonding and parent-family connectedness are also associated with less frequent cigarette, alcohol, and marijuana use (Bahr et al., 1995). Parental warmth and family cohesion have been found to exert a greater protective effect against Latino youths' substance use than for youth in other racial/ethnic groups (Broman et al., 2006; Vega et al., 1998). Strong family bonds have also been shown to protect Latino adolescents from substance use and engagement in deviant behaviours (Gil, Vega & Dimas, 1994; Ramirez et al., 2004)

Duncan, Duncan and Hops (1994) had suggested that high family cohesion tends to reduce youngster's initial levels of alcohol consumption and delay the increase in alcohol use and that these effects appear to be most pronounced among late adolescents thus suggesting that family influence may be more powerful during post-pubertal periods.

Compared with normative families, families of youth with substance use disorders (SUDs) tend to be low on cohesion and expressiveness, less independent and socially integrated, higher on conflict and control (Andrews et al., 1991; Slesnick & Prestopnik, 2004). The communication process that occurred within a family helps to inculcate good values and norms practised by the parents to the child or adolescent (Whitaker & Miller, 2000). In a research done by Franko and colleagues (2008), results of the study found that the cohesiveness within a family plays a very important part as they can influence both sexes in their daily food diet intake. A female adolescent who has low cohesion has also been known to have higher tendency to involve in materials that could lead them to violence in order to fill their need for emotion (Kolbeins, 2001).

As members of cohesive families have been found to enjoy spending time together, and value interdependence and the exchange of emotional and instrumental support; they are less likely to seek support from people outside the family, including peers who engage in delinquent behaviours. Among Latino adolescents, family cohesion has been associated with lower levels of alcohol use (Bray, Adams, Getz & Baer, 2001; Marsiglia et al., 2009) and illicit drug use (Gil, Vega & Biafora, 1998).

In a longitudinal study of Caucasian, Black and Latino adolescents, increases in individuation and family cohesion were associated with less alcohol use, whereas increases in separation and family conflict were associated with more alcohol use. In general, these findings held for both boys and girls and for the three ethnic/racial groups (Bray et al., 2000; 2001a; 2000b).

Another longitudinal study showed that high family support and recreational orientation measured in the 9th grade reduced the risk of substance use in the 12th grade (Ostaszewski & Zimmerman, 2006)

In a study conducted by Bhatia (2011), drug abuse in relation to their values and the perceived family environment was examined. A group of 160 male subjects aged 14-18 years, half of which were drug users and the other half were non-drug users were studied using the Value Scale and Family Environment Scale. The result of the study showed that drug users had lower cohesion and higher scores on conflict in the Family Environment Scale.

Clark and Nguyen (2012) found that family factors were significantly and positively associated with cultural factors and school factors but negatively associated with lifetime substance use. These findings support the literature that suggested that family factors predict cultural factors (Harrison et al., 1990), school factors (Annunziata et al., 2006), and substance use (Clark et al., 2011). Family factors such as family communication, family cohesion and quality of the parent-adolescent relationship give rise to positive outcomes found in cultural and school domains that also influence substance use.

In a study done by Kothari and Nair (2010), on 300 respondents in the age group of 30-45 years; it has been found that individuals who succumbed to drugs showed higher levels of anxiety. Anxiety has been observed to manifest itself in different spheres. Findings of the study also suggested that the non-addicts' family environment is far better supportive and organized than addicts at 0.01 level of significance.

Family environments with high levels of adversity such as violence, stress,

parental drug use, ineffective communication and discipline, and poor sibling relationships, have been linked to adolescent drug use (Vakalahi, 2001). High family conflict and lack of family support, social integration, and organization have been known to be associated with more alcohol and drug use, and heavier drinking, among youth and young adults. Exposure to adverse family environments in childhood can influence the risk trajectory for developing substance use disorders in adolescence. In a longitudinal study by Skeer and colleagues (2009) on familial conflict, psychological stress, and the development of substance use disorders in adolescence; results of the study revealed that exposure to familial conflict early in life increases the risk of substance use disorders during late adolescence (Odds Ratio: 1.23; 95% CI: 1.02–1.47), and emerging adulthood. The result also showed that 30% of this effect was due to higher levels of externalizing problems (but not internalizing problems). Family conflict can also modulate the relationship between peer pressure and adolescent drug use and influence the severity of substance use.

Several studies have found that family conflict is related to greater adolescent substance use. For example, Baer and colleagues (1987) have reported more alcohol use in families with greater conflict, and Kuperman and colleagues (2001) found negative parent-child interactions to be a risk factor for alcohol dependence. Madu and Matla (2003) had studied the correlations for perceived family environmental factors with substance use among adolescents (ages 15 to 19 years) in South Africa. Result of the study indicated that scores on family conflict and low family moral-religious emphasis were significantly associated with drug use (57.9% of the variance was accounted for) and use of alcohol (62.3% of the variance was accounted for) and they concluded with the suggestions that programmes for the reduction of substance use among adolescents should include activities designed to reduce family conflict and strengthen family moral-religious emphasis.

In their study on the social stress model of substance abuse, Rhodes and Jason (1990) had demonstrated that poor family environments (i.e., poor parental relationships, a high degree of family problems) were significantly associated with a higher level of drug use. They had also provided a framework for detecting

protective factors that may contribute to adolescents' resiliency when confronted with compelling influences to engage in substance abuse.

Wu and colleagues (2004) have examined the association of three family environmental domains including family conflict, limit setting and perception of family experience, with the severity of alcohol and drug use in a clinical sample of adolescents at intake by both self-reports and clinical records. The mean scores for the family conflict, limit setting, and positive family experience measures have shown that girls scored higher than boys in family conflict, in having more negative perceptions of family experience, and less limit setting. Girls were also reported to have more substance abuse and dependence than boys.

Sobia and Najam (2014) attempted to explore the role of family, the influence of parental involvement, and communication styles in youth's drug addiction in a qualitative manner by studying twenty drug addicts (age range 18–28 years) from drug rehabilitation centres in Rawalpindi and Islamabad, Pakistan. They found that the majority of the participants were poly-substance abusers (80%) and the significant reasons for starting drugs were the company of peers and curiosity. The thematic analysis revealed that parental involvement and emotional expressiveness as two major components in family communication. It was found that parents were concerned about their children, but were not assertive in the implementation of family rules. It was also found that the major life decisions of the participants were taken by their parents, which is a characteristic of collectivist Pakistani society. The main problem reported was with authoritarian fathers and submissive mothers, as well as lack of communication between parents and children, particularly with their fathers and during conflicts.

In a study conducted by Jedrzejczak (2005) on family and environmental factors on drug addiction among young recruits; it was found that drug addicts came mostly from incomplete and pathological families. The results further revealed that the main family factors of drug addiction include family atmosphere, the strength of family ties, sense of family happiness, structure of authority in the family, and

alcoholism. Drug addicts came from families where there are ill will and hostility and they were found to have weaker family ties than do those who do not take drugs.

Family conflict also can have indirect effects because it is associated with poorer communication with parents, more stress and separation, and less individuation, all of which have been associated with more alcohol use (Baer & Bray, 1999; Brinson, 1991 & 1992; Foxcroft & Lowe, 1997; Gunthy & Jain, 1998; Hops et al., 1999).

Studies have linked increased religiosity with less antisocial or problem behaviour, including reduced substance use and risky sexual behaviour (Bradford et al., 2008; Manlove et al., 2008). Research has also supported the relative importance of moral-religiosity as a protective factor during childhood and adolescence in terms of their emotional and behavioural functioning (Bradford et al., 2008; Eriksson et al., 2011; Hunt & Hopko, 2009). Bradford and colleagues (2008) had examined direct and indirect associations between overt and covert inter-parental conflict (IPC), parent-child conflict, and their links to youth problem behaviours among adolescents (age 12 – 18 years). Results of the study showed that youth ratings of religiosity were moderately and negatively associated with antisocial behaviour.

Yonker and colleagues (2012) found that spirituality and religiosity impart positive effects on psychological outcomes in adolescents and emerging adults, in terms of risky behaviours, mood and overall well-being, with greater reductions in risky behaviours. In a cross-sectional study of the relations between family religiousness and use of illicit drugs among peers, higher levels of family religiousness were found to be related to lower use of illicit drugs among peers. This indicates that the more religious the family is; the less likely adolescents will use illicit drugs. Hence, religiosity in the family may provide more support, which protects children from associating with drug-using peers (Hardesty & Kirby, 1995).

The influence of familial religiosity on delinquent behaviour has been studied by investigating how family participation in organizational religious activities was related to delinquent involvement in early adolescence. Results of the study found an

overall negative association between familial religiosity and juvenile delinquency. It also further stated that much of the relationship between familial religiosity and juvenile delinquency was mediated by the mechanisms of marital relationship, parenting practice, and attachment to parents (Li, 2014).

In a study conducted among adolescents, Shorter (2016) had examined the association between relational and contextual family environment variables and adjustment outcomes. Results of the study stated that family cohesion and moral-religiosity were found to promote positive outcomes for youth, while family conflict emerged as a risk-inducing factor. Further, it was also suggested that moral-religiosity, family cohesion and extracurricular activity can be an important contributor to reductions in truant behaviour in adolescents.

High family support, social integration, and organization have also been associated with less peer influence, better coping skills, less expectancy that alcohol would reduce tension, less substance abuse. In examining the reciprocal relationship between academic motivation and substance abuse, Andrews and Duncan (1997) had examined the effects of family relationships, self-esteem, and general deviance among adolescents. The results of generalized estimating equations (GEE) analysis suggested inverse reciprocal relations across time between academic motivation and both cigarette and marijuana use. Reciprocal relations between academic motivation and alcohol use were not found, possibly due to the normative use of this substance. The examination of mediational mechanisms, including general deviance, self-esteem and family relationships, suggested that the relation between marijuana use and, for younger adolescents, cigarette use and academic motivation is not direct but is indirect, mediated through the general deviance of the adolescent. Deviance, self-esteem, and family relationships mediated the relation between academic motivation and subsequent marijuana use.

High control in the family marked by rigidly enforced rules and regulations make an adjustment to adolescence difficult and thereby making them a frustrating

lot by increasing their stress and anxiety (Macoby & Martin, 1983; Lee, Statuto & Kedar-Voivodas, 1983). Stress and anxiety have been known to be a risk factor for substance abuse.

The impact of family environment and recovery from substance abuse has also been studied. Godley and colleagues (2005) had conducted path analyses based on data from 552 adolescents (aged 12–18; 82% male) with cannabis abuse or dependence. The analysis used the Family Conflict and Cohesion subscales, from the Family Environment Scale, and several scales and indices from the Global Appraisal of Individual Needs. Although the roles of family conflict, family cohesion, and social support were relatively small, still, there was a fairly consistent indirect effect such that greater conflict and less cohesion in the family, as well as less social support, adversely affected recovery environment and social risk factors after discharge from residential treatment. These results support the idea of targeting environmental factors during continuing care as a way to improve treatment outcome for adolescents with cannabis disorders. Stewart and Brown (1993) had also concluded from their study that families of youngsters who improved in treatment showed a rise in cohesion and expressiveness, whereas families of youth who relapsed did not. In this respect, more family conflict and less cohesion can adversely affect the post-treatment recovery environment (Godley et al., 2005).

Friedman and colleagues (1995) had examined adolescents who had completed family therapy sessions. Results of the study had shown that family characteristics may predict treatment outcome among youth with substance use disorders. Measures of family environment, relationship, and communication were found to be effective in predicting the treatment outcome. The subject's positive descriptions of their families at intake on the achievement orientation, independence organization, intellectual-cultural, conflict, and control dimensions of the FES were found to be especially effective as predictors of outcome. In general, youngsters in families that have high expectations for performance, are higher on intellectual-cultural orientation and better organized, and are low in conflict tend to show better treatment outcome. However, it has also been shown that high family conflict may also provide

motivation to continue in treatment (Campbell et al., 2006).

Social Support and Gender Differences

Many types of research have been conducted in an effort to study gender differences in relation to social support. Studies have consistently reported that women tend to be higher when it comes to seeking and receiving higher levels of emotional support than men do (Ashton & Fuehrer, 1993; Burda, Vaux, & Schill, 1984; Hirsch, 1979; Stokes & Wilson, 1984). The reason and the means with which men and women seeking social support can differ. Defares, Brandjes, Nass, and van der Ploeg (1984), for example, has found that men more frequently utilized an active cognitive coping strategy, such as assertive attitudes and leadership behaviours, whereas women tend to seek out social support in order to find solutions to their problems. Although, women and men do not usually differ in reported amounts of informational or tangible support (Burda et al., 1984), however, in one study men reported a greater number of people who provided financial aid to them than women did (Vaux, 1985).

Shumaker and Hill (1991) had suggested that women were more likely to seek out support from others than were men. Research also reveals that women are social support providers more often than men are (Belle, 1982; Fischer, 1982). With regard to sources of support, men report more support from their spouses than women do (Antonucci & Akiyama, 1987; Wong, 1986), whereas women report more support from friends and neighbours (Allen & Stoltenberg, 1995; Depner & Ingersoll-Dayton, 1988; Olsen & Shultz, 1994; Vaux, 1985; Wohlgemuth & Betz, 1991; Wong, 1986). It has also been revealed that women find a greater number of family members supportive than men do (Allen & Stoltenberg, 1995; Caldwell & Bloom, 1982; McFarlane, Neale, Norman, Roy & Streiner, 1981; Stokes & Wilson, 1984).

In an attempt to study the stress moderating effects of social support; Caldwell, Pearson and Chin (1987) had studied social support in the context of gender and locus of control. Using multiple regressions, the main and interactive

effects of stress, social support, locus of control, and gender on psychological adjustment were investigated. The adjustment effects of stress and social support were examined within four subgroups: internal and external men and women college students. Results of the study suggested that stress was more strongly related to levels of adjustment for women than for men. The relationships between social support and adjustment varied depending on which social support measure was used, which adjustment measure was used, as well as the locus of control orientation and gender of the subject. External men were the least able to use social support to aid adjustment, thus, indicating that women were found to be higher in social support.

Burda, Vaux and Schill (1984) had conducted a study on the resources of social support, wherein they had assessed the influence among college students of sex and sex role on three levels of social support resources which include network characteristics, availability of several modes of support, and perceived supportiveness of family and friends. Results of the study had indicated that females were superior to males, and feminine and androgynous individuals were superior to masculine and undifferentiated individuals. It was also found that only some specific social support variables differed across these groups specifically, network size and homogeneity, emotional support, and perceived supportiveness of family for sex role.

The occurrence of recent life events during the last 3 months and social support received were studied in a nationwide suicide population (N = 1,067) in Finland (Heikkinen, Aro & Lonnqvist, 1994). Job problems (28%), family discord (23%), somatic illness (22%), financial trouble (18%), unemployment (16%), separation (14%), death (13%) and illness in family (12%) were the most common life events. Sex differences were found in recent life events: any life event, separation, financial trouble, job problems and unemployment were more common among males. The mean number of life events was also higher among males. Living alone was more common among female victims. Females had children more often than males. In terms of friendships, more females had a close friend, whereas more males had friends sharing common interests. Females had complained of loneliness more often than males. Those females who had lived alone had encountered a recent

death more often than other females. The male victims who had lived alone had experienced separation, financial trouble and unemployment during the last 3 months more frequently than other males, suggesting a concurrent stressor effect of these recent life events with living alone in male suicides.

Slavin and Rainer (1990) had investigated components of perceived emotional support which includes support from family members, nonfamily adults, and peers, as predictors of depressive symptoms in a sample of 333 high school students (age 14-18) using a prospective design. Analyses of the results suggested that there are significant gender differences both in the quality of perceived support reported by adolescents and in the importance of support variables as predictors of depressive symptoms. It was found that girls reported higher emotional support from both nonfamily adults and peers than boys report. Simple correlations between family support and depression were significantly stronger for girls than for boys. Results of hierarchical regression analyses, controlling for the initial level of symptoms, revealed that whereas both nonfamily adult and friend components of perceived support are significant predictors of changes in symptoms for girls, none of these variables significantly predicts changes in symptoms for boys in this sample. In addition, initial symptoms predict changes in family support for girls but not for boys.

Liu and colleagues (2018) had investigated the effect of the number of close friends (within and outside of social housing neighbourhoods) on the emotional well-being of men and women in social housing neighbourhoods in China. Results of the study suggested that having a greater number of close friends living within the social housing neighbourhood had a significantly positive association with the respondents' emotional well-being. The number of close friends living in nearby neighbourhoods was only positively related to women's emotional well-being thereby highlighting the importance of friendship for residents' emotional well-being. The result further indicated that friendship outside the social housing neighbourhood is essential for good mental health, especially for women.

Olson and Shultz (1994) had conducted a study on gender differences in the dimensionality of social support. Data studied included two samples (students, N = 304, and working adults, N = 301) who had completed a social support questionnaire. The survey instrument measured four types of social support (appraisal, instrumental, informational, and emotional) from four different sources (supervisor, co-worker, spouse, and friends). Results of the study for the student sample revealed that women reported higher levels of social support than men on most dimensions (i.e., 11 of 16 dimensions), with 5 yielding statistically significant differences. For the sample of working adults, it was found that men reported higher levels of social support on most of the dimensions (i.e., 10 of 16), with 5 representing statistically significant differences. Therefore, there seems to be a gender difference in the levels of social support in different groups of study.

Stokes and Wilson (1984) had conducted research with college students. They had found that females reported receiving more emotional social support than males. In addition, social network variables, such as the number of confidants, were found to be predictive of supportive behaviours in general for males but not for females.

In terms of sources of support; Fusilier, Ganster and Mayes (1986) using a sample of subjects from a variety of industrial jobs found that the only significant gender difference was that women tend to perceive more support from supervisors than did men.

Allen and Stoltenberg (1995) had examined gender differences in 182 freshman college students who had completed a packet of questionnaires and inventories to address the impact of separation from their parents and to test the relevance of self-in-relation theory. Instruments administered included the Social Support Questionnaire-Short Form (SSQ-6); the Family Adaptability and Cohesion Evaluation Scales-Revised (FACES-R); and the Separation-Individuation Inventory. A multivariate analysis of variance performed on each instrument administered revealed significant differences between men and women on the SSQ-6 and the FACES-R. Results of the study indicated that women reported establishing more of

all kinds of support, they were better satisfied with its quality and viewed their families as more cohesive than did men. The study also revealed that men and women viewed their families as equally socially desirable, and both men and women reported few disturbances in the separation-individuation process.

Reeves and Maslach (2001) have attempted to link between social support and gender variables. Samples of the study were assessed on masculinity, femininity, nurturance, affiliation, autonomy, and self-confidence. The results revealed that gender, but not sex, was significantly correlated with patterns of social support. Femininity (in both sexes) was associated with seeking and receiving emotional support, and with seeking and receiving support from women. Masculinity (in both sexes) was linked only with receiving tangible support.

Soman and colleagues (2016) had conducted a study on perceived social support and stressful life events with reference to gender differences. A total of 118 patients (aged 18 to 60 years), with depressive disorder according to the DSM-IV-TR, were evaluated using the Multidimensional Scale of Perceived Social Support and Presumptive Stressful Life Events Scale. Results of the study had suggested that perceived social support score was significantly higher in males than females ($p < 0.001$). Males perceived significantly higher social support from friends than females ($p < 0.001$), whereas support from significant others was higher in females. There was a higher mean number of total life events as well as specific type of life events in males that became apparent after controlling for education ($p < 0.05$). Financial loss or problems were the most commonly reported life event in both males and females. Work-related problems were more commonly reported by males, whereas family and marital conflict were more frequently reported by females.

In an attempt to examine drug abuse and social support, Rothman and friends (2006) had found that significant heroin/cocaine use by gender interactions was observed; specifically, the negative associations between current drug use and perceived caregiver and emotional support were stronger among females than males.

The tendency to use social support as a significant palliative for coping with stressful circumstances appears to be reinforced through all developmental stages for females. Therefore, by the time adulthood is reached, searching for social support in one's environment is a well-learned behaviour pattern for women (Eagly & Wood, 1991).

Social Support and Drug Dependency

Social support has been considered as an important determinant that affects addiction. Existing research has suggested a positive role of social support in reducing drug use. The role of perceived social support in the prevention and treatment of substance abuse and relapse has been presented in various research studies. It has been shown that those who have more social support are more likely to stop using drugs than those with less social support (Majer et al., 2016; Tucker et al., 2005). Galaif and friends (1999) examined risk and protective factors associated with three qualitatively different drug use constructs describing a continuum of drug use among a sample of 1,179 homeless women. Relationships among positive and negative sources of social support, positive and negative coping strategies, depression, and the drug constructs of current drug use, drug problems, and physical drug dependence were assessed using structural equation models with latent variables. Current drug use was predicted by more negative social support (from drug-using family/friends), depression, and less positive coping. Drug Problems were predicted by more negative coping, depression, and less positive coping. Physical Drug Dependence was predicted by more negative social support and depression, and less positive social support.

Rothman and friends (2006) assessed perceived caregiver support, emotional support, tangible support, and conflict. Current drug use was defined as heroin and/or cocaine use within 6 months prior to baseline. Gender was not significantly associated with any of the four outcomes. Current drug users reported significantly higher conflict in social relationships than nonusers but were not significantly associated with the other three outcomes. However, significant heroin/cocaine use by gender interactions was observed; specifically, the negative associations between

current drug use and perceived caregiver and emotional support were stronger among females than males. It was concluded that recent heroin/cocaine use may be associated with dissatisfaction in perceived social support from most sources, with the strongest relationships amongst drug-using females.

Zimet and colleagues (1988) had used the Multidimensional Scale of Perceived Social Support (MPSS) in a study of data which includes 136 female and 139 male university undergraduates. Three subscales, each addressing a different source of support were identified: family, friends and significant other. Results of the study indicated that high levels of perceived social support were associated with low levels of depression and anxiety. The results also suggested gender differences where women reported both greater social support from friends and significant other and more symptoms related to anxiety and depression than men. It was also found that the relationship between perceived support from friends to depression was stronger for women. The study also revealed that even though men reported less support and fewer symptoms overall than women, depression symptoms and perceived support from friends were more highly correlated for men than for women.

D'Orio and colleagues (2015) had examined social support and attachment in women with and without drug misuse. Data were collected from 146 African American female suicide attempters. Results of the study revealed that compared to their counterparts who did not misuse drugs, women who reported drug misuse had lower levels of family and friend support (Social Support Behaviours Scale), lower scores on secure attachment and higher scores on fearful and dismissive attachments (Relationship Style Questionnaire). Low-social support and less secure attachments make treatment engagement challenging and require interventions designed to enhance participation.

In an attempt to study social support and depression mediating risky behaviours among drug injectors; Risser and colleagues (2010) had examined gender differences in social support and depression among Injection Drug Users (IDUs). Data included IDUs who were recruited and interviewed from the Centres for Disease Control and Prevention's National HIV Behavioural Surveillance Program.

Centre for Epidemiologic Studies Depression Scale (CES-D 10) and scales for perceived social support from family, friends, and significant others from the Multidimensional Scale of Perceived Social Support were used for the study. Results suggested that seventy-five per cent of male and female participants had CES-D scores indicating depressive symptoms. In multivariate logistic regression, depressive symptoms among men were positively associated with frequent use of speedballs (injecting heroin and cocaine together) and never having tested for HIV, and negatively associated with perceived social support from a special person. Among women, depressive symptoms were positively associated with currently smoking cigarettes, having no health insurance, and more years of injection drug use, and negatively associated with perceived social support from a special person. The researchers concluded that lack of social support from a special person or significant other was associated with depressive symptoms in both males and females.

In an attempt to find an inverse relationship between social support and depression amongst HIV-positive Injecting Drug Users, Mizuno and colleagues (2003) found that non-injection polydrug use in the past 30 days was significantly associated with depressive symptoms and that social support buffers the adverse effect of non-injection polydrug use. Multiple regression analysis identified four significant correlates of depressive symptoms. Perceived social support and having a regular place for HIV medical care were significantly associated with lower levels of depressive symptoms, while history of mental health problems and non-injection polydrug use were significantly associated with higher levels of depressive symptoms. Moreover, a significant interaction effect was found between social support and non-injection polydrug use, indicating that social support buffers the association between non-injection polydrug use and depression, suggesting that increasing social support might be a useful tool for HIV-positive IDUs in reducing depression and the adverse effect of non-injection polydrug use.

Nikmanesh, Baluchi and Motlagh (2017) had studied the role of efficacy beliefs and social support in relation to prediction of addiction relapse. The research method was causal-comparison. The population of the study included all subjects

who sought medical advice in the centres for addiction treatment in Saravan and Iranshahr, south-east of Iran. Data of the study included 166 participants (83 participants without relapse and 83 participants with relapse) who were selected using snowball sampling during a four-month period of voluntary participation in the centres. The variables were measured by general self-efficacy scale and Multidimensional Scale of Perceived Social Support. Result findings revealed significant differences between participants without relapse and participants with relapse in terms of “self-efficacy beliefs” and “social support”. It was found that the two variables of self-efficacy beliefs and social support were the best predictors of addiction relapse and therefore plays a significant role in preventing patients from addiction relapse.

In investigating the relationship between Chinese drug users and perceived social support and their intentions for choosing abstinence; both bivariate and multivariate analyses were performed with 3,239 drug users, especially heroin (427) and methamphetamine (890) users. Liu and colleagues (2018) have found that Perceived support from friends was the factor that showed a strongest positive relationship with Chinese drug users’ abstinence intentions and that the positive influence from family support on the willingness to seek and choose abstinence was not as great as scholars have suggested, which challenges previous research findings. Methamphetamine users had a significantly lower chance of pursuing abstinence, but their abstinence intentions were positively related to perceived support from friends. Comparatively, all types of perceived social support had no significant influence on heroin users’ abstinence intentions.

In a study conducted by Timothy and Andia (2018), an elaborated version of “differential social support” hypothesis was tested where the results indicated that, among adolescents who had associated with delinquent peers, peer social support is associated with an increased in delinquent behaviour, either directly or indirectly by fostering loyalty to delinquent peers. In contrast, a measure of conventional social support (family emotional support) exhibited a negative indirect effect on delinquency. In addition, the results of the analyses indicate that loyalty to delinquent

peers is a predictor of delinquent behaviour, even after controlling for moral beliefs, prior behaviour, and other variables.

Qun Zhao and colleagues (2017) had examined social support and amphetamine-type stimulant (ATS) use among female sex workers (FSWs) in China. Data for the study was collected from a sample of 1022 FSWs. The relationship between social support and ATS use was examined using multiple ordinal logistic regression models controlling for the potential confounding effects of demographic variables. The results indicated that FSWs who were from younger age groups (aOR = 10.88 for age group <20; aOR = 2.80 for age group 20–23), and from all higher-income venues (aOR = 1.96 for venue level 1; aOR = 2.28 for venue level 2; aOR = 1.81 for venue level 3) tended to use ATS more frequently. They also tended to use ATS more frequently when they depended on their boyfriends (aOR = 1.08) for emotional support or on their co-workers for tangible support (aOR = 1.17). Therefore, the results suggested that different types of social support from different sources can be either positively or negatively associated with ATS use among FSWs.

Personality and Gender Difference

Gender differences in personality traits are often characterized in terms of which gender has higher scores on that trait, on average. Blatt (2008) had explained that women's and men's experience in personality development is different. In particular, women are argued to place more emphasis on issues related to interpersonal relatedness, especially in terms of giving and receiving care, affection, and love. On the contrary, men tend to place more emphasis on self-definition, especially in terms of individualistic self-assertion. Epidemiological research has consistently demonstrated that whereas women present a higher prevalence of internalizing problems, such as affective and anxiety disorders, men have higher rates of some personality disorders, such as antisocial personality disorder and substance abuse (Simon, 2002). Gender differences in behaviour problems, such as aggressive behaviour and antisocial behaviour, are also evident during childhood and adolescence, with boys showing higher rates of these problems than girls (Keiley, Bates, Dodge & Pettit, 2000; Lahey et al., 2000). It has also been studied that gender

differences in depression and aggressive behaviour increase from early adolescence to late adolescence (Hankin et al., 1998; Keltikangas-Järvinen, 2002), and various studies suggest that older teenagers report engaging in more delinquent behaviours than younger teenagers (Lahey et al., 2000). In fact, adolescent males were found to have higher scores than female adolescents on justification of violence beliefs and the impulsivity/carelessness style of problem-solving which partially accounted for differences in delinquent behaviour (Calvete & Cardenoso, 2005).

Mean gender differences in Eysenck's three personality traits of extraversion, neuroticism, and psychoticism were collated for 37 nations. Women obtained higher means than men on neuroticism in all countries, and men obtained higher means than women on psychoticism in 34 countries and on extraversion in 30 countries. The relation between the magnitude of the gender differences and per capita incomes was not significant for any of the three traits (Richard & Terence, 1997)

A diathesis-stress model has been proposed to explain gender-related vulnerability to depression (Parker & Brotchie, 2010). Women are more likely than men to experience episodic stress and emotional distress in daily event (Hyde et al., 2008), which partially mediates gender differences in depression (Charbonneau et al., 2009) Personality traits have also been suggested as a possible mechanism of gender difference in depression (Goodwin & Gotlib, 2004). Specifically, neuroticism tends to be higher in women than men (Weisberg et al., 2011). A high degree of neuroticism was prospectively associated with later experiences of negative life events in adolescent girls and served as vulnerability factor of depression (Kercher et al., 2009). It was previously reported that neuroticism was a strong mediator of the association between gender and depression in addition to various social and psychological factors (Leach et al., 2008). However, the effects of other Five-Factor Model personality dimensions on the hypothesized links among stress, gender, and depressive symptoms remain unclear.

In a study that investigated the associations among five-factor personality traits, perceived stress, and depressive symptoms in South Korea (Kim et al., 2016), the roles of personality and perceived stress in the relationship between gender and

depressive symptoms were also examined. It was found that a higher degree of neuroticism and lower degrees of extraversion, agreeableness, and conscientiousness were significantly associated with greater perceived stress and depressive symptoms. Neuroticism and extraversion had significant direct and indirect effects (via stress as a mediator) on depressive symptoms in both genders. Agreeableness and conscientiousness had indirect effects on depression symptoms in both genders. When mediational roles of each personality factor and perceived stress in the link between gender and depressive symptoms were examined, it was found that four of the personality factors viz., extraversion, neuroticism, agreeableness and conscientiousness (except openness) were significant mediators, along with stress, on the relationship between gender and depressive symptoms. This finding suggested that the links between personality factors and depressive symptoms are mediated by perceived stress. As such, personality is an important factor to consider when examining the link between gender and depression.

Gender differences in terms of mean differences do not imply that men and women only experience states on opposing ends of the trait spectrum; on the contrary, significant differences can exist along with a high degree of overlap between the distributions of men and women (Hyde, 2005). Feingold (1994) conducted four meta-analyses to examine gender differences in personality. The results revealed that males were found to be more assertive and had slightly higher self-esteem than females. On the other hand, extraversion, anxiety, trust, and especially, tender-mindedness (e.g., nurturance) of females were higher than males. Women have been found to score higher than men on Neuroticism as measured at the Big Five trait level, as well as on most facets of Neuroticism included in a common measure of the Big Five, the NEO-PI-R (Costa et al., 2001). In fact, they have even reported themselves to be higher in neuroticism, agreeableness, warmth, and openness to feelings, whereas men were higher in assertiveness and openness to ideas (Costa, Terracciano & McCrae, 2001).

Additionally, women also score higher than men on related measures, such as indices of anxiety (Feingold, 1994) and low self-esteem (Kling et al., 1999). The one

aspect of Neuroticism in which women do not always exhibit higher scores than men is Anger, or Angry Hostility (Costa et al., 2001). When it comes to being altruistic and compassionate, women consistently score higher than men on Agreeableness and related measures, such as tender-mindedness (Feingold, 1994; Costa et al., 2001). Conscientiousness describes traits related to self-discipline, organization, and the control of impulses, and appears to reflect the ability to exert self-control in order to follow rules or maintain goal pursuit. Women score somewhat higher than men on some facets of Conscientiousness, such as order, dutifulness, and self-discipline (Feingold, 1994; Costa et al., 2001). These differences, however, are not consistent across cultures, and no significant gender difference has typically been found in Conscientiousness at the Big Five trait level (Costa et al., 2001). Whereas gender differences are small on the overall domain level of Extraversion (with women typically scoring higher), the small effect size could be due to the existence of gender differences in different directions at the facet level. Women tend to score higher than men on Warmth, Gregariousness, and Positive Emotions, whereas men score higher than women on Assertiveness and Excitement Seeking (Feingold, 1994; Costa et al., 2001).

Given the importance of Extraversion to the interpersonal domain, it may be expected that women would consistently score higher than men. However, the pole of the IPC often called Dominance contains traits such as bossy, domineering, and assertive. Men tend to be more dominant and agentic than women and exhibit higher levels of these traits (Helgeson & Fritz, 1999). Gender differences in Extraversion may, therefore, switch directions depending on whether the specific traits measured fall closer or further from the dominance pole.

Openness/Intellect reflects imagination, creativity, intellectual curiosity, and appreciation of aesthetic experiences. Broadly, Openness/Intellect relates to the ability and interest in attending to and processing complex stimuli. No significant gender differences are typically found on Openness/Intellect at the domain level, likely due to the divergent content of the trait. For example, women have been found to score higher than men on the facets of Esthetics and Feelings (Costa et al., 2001)

whereas men tend to score higher on the Ideas facet (Feingold, 1994; Costa et al., 2001).

Weisberg, DeYoung and Hirsh (2011) studied gender differences in personality across the ten aspects of the Big Five. They found that gender differences were more pervasive at the aspect level of trait organization immediately below the Big Five than for the Big Five themselves. Gender differences were found only for Neuroticism, Agreeableness, and Extraversion. Consistent with previous findings, women scored higher than men in Neuroticism and in both of its aspects, Withdrawal and Volatility, when measured in terms of raw scores. The gender difference in Neuroticism was moderated by age, such that the gender difference decreased with age. It has also been observed that neuroticism increases during emerging adulthood among females, but not males (Soto et al., 2011). Small significant gender difference in overall Extraversion was found where women scored higher than men. However, the pattern was more complicated for the aspects, Enthusiasm and Assertiveness. Enthusiasm reflects sociability, gregariousness, and experiences of positive emotion. Assertiveness, on the other hand, reflects traits related to agency and dominance. Men also tend to show a higher score in assertiveness as compared to women (Feingold, 1994; Costa et al., 2001; Weisberg et al., 2011).

Campos and colleagues (2013) suggested that dependency is more represented in female samples, while self-criticism is more represented in male samples.

Although the mean differences in personality between genders may be important in shaping human experience and human culture, they are probably not so large as to preclude effective communication between men and women (Weisberg et al., 2011).

Personality and Family Environment

The personality characteristic of the individual is also affected by environmental aspects. Personality predisposes the individuals to maladaptive behaviour and environment precipitates the same. This holds true for adolescents as mood. Fluctuations are common among adolescents because adolescence is a

transitional period characterized by various changes which tend to disqualify the young people (Sud & Sethi, 2008). However, the psychological impact of these changes is shaped by the environment in which these changes take place. The family and the various relationship dynamics and interaction patterns therein, serve as a very important context for the psychological development of adolescents at a time when the latter is attempting to discover their personal sense of self and are struggling to establish themselves as independent, self-governing individuals. At the same time, the adolescents' attempts toward individuation may affect parent-child relationship (Sharma, 2009) and unbalance the family environment leading to conflicts thereby thwarting the cohesiveness and organization of the family leading to stress and anxiety (Sharma, 2008).

Forman and Forman (1981) had investigated the relationship between family social climate characteristics and adolescent personality functioning. Data of the study included 80 high school students who were assessed with The High School Personality Questionnaire (HSPQ). These students and their parents were also administered with the Family Environment Scale (FES). Results of stepwise multiple regression analysis indicated that one or more HSPQ scales had significant associations with each FES scale. FES Expressiveness was found to be correlated with adolescent sociability. A high degree of concordance between FES Independence and adolescents appearing outgoing, independent, and relaxed and between FES Achievement Orientation and adolescents' self-reported enthusiasm, independence and self-sufficiency were also found. Result also indicated that significant variance in child behaviour was attributed to family social system functioning; however, no single-family variable could account for a major portion of the variance to the exclusion of other factors. The study suggested that child behaviour varies with total system functioning, more than with separate system factors. These results further suggested that the tendency for the attributes of family environments to be somewhat similar to the individual attributes of the persons found within them seems to be consistent.

Saucier and colleagues (2007) had studied retrospective descriptions of families-of-origin in 3 samples using the items of Moos's (1974) Family Environment Scale (FES). Samples 1 and 2 included individuals recruited for a study on the biological bases of alcoholism and drug addiction, with Sample 1 being recruited as a "case" sample and Sample 2 as a "control" sample. Sample 1 consisted of 212 participants (208 men, 4 women) in an addiction's treatment program. Sample 2 consisted of 252 students (143 men and 109 women) at a state university in California and Sample 3 consisted of 428 students (91 men and 337 women) from the same state university campus but included a greater number of young individuals; the mean age was 26.0 (SD = 9.4); In total, the responses of 892 were analysed. Using cluster-analytic procedures, a new set of 22 homogeneous item clusters was generated for the FES at a level more specific than the 10 conventional FES scales, thus enhancing potential reliability in the measurement of family environments. It was predicted that scores on the three factors; namely, Active-passive factor, Calm-Conflictual factor and Structuredness factor; would correlate with respondents' scores on the Big Three personality factors: Extraversion, Agreeableness, and Conscientiousness. Result of the study indicated that Extraversion was correlated ($r = .33$ and $r = .39$ in Samples 1 and 2, respectively) with the Active-Passive factor, Agreeableness (.37 and .28) with the Calm-Conflictual factor, and Conscientiousness (.27 and .23) with the Structuredness factor. It was also found that Neuroticism was negatively correlated with both the Calm-Conflictual factor and the Active-Passive factor. Conscientiousness and Openness were positively correlated with the Active-Passive factor. Correlations between NEO-FFI scales and factors from the 10 conventional FES subscales showed a similar pattern and similar magnitudes as did these factors from the 22 item-clusters. These correlations indicated considerable homology, generally a medium-sized effect, between a person's ratings of his or her own characteristics and similar characteristics ascribed to his or her family. The results, therefore, suggested a possible homology between the structure of family environments and the structure of personality dispositions.

Sines (1984) had investigated the relations between the Family Environment Scale (FES) and the Minnesota Multiphasic Personality Inventory (MMPI) scales.

The relation of social desirability and endorsement of FES items were also examined in a sample of 185 college students. Results of the study revealed that the highest correlations (averaging .26–.31 in magnitude across male and female subsamples) were between the MMPI Pd (Psychopathic Deviate) scale and the Conflict (.30) and Cohesion (–.31) subscales and between the MMPI F (Infrequency) scale and the Conflict (.26), Cohesion (–.26), and Achievement (–.30) subscales. These relations suggested that deviance (whether behaviourally or in response style) tends to be associated with reports of family environments that were high in conflict but low in cohesion and achievement orientation. The result also found another significant correlation between the MMPI Si (Social Introversion) and the Expressiveness subscale (–.26), relations that suggested the congruence of personality-environment wherein relatively extraverted individuals are suggested to describe their family interactions as having somewhat higher than average extraverted characteristics. FES scales were found generally not to be highly redundant with MMPI variables although MMPI Scale K (defensiveness) was significantly related to several FES scales. The social desirability and the endorsement rates of FES items were found to correlate approximately .80.

Chauhan (2006) in her study revealed that family environment contributed 85% of the variance in neuroticism which is all emotionality and anxiety disorders. Jenkins (1967; 1968; 1969) found that anxiety run in families i.e. overanxious children due to their genetic make-up tend to have over-neurotic parents and the situation worsens with poor environment which is full of conflicts and turmoil.

Wang and friends (2016) had examined the role of family environment, coping styles, personality characteristics in the development of adolescent depression. The participants of the study were divided into 3 groups: group A, B and C where groups A and B were the ones who have been diagnosed as major depression and group C was a control group. Group A was treated with sertraline, group B was treated with a combination of sertraline and cognitive behavioural therapy. All the participants were administered the questionnaires of Family environment scale (FES), Eysenck personality questionnaire (EPQ) and Simplified

coping style questionnaire (SCSQ). The result of the study indicated that there were significant differences in scores between groups A/B and group C after treatment ($P < 0.01$ or $P < 0.05$); wherein the scores of FES's conflict subscale after treatment for group A and B were higher than that of group C ($P < 0.01$), but the other 9 subscales were significantly lower ($P < 0.01$). In EPQ, the scores of extraversion subscale after treatment for group A and B were found to be lower than that of group C ($P < 0.01$), and the other 3 subscales were significantly higher ($P < 0.01$). In SCSQ, the scores of positive coping after treatment for group A and B were lower than that of group C ($P < 0.05$), and that for the negative coping were just the opposite ($P < 0.01$). Further analysis revealed that all the scores of subscales, except positive coping in group A and expressiveness, conflict, achievement orientation, control, positive coping, negative coping in group B were significantly different with group C ($P < 0.01$ or $P < 0.05$). The result further suggested that a harmonious family environment, healthy personality characteristic and mature coping style were essential factors in preventing and reducing adolescent depression.

Personality and Social Support

Lara, Leader and Klein (1997) had attempted to examine whether social support was related to the course of depression after controlling for neuroticism. Results of the study indicated that personality variables such as neuroticism do not account for the relationship between social support and course of depression, although the result of the study raised the possibility that social support may mediate the relationship between neuroticism and course of depression. After controlling for social support, the relationship between neuroticism and course of depression was eliminated. The result suggested that high levels of stress reactivity may have an adverse effect on social support, which in turn affects the course of depression. Personality may influence the course of depression by virtue of its impact on interpersonal variables.

Bolger and Eckenrode (1991) had examined social relationships, personality, and anxiety during a major stressful event. Data of the study included subjects who were going to give their medical school entrance examination. The subjects were

rated on their personality (extraversion and neuroticism) and social relationships (number of social contacts and perceived support) as well as their anxiety. When personality and prior anxiety were controlled, it was found that social contacts buffered against increases in anxiety, whereas perceived support did not. Further analyses revealed that discretionary social contacts were beneficial whereas obligatory contracts were not. The study also suggested that although perceptions of support have been conceptualized as an independent attribute of personality (Sarason, Pierce & Sarason, 1990; Sarason, Sarason & Shearin, 1986), the results of this study do not support this view. If perceived support functions as an attribute of personality, independent of extraversion and neuroticism, then one would expect it to have a stress-buffering effect even when these traits are controlled. Furthermore, perceived support does not appear to be a mediator or conduit of the effects of extraversion or neuroticism. For this to be so, perceived support should be correlated with extraversion and neuroticism, and it should affect mental health independently of them (Cohen & Cohen, 1983). They had further suggested that although it is commonly believed that social relationships buffer the effects of stress on mental health, these apparent buffering effects may be spurious reflections of personality or prior mental health.

Fyrand and colleagues (1997) had examined the relationship between personality traits, social support and mental health problems on female patients with rheumatoid arthritis (RA). Structural equation modelling was used and the result showed that instrumental support was uncorrelated with mental health problems. The effect of emotional support on mental health was further found to be spurious perhaps due to personality traits. It was also found that companionship had a direct effect on mental health in addition to partially mediating the effects of both extraversion and neuroticism. However, the total effect of social support was found to be moderate when compared to a strong influence of neuroticism.

Suurmeijer and colleagues (1995) has conceptualized social support as an “actual transaction or exchange of resources between at least one recipient and one provider of these resources, intended to enhance the well-being of the recipient”.

The relationships between two personality characteristics (neuroticism, extraversion), three types of supportive transactions (emotional support, social companionship, instrumental support) and satisfaction with these transactions, and two aspects of mental health (feelings of anxiety and depressive mood) were studied among 280 patients with early rheumatoid arthritis. (Suurmeijer et al., 2005). Using the structural equation modelling of the relevant variables, result of the study showed that neuroticism but not extraversion had an independent effect on both anxiety and depression (more neurotic people had more anxiety and depressed feelings). The effect of neuroticism on depression was found to be mediated by companionship as far as satisfaction with this kind of transactions was concerned; i.e., more neurotic people had less companionship satisfaction and a more depressed mood. It was also found that companionship, both transactions and satisfaction, had an independent positive effect on depression but not on anxiety; i.e., respondents with more companionship had a less depressed mood. The effect of emotional support ran via social companionship: more emotional support (both transactions and satisfaction) was expressed in companionship leading to a less depressed mood. Finally, more depressed people received more instrumental supportive transactions while more satisfaction with this type of supportive transactions was related to less anxiety. In contrast to the findings of Fyrand and colleagues (1997), the result suggested that neuroticism is only related to satisfaction with supportive transactions but not with the transactions themselves.

Using a serial mediation model, Tan, Low and Viapude (2018) had attempted to investigate the hypothetical mediating role of hope in the relationship between extraversion and happiness and between social support and happiness. They had hypothesized that individual hope may play an important role in the relationship between social support and happiness. On analysing the responses of 360 undergraduate students, the result of the study showed that extraversion, social support, and hope were significantly linked with happiness. It was also found that hope was found to mediate the linkage of extraversion and happiness and social

support and happiness. The results also supported the view that extraversion enhances happiness indirectly through social support and then hope (serial mediating effect).

Amirkhan, Risinger and Swickert (1995) had attempted to examine the suggestion of a larger role for personality determinant of the coping response. They had conducted two studies where they had examined the influence of personality on the use of social support and other coping strategies in samples of undergraduate students. In the first study, a range of coping responses to naturally occurring stressors was surveyed. It was found that Extraversion was related to social support seeking, optimism, which has important relevance in coping, was related to problem-solving. Both dispositions were found to be negatively related to avoidance. The second study used an experimental approach and multiple personality measures to correct for possible methodological problems was used in the first. The result indicated that Extraversion again proved to be associated with help-seeking; and this relationship accounted for that of another disposition, self-esteem--a construct considered crucial in the literature. In other words, it was found that individuals who were high in extraversion were more likely to seek social support.

Park and colleagues (2013) had attempted to clarify the links between social support and health in relation to culture, stress, and neuroticism. They had argued that three moderating factors must be considered when attempting to find a positive relationship between social support and health. These three factors include: (1) support-approving norms (cultural context); (2) support-requiring situations (stressful events); and (3) support-accepting personal style (low neuroticism). In conducting a large-scale cross-cultural survey of Japanese and US adults, they had found significant associations between perceived support and health. The association was more strongly evident among Japanese (from a support-approving cultural context) who reported high life stress (in support- requiring situation). The link between support and health was also found to be especially pronounced if these Japanese were low in neuroticism. The study also suggested that neuroticism will diminish any sustained benefits of support, as neuroticism is related to negative emotion (Eysenck,

1967; Gray, 1982) which in turn leads to negative interpretive cognitive schemas (Loo, 1984; Roberts & Kendler, 1999). So, this means that neuroticism would sensitize people to potential costs associated with receipt of social support, thereby dampening the strength of the potentially positive relationship between perceived support and health (Karney & Bradbury, 1995). In other words, the relationship between perceived support and health would be more positive for those who are relatively low in neuroticism.

Cukrowicz and friends (2008) had attempted to study the relationship between personality and social support among depressed older adults. They had examined a repeated measures multi-level mixed model of change in perceived social support to determine whether personality traits and depressive symptoms were associated with changes in perceived social support over a 3-year study interval. Results of the study suggested that personality traits of Conscientiousness and Extraversion were significantly predictive of changes in perceived social support over the study time interval. The study revealed that among depressed older adults, those with conscientious or extraverted personality traits were more likely to resist impulses to withdraw from relationships. Further, these traits may lead to more satisfying interactions and greater perceived social support over time.

In an attempt to understand the relationship between personality, social support, and depression; Oddone and colleagues (2011) had conducted a longitudinal study. The personality traits and social support dimension most closely associated with depression were explored so as to determine if the relationship between personality and depression varies by level of social support. Data of the study included older patients originally diagnosed with major depression and never depressed comparison group of older adults. The patients were administered the NEO Personality Inventory and social support were measured annually for both the groups. In addition, the patients were administered the Montgomery-Asberg Depression Rating Scale (MADRS) every three months. Results of the study had revealed that patients and comparison participants differed on four of the five NEO domains and all four social support dimensions. Scores on the NEO Personality

Inventory showed that the depressed patients had significantly higher ratings of Neuroticism and lower ratings on Extraversion, Openness to Experience, and Conscientiousness compared with non-depressed participants. The depressed patients were also found to rate significantly lower in three of the four social support domains, namely; instrumental social support, non-family social interaction, and subjective social support. In the social network domain, depressed patients had higher mean scores than the comparison group. However, personality did not significantly predict depression status (patient/comparison) in controlled analyses. Within the patient group, subjective social support was the only dimension correlated with MADRS score. In separate linear regression analyses among the patients, controlling for age, sex, and subjective social support, the domains of Neuroticism, Openness to Experience, Conscientiousness, and Extraversion were associated with MADRS score. For Neuroticism and Openness, it was found that the association varied by level of subjective social support. scores on the NEO Personality Inventory showed that the depressed patients had significantly higher ratings of Neuroticism and lower ratings on Extraversion, Openness to Experience, and Conscientiousness compared with non-depressed participants. In the social network domain, depressed patients had higher mean scores than the comparison group. The result suggested that the relationship between personality and social support differed by depression status (patient/comparison group).

McHugh and Lawlor (2012) had examined whether social support differentially moderates the impact of neuroticism and extraversion on mental wellbeing. Data for the study were gathered from 536 community-dwelling older adults, regarding personality, social support networks, depressive symptomatology, anxiety and perceived stress, as well as controlling for age and gender. Results of the study had indicated that Neuroticism and extraversion interacted with social support networks to determine psychological wellbeing (depression, stress and anxiety). High scores on the social support networks measure appear to be protective against the deleterious effects of high scores on the neuroticism scale on psychological wellbeing. Meanwhile, individuals high in extraversion appear to require large social support networks in order to maintain psychological wellbeing. It was further

suggested that large familial and friendship social support networks are associated with good psychological wellbeing and in order to optimise psychological wellbeing in older adults, improving social support networks may be differentially effective for different personality types. Studer and colleagues (2017) had investigated the interaction between dispositional characteristics (i.e. sensation seeking, anxiety/neuroticism) and social environment (i.e. perceived social support; PSS) in association with substance use. Data of the study included a representative sample of 5,377 young Swiss males. They were given questionnaires that assessed substance use, sensation seeking, anxiety/neuroticism, and PSS from friends and from a significant other. Results of the study indicated that sensation seeking and anxiety/neuroticism were positively related to most substance use outcomes. PSS from friends was found to be significantly and positively related to most alcohol and cannabis use outcomes, and significantly and negatively associated with the use of hard drugs. PSS from a significant other was also found to be significantly and negatively associated with most alcohol and cannabis use outcomes. The study revealed that the associations of sensation seeking with drinking volume, alcohol use disorder and the use of illicit drugs other than cannabis were stronger in individuals reporting high levels of PSS from friends than those with low levels. The associations of sensation seeking risky single-occasion drinking and the use of hard drugs were weaker in participants reporting high levels of PSS from a significant other than in those with low levels. The study suggested that sensation seeking and anxiety/neuroticism may play an important role as risk factors for substance use and misuse. PSS from friends may increase the risk for alcohol and illicit drug use (other than cannabis) associated with high sensation seeking, whereas the PSS from a significant other may reduce it.

Personality and Drug Dependency

The most salient variables that have been identified to characterize drug users in general are:

(1) Sensation seeking (SS; Zuckerman, 1974) and novelty-seeking, (NS; Cloninger, 1987). These (similar) concepts can be defined as: "the seeking of a novel, intense,

and complex forms of sensation and experience and the willingness to take risks for the sake of such an experience" (Zuckerman, 1994). It was found higher in several classes of addiction in comparison with controls (alcohol and tobacco: Masse & Tremblay, 1997; Ravaja & Keltikangas-Jarvinen, 2001; alcohol, nicotine and cannabis: Van Ammers et al., 1997; nicotine: Pomerleau et al., 1992; opiates: Vukov et al., 1995; cocaine: Ball et al., 1995; pathological gambling: Kusyszyn & Rutter, 1985);

(2) Impulsivity (IMP) was seen by Barratt (1990) as an "action on the spur of the moment" and is defined in the DSM-IV as "the failure to resist an impulse, drive, or temptation to perform an act that is harmful to the person or to others". The concept is also one of the main tenets of Eysenck's psychoticism scale (1968). Higher levels have been found in substance abusers than in the controls (alcohol: Heath et al., 1997; Cooper et al., 2000; tobacco: Patton et al., 1993; Mitchell, 1999; caffeine: Revelle et al., 1980).

(3) Harm avoidance (HA) can be defined as the "tendency toward an inhibitory response to signals of aversive stimuli leading to avoidance of punishment and non-reward". It is close to Eysenck's Neuroticism concept (1968). In comparison with the controls, it was found lower in alcohol patients with early-onset (Cloninger et al., 1988), with alcohol, tobacco and marijuana use in adolescents (Wills et al., 1994) and with the drinking frequency among adolescent psychiatric inpatients (Galen et al., 1997). In contrast, higher Shyness with Strangers (a sub-dimension of HA in the Cloninger model) has been found in moderate drinkers (de Wit & Bodker, 1994).

In order to have a deeper understanding about addictive behaviour is largely determined by P (Psychoticism), and to a smaller extent by N (neuroticism); studies by Gossop (1978) and Teasdale and colleagues (1971) showed that drug-dependent groups had typically high levels of psychoticism, together with elevated scores on neuroticism; they also had somewhat lower levels of extraversion than controls. A larger and more detailed study comparing drug addicts and controls was carried out by Gossop and Eysenck (1980) who found that for both males and females' high level of P (Psychoticism) was an important discriminant, with high neuroticism (N)

also important, but less so for women than for men. Low extraversion (E) scores were also again characteristic of drug addicts. The test used also contained a Lie Scale (L) which essentially measures conformist behaviour, and usually correlates negatively with P; low L scorers were characteristic of the drug addicts. On this scale, addicts had mean scores almost twice as high as controls (Gossop & Eysenck, 1980). The personality patterns of criminals are similar to those of drug addicts, particularly in having high P (Psychoticism) and N (Neuroticism) scores (Eysenck & Gudjonsson, 1989). Psychoticism measures a dispositional variable; P has to be combined with stress to produce actual psychiatric symptoms.

Gossop and Eysenck (1983) tested 221 drug addicts and over 1000 criminals on the P (Psychoticism), E (Extraversion), N (Neuroticism) and L (Lie) scales. They found addicts higher on P, lower on E, higher on N (particularly the women), and lower on L. In other words, the differences in personality patterns are similar to those obtained with normal controls. These studies were done with traditional drug takers.

Smokers have been found to have high-P scores (Spielberger & Jacobs, 1982; Gilbert, 1995). The first resembles psychoticism, with characteristics like impulsivity, inattention and character disorders. The second is neuroticism, or 'negative emotionality', with a tendency to experience negative moral states and psychological distress.

Francis (1996) has listed all available studies for addiction to alcohol, opium, heroin, benzodiazepines, etc.; in all, he found nineteen studies specifically linking P (Psychoticism) and addiction, and twenty-three linking N (Neuroticism) and addiction. Extraversion gave ten negative and two positive correlations with addiction, as well as twelve studies without significant results. The Lie Scale shows seven studies giving negative correlations with addiction, two with positive, and three with insignificant correlations. Francis summarized by saying that the literature confirms that psychoticism is a key personality factor in this area and that there is clear relationship between neuroticism and the use of drugs and alcohol; however, the relationship between extraversion and the use of drugs and alcohol is much less clear. Observed personality characteristics of drug addicts are not culturally

determined but can be observed in other cultures as well as in Europe. A Saudi Arabian group of drug addicts was tested by Abu-Arab and Hashem (1995), results showed the same high P (Psychoticism)-high N (Neuroticism) patterns observed in European subjects.

In a study that aimed to significantly differentiate between drug-dependent and non-dependent prisoners amongst 340 Icelandic prisoners who were serving sentences for various offences; several psychological tests were administered - the Eysenck Personality Questionnaire (EPQ), the Gough Socialisation Scale, and self-deception (SDQ) and other-deception (ODQ) questionnaires. The 43 (13%) drug-dependent subjects scored significantly higher on the EPQ - Psychoticism, Neuroticism, and Addiction Scales (Svikis, Gorenstein, Paluzzi & Fingerhood, 1998).

When the Millon Clinical Multiaxial Inventory (MCMI) was administered to 106 alcoholics and 100 addicts in separate inpatient rehabilitation treatment programs; the alcoholics scored higher on the personality style scales of Avoidant, Passive-Aggressive, Schizotypal, Borderline and Paranoid, while the opiate addicts scored higher on the Narcissistic personality disorder scale. Separate cluster analyses for both groups further revealed common personality styles among both groups (Craig, Verinis & Wexler, 1985).

Spotts and Shontz (1986) examined 45 carefully selected, non-institutionalized men in four matched groups of heavy, chronic drug users and a nonuser comparison group. A variety of instruments, all of which presumably measure the propensity to seek novel and varied sensations, were administered. Their study revealed that, among heavy, chronic users, drug preference and sensation seeking are related to extraversion and introversion.

The Minnesota Multiphasic Personality Inventory (MMPI) was administered to 210 adolescents whose drug use ranged from using only licit drugs to the injection of opiates. The personality traits of drug users differed significantly between groups and between sexes. For both sexes, drug users scored significantly higher than non-

users on a number of MMPI scales. For females, neuroticism (as measured by elevations on the hypochondriasis, depression and hysteria scales) was more important in predicting the use of licit drugs and cannabis, with psychopathic deviance and mania being more important in predicting other illicit drugs. For males, elevated psychopathic deviance and mania scale scores were strongly associated with extent of drug use (Lavelle, Hammersley & Forsyth, 1993).

Many researchers supported the idea of a "proneness" to addiction. In their study of "ghetto" adolescents, Chein and colleagues (1964) suggested that addicts were characterized by low self-esteem, learned incompetence, and negative outlook. While expressing reservations about the idea of an "addictive personality", Lang (1983) reported some similarities that generalize to abusers of drugs: low achievement orientation, failure to delay gratification, and heightened stress. In longitudinal research, Brook and colleagues (1986) found that the existence of personality risk factors in childhood (high anger, high depressive mood, and low achievement) affected the development of adolescent risk factors (high rebelliousness, high aggression, and poor emotion control), which were significantly associated with high drug use. In a longitudinal study of high school students, Shedler and Block's (1990) found that those who turned out to be frequent drug users were, as a group, interpersonally alienated, emotionally withdrawn, most unhappy, and least able to delay gratification. Bates (1993) review of the psychological alcohol literature found that many studies of youth have identified common personality characteristics and/or behavioural dispositions which consistently correlate with later alcohol problems. Among the most commonly found traits or constructs were unconventionality, low ego-control, sensation seeking, impulsivity, aggression, and inability to delay gratification.

Several studies have also successfully established a positive correlation between personality traits and the use of certain substances (Anderson, Tapert, Moadab, Crowley & Brown, 2007). Individuals with high Neuroticism with negative emotions and low Agreeableness, and those who are undisciplined and disorganized (low Conscientiousness) are more likely to use substance than those who have

opposite of these traits (Sutin, Evans & Zonderman, 2013).

In an attempt to study the role of individual differences in drug use, Terracciano and colleagues (2008) had compared the personality profile of tobacco, marijuana, cocaine, and heroin users and non-users using the wide spectrum Five-Factor Model (FFM) of personality in a diverse community sample. Data of the study included participants (N = 1,102; mean age = 57) were part of the Epidemiologic Catchment Area (ECA) program in Baltimore, MD, the USA who were from a wide range of socio-economic conditions. Personality traits were assessed with the Revised NEO Personality Inventory (NEO-PI-R), and psychoactive substance use was assessed with systematic interview. Results of the study indicated that compared to never smokers, current cigarette smokers scored lower on Conscientiousness and higher on Neuroticism. The profile of cocaine/ heroin users indicated very high score on Neuroticism, especially Vulnerability, high on Excitement seeking (which is also an act on impulsivity) and very low on Conscientiousness, particularly Competence, Achievement-Striving, and Deliberation. By contrast, marijuana users scored high on Openness to Experience, average on Neuroticism, but low on Agreeableness and Conscientiousness.

In a study done by Seyed (2016), the Big Five personality factors and identity styles was compared between Methamphetamine abuser women and non-user group. Results indicated that out of the Big Five personality factors, mean neuroticism in methamphetamine user women is significantly higher than in the non-user group. However, methamphetamine user women obtained significantly lower scores in the dimensions of openness to experience, conscientiousness, and agreeableness compared to non-user women. The finding concerning the positive correlation between the traits high Neuroticism, Low Agreeableness and low Conscientiousness in MA user are consistent with the results of several studies (Anderson et al., 2007; Grekin et al., 2006; Korner & Nordvik, 2007; Prisciandaro et al., 2011; Sutin et al., 2013; Terracciano et al., 2008). These personality characteristics somehow justify the individual's resort to unconventional methods such as drug use in the shape of self-medication (Loukas, Krull, Chassin & Carle, 2000). Lack of acceptable levels of

conscientiousness in these individuals doubles the necessity of applying methods to put emphasis on the “consequences of addiction”(although a very logical inference it is clear that many of this hypothesis have not proven effective- although from different schools of thinking and focusing on alcoholism and other drugs). Our results showed that MA user had no significant differences in Extraversion as compared to the non-user group. The finding was consistent with results of Satin and colleagues (2013), and Terraacciano and colleagues (2008) and inconsistent with results of Carter et al study (Norwegian study) (Carter et al., 2001; Sutin et al., 2013; Terracciano et al., 2008). Results in Norwegians study showed high Neuroticism, low Conscientiousness, low Extraversion and Low Agreeableness in opium users. In a Meta-analysis entitled “The relationship between the five-factor of personality and symptoms of psychiatric disorder”, Malouff indicated that there are a variety of clinical disorders directly associated with high Neuroticism, low Conscientiousness, Low Agreeableness and low Extraversion. Low extraversion is associated with symptoms of anxiety, mood disorders, and psychotic disorders (Malouff, Thorsteinsson & Schutte, 2005).

A total of 42 patients with heroin dependence, 37 patients with alcohol dependence and 83 subjects from a random population sample were entered in the multivariate analysis in an attempt to understand the personality profile and drug of choice. Both heroin and alcohol dependents showed more novelty-seeking, less self-directedness and more self-transcendence than the controls. (Le Bon et al., 2004).

In an attempt to study the personality profile of drug addicts, Lodhi and Thakur (1993) had administered the Revised Eysenck Personality Questionnaire (EPQ-R) on a sample of 58 male crude-heroin (‘brown sugar’) addicts and a comparison sample of 58 male non-addicts matched in terms of age, education and occupation. Results of the study suggested that the addicts scored high on the P (psychoticism) and N (neuroticism) scales and low on the E (extraversion) and L (lie) scales. The two groups differed on the P, E, and N scales even after treating the L scores as covariate. Furthermore, the results demonstrated the cross-cultural applicability of the Eysenckian theory in the area of the personality of drug addicts

and also provide evidence for the validity of the EPQ-R scales.

The five-factor model of personality was used to describe the personality profiles associated with maladaptive functioning by Anderson and colleagues (2007). Using the NEO-Five Factor Inventory (NEO-FFI), the profile of high neuroticism, low agreeableness and low conscientiousness among 243 youth (aged 13–18 years) with varying degrees of conduct disorder (CD) and substance use disorders (SUD) were examined. Comparisons of the NEO-FFI personality dimensions between CD/SUD youth and adolescent siblings (N = 173) and relations between the personality dimensions and behavioural indicators of conduct disorder and substance involvement were examined. Result of the study had indicated that youth with CD and SUD had greater neuroticism, lower agreeableness, and lower conscientiousness than siblings of a similar age. The result also suggested that the NEO-FFI scales predicted aggression and substance involvement for both probands and siblings in this cross-sectional investigation.

Dubey and colleagues (2010) had investigated the personality traits of substance abusers as compared with non-substance abusers by using the NEO-Five Factor Inventory. The sample consisted of substance abusers (N=100) along with non-substance abusers (N=100). In terms of Five-Factor model of Personality Taxonomy, result of the study revealed that substance abused group scored higher on Neuroticism and Extraversion dimensions, whereas non-substance abusers significantly scored higher on Openness and Conscientiousness dimensions of Big-Five. The result further suggested that there was no significant difference was on Agreeableness domain of personality.

Madhuri (2012) conducted a comparative study of the personality type of alcoholics and drug addicts and personality type of non-alcoholics and non-drug addicts. Data for the study were collected from various rehabilitation centres in Mumbai and Pune. Samples were restricted to only male and they were assessed with the Eysenck's Personality Questionnaire-Revised (EPQ-R). Results of the study showed that Psychoticism and Neuroticism were found to be significantly higher in alcoholics and drug addicts as compared to non-alcoholics and non-drug addicts.

Further, extraversion was found to be significantly lower in alcoholics and drug addicts as compared to non-alcoholics and non-drug addicts.

Bukhtawer and colleagues (2014) had attempted to investigate aimed at the relationship between personality traits and self-regulation among different drug abuse cases. The drug abuse cases were taken in three categories based on the different phases of addiction; namely current, relapse and remitted cases. A sample consisting of 108 drug abusers were taken from different rehabilitation centres of Rawalpindi and Islamabad. The selected drug abusers were at current ($n = 40$), relapsed ($n = 42$) and remission phase ($n = 27$) of drug addiction; with an age range of 20 to 70 years. The samples selected were assessed with Eysenck Personality Questionnaire-Revised EPQR-Short (Eysenck, Eysenck & Barrett, 1985) and Self Regulation Questionnaire (SRQ) developed by Miller and Brown (1991). Results of the study indicated that there is a strong correlation between self-regulation and personality traits ($r = 0.27^{**}$). It was also found that most of the participants scored higher on Psychoticism (100%), Introversion (75%) while Neuroticism (58%) trait was found less among drug abuse cases. Extraversion was found to be lower among drug abuse cases. The study also indicated strong correlation between self-regulation and Extraversion-Introversion personality trait ($r = 0.20^{**}$) while other traits did not have significant correlations with self-regulation.

In an attempt to investigate the difference between personality dimensions of Drug and Non-Drug Abusers of Kashmiri Youth Wani and Singh (2016) had conducted a study on a sample of 100 male respondents of which 50 were Drug Abusers and another 50 were Non-Drug Abusers. The samples were assessed using the Eysenck's Personality Questionnaire-Revised (EPQ-R). Results of the study revealed that the two groups differed significantly on the three dimensions of personality: Psychoticism, Extraversion and Neuroticism. It was found that Drug Abusers scored higher on all the three traits of personality as compared to Non-Drug Abusers and therefore it was implicated that personality traits influence drug abuse behaviour.

STATEMENT OF THE PROBLEM

In India, problems relating to substance abuse have seen an increasing rise over the past few years. Reports of drug abuse seem to be increasing, particularly among the poor and unemployed in both rural and urban areas and among affluent youth in urban areas influenced by Western drug use trends (United Nations Office on Drugs & Crime, 2005). In India, drug abuse historically has been presumed to be a problem of rural low caste, poor individuals who are isolated from the main society. Yet, in the 1980s, heroin use in the country spread from the most vulnerable sections of the urban population to semi-urban and rural areas (Ganguly, Sharma & Krishnamachari, 1995). Also, in the last decade, the media have reported extensively on the use of drugs by affluent educated youth. Ecstasy and cocaine use are reportedly popular in the Mumbai and New Delhi “party circuit” (U.S. Department of State, 2008). The increasing problem of drug abuse in Punjab, India has acquired the proportions of a pestilence that has shaken the entire society in the state. It is observed that in Punjab "drug abuse" is a raging epidemic, especially among the young.

A study carried out jointly by the United Nations Office on Drugs and Crime (UNODC) and the Indian Ministry of Social Justice (United Nations Office on Drugs & Crime, 2005) has found high rates of drug use in India. For example, the study concludes that the average prevalence of illicit opiate consumption is twice the global (and Asian) rate. At the same time, there is substantial variation from one region to another in the prevalence and type of drug use (Murthy, Manjunatha, Subodh, Chand & Benegal, 2010).

Benegal (2005) had argued that the current rise in drug use is a manifestation of a breakdown of social cohesiveness and the consequential deterioration in moral values. It has also been posited that drug addiction is intrinsically a problem of personal disorganization, in which the immediate environment of the individual plays a precipitating role (Government of India, 2004). India's production of licit and illicit opium, as well as the process of industrialization, has also been accountable for contributing to greater drug availability, despite governmental controls (United Nations Office on Drugs & Crime, 2005). As drug trends change, the risks affecting

individuals and families from diverse backgrounds become more complex and more difficult to identify. Similarly, the factors that protect from drug use and abuse risk vary with population groups and social context.

In India, primary contributing causes to drug use and related problems may differ significantly from one age-group, social class, or region to another. Individual factors that have been identified as risk factors in research on drug use and abuse in India include the following: age (Chaturvedi, Phukan & Mahantra, 2003), the male gender (Charles, Bewley-Tayla & Neidpath, 2005; Chaturvedi et al., 2003; Juyal et al., 2006), although drug use among females is increasing in India (Charles et al., 2005), genetic vulnerability (Prasant, Phani, Surendra & Basu, 2006), mental illness (Bagdi, 2004), and minority status (Subramanian, Smith & Subramanyam, 2006). Protective factors include education (Chaturvedi et al., 2003; Mookherjee & Chowdhury, 2005), knowledge and information about the effects of drugs (Samson, Singh & Barua, 2001; Sharma, Kapoor & Verma, 2006), and willingness to seek treatment (Joy, Mehta, Pal, Ray & Yadav, 2003; Kumar, 2004; Samson et al., 2001).

Indian research on microsystemic factors has pointed to the following as risk factors: intrapersonal stress (Bhattacharya, 1998; Patalano, 1998), family psychiatric history (Bagdi, 2004), parental drug use (Mookherjee & Chowdhury, 2005), family disorganization (Mookherjee & Chowdhury, 2005), unrealistic parental expectations about education and work (Bagdi, 2004), living away from family as an adolescent or young adult (Juyal et al., 2006), and peer influence (Chetna, Nandini, Rutna & Ingle, 2007; Kermode et al., 2009; Mookherjee & Chowdhury, 2005; Naskar, Roy & Battacharya, 2004; Seth, Kotwal & Ganguly, 2005). Although little research has been carried out on microsystemic resilience factors, parent education appears to be one protective factor (Mookherjee & Chowdhury, 2005). Research on exosystemic factors in India has resulted in the identification of the following risk factors: the presence of drug trafficking (Datta et al., 2006), proximity to illegal cultivation of drugs (Charles et al., 2005), the introduction of drugs through tourism (Ibid), accessibility/availability of drugs (Chetna et al., 2007; Naskar et al., 2004), community or neighborhood stress (Bagdi, 2004; Suchday, Suman, Ewart &

Friedberg, 2006), and unemployment (Lone, Wani, Ashai, Paray & Abbas, 2006). Protective factors include accessibility/availability of programs aimed at prevention (D'Costa et al., 2007; Kumar, Mudaliar & Daniels, 1998; Reddy et al., 2002) or treatment (Bhattacharya, 1998; Dhand, 2006; Chandrasekaran, Krupp, Ruja, & Madhivanan, 2007; Mohan & Sharma, 1985; Schensul et al., 2004; Seth et al., 2005; Waraich, Chavan, & Lok, 2003), and educational opportunities (Bagdi, 2004). Region of the country (Chaturvedi et al., 2003), location (urban vs. rural; Juyal et al., 2006), ethnic group (Chaturvedi & Mahantra, 2004; Chaturvedi et al., 2003), and religion (Charles et al., 2005) are all complex in their effects on drug use and related problems. Each region, location, ethnic group, and religion has its own risk and resilience factors at all ecological levels, and these factors often differ for different types of drugs. Urban risk factors include the availability of a wider variety of drugs and less adherence to traditional patterns of drug use or nonuse, while rural risk factors often include the local cultivation of plants used for drugs or the culturally accepted use of drugs in religious ceremonies (Charles et al., 2005). Macrosystemic risk factors that have been identified in research on India include the following: Bollywood and Western media influences (Rampal, 2001), cultural values about childrearing that place great emphasis on educational and occupational success (Bagdi, 2004), migration (Seth et al., 2005), and cultural acceptance of drug use (Chaturvedi et al., 2003; Ganguly et al., 1995; Gureje, Mavreas, Vazquez-Barquero & Janca, 1997). Protective factors that have been identified include the following: the availability of information about drug use/abuse and secondary effects in education or the media (Seth et al., 2005) and policies and legal restrictions (Charles et al., 2005) that discourage drug use.

India is an extremely diverse country with substantial socioeconomic, cultural, and regional variation in risk and resilience factors related to substance use and abuse. A conceptual framework that includes a differentiated perspective on individual and contextual factors that increase or decrease the likelihood that drugs will be a problem for individuals or communities is essential. As India continues to define itself as a model of global change and growth, its researcher community

stands to benefit from embracing a progressive stance with regard to theory (Maring, Malik & Wallen, 2012).

In a study done by Sharma and colleagues (2017) amongst 400 adolescents and young adults (11-35 years) from 15 villages of Jalandhar District, in Punjab, India; the prevalence of substance abuse among study group was 65.5% and most common substance abused was alcohol (41.8%), followed by tobacco (21.3%). A high prevalence of heroin abusers was noted among study subjects (20.8%). The prevalence of non-alcohol and non-tobacco substance abuse was 34.8%. It was also observed that there is a significant association of drug abuse with male gender, illiteracy, and age above 30 years (Sharma et al, 2017).

A published meta-analysis on the number of females who inject drugs (FWID) showed that of people who inject drugs, around 21.5 % are women, which would correspond to approximately 3.5 million FWID globally (Des Jarlais et al., 2012; Des et al., 2012). Women who use drugs are highly stigmatised and suffer from multiple risks related to drug use, unsafe sex and violence (Azim et al., 2015). In Yunnan, China, Zhang et al. highlight the special needs of young women who often sell sex to support their Amphetamine Type Stimulants (ATS) use and the risky sexual practices associated with ATS alongside a lack of knowledge and understanding of those risks and access to services (Zhang et al., 2015). Similarly, Morrow et al. reveal the vulnerabilities of women who use drugs in Hanoi and Ho Chi Min City both in terms of their individual behaviours (unsafe injecting and unsafe sex) as well as high levels of stigma (Morrow et al., 2015). The study from Cambodia by Dixon and colleagues (2015) on female entertainment sex workers (FESW) presents a different dimension of women's vulnerabilities associated with ATS use, where ATS is used for occupational performance—to stay awake longer and to work more hours, enabling FESW to see more clients and also in some cases to be “happy” and to forget about their problems (Dixon et al., 2015). Present harm reduction services are geared towards individual behaviour change but fail to recognise these structural issues that make it difficult for individuals to adopt safer behaviours, such as condom negotiation when both FESW and their clients are using

ATS. The role of familial instability as a gateway to drug use is presented in the qualitative study from Malaysia by Rahman et al. on a small group of women who mainly smoke heroin or ATS; with a lack of appropriate services and interventions, these women were condemned to recreate the unstable backgrounds from which they came (Rahman et al., 2015).

Mizoram has experienced and witnessed the drug dependency problem, especially among the youth. The variety of drugs, their number and their users have been constantly increasing. The effects of drug addiction have also given rise to other problems such as physical ill-health, psychological problems, increased vulnerability to diseases such as Hepatitis, STDs, HIV/AIDS etc. and even death. In Mizoram, death related to drug addiction (heroin) was first reported in 1984 and it has been increasing over the years, and the statistics rose sharply during the 1990s and early 2000s. According to rough statistical data gathered from Excise and Narcotics Department of Mizoram, the most widely used drugs are Parvonspas (dextropropoxyphene), heroin, inhalants and cough syrup (codeine). There is a decline in the death-rate from 2005. This could be the result of the action taken by the society, particularly, the Young Mizo Association (YMA), in the form of the Supply Reduction Service (SRS); where the drive to fight against substances (alcohol and drugs) has been taken in full force.

The number of incidents of drug abuse amongst school children is on the rise in comparison to previous years. More and more teenagers seem to be addicted to alcohol, tobacco, cannabis, heroin, inhalants and injectable substances. A 2012 survey by the Health and Family Welfare Ministry statistics of boys aged between 15-19, shows that a shocking 28.6% reported tobacco use and 15 % were addicted to alcohol and injectable drugs also seem to be popular amongst children, with 88.6% children from Mizoram, followed by Meghalaya and Rajasthan at 25%. In Maharashtra, this number stands at 23.5%, in Punjab at 13%, in Arunachal Pradesh, Manipur and Madhya Pradesh at 11%. In other states, the usage stood below 7% (www.dnaindia.com). Majority of drug users are in the adolescent age group, are

multiple substance users and they are mostly concentrated in the urban areas (MSD & RB, 2015).

In India, an estimated number of 177,000 adults are injection drug users (IDUs), defined as those with ever use of injecting drugs in their lifetime (National AIDS Control Organization. HIV Sentinel Surveillance 2010-2011: A Technical Brief, Ministry of Health and Family Welfare, Government of India, New Delhi, India; 2012.2). The onset of IDU typically occurs in adulthood after 20 years of age, with a gradual progression from licit, gateway drugs in early adolescence to illicit substances later on in course. The data from the National Household Survey (Ray, 1998), the only available nationwide survey for the extent and pattern of substance use in India, suggest that about 0.1% of the male population (aged 12–60 years) reported ever injecting any illicit drug.

According to Dhawan and colleagues (2016), most IDUs were aged around 20 years of age and had used another substance prior to starting to inject. A large proportion of ever users of IDU also reported use in the past year (96.5%) and past month (92.7%). Apart from IDU, tobacco, alcohol, cannabis, and pharmaceutical opioids were the most common substances of abuse in order of frequency. There was an interval of about 3 years from the initiation of tobacco to the initiation of IDU. The average age of onset for IDU was a year lesser in males than female users. The street children initiated IDU earlier than out-of-school and school-going children. No quit attempt was made by more than half of the children. More than 40% had frequent familial conflicts, more than half had a familial history of substance use, and three-fourths had drug-using peers.

In a study of substance use pattern of 509 children and adolescents IDUs, taken from a total sample of over 4000 children using substances across 100 sites from 27 states and 2 UTs in India; it was found that Mizoram was the worst-hit site with an alarming rate of 89.4 % IDUs. Apart from IDU, tobacco, alcohol, cannabis, and pharmaceutical opioids were the most common substances of abuse in order of frequency. More than 40% had frequent familial conflicts, more than half had a familial history of substance use, and three-fourths had drug-using peers. The paper

highlights the profile and pattern of children and adolescents using IDU across many parts of India, dispelling the myth that IDU is largely an adult phenomenon in India. There is a clear need to promote different harm reduction and preventive strategies across the “hard-to-reach” younger age groups using injecting drugs (Dhawan et al, 2016).

Drug abuse in Mizoram is widespread across all districts with the highest concentration in Aizawl. Majority of people who use drugs are male but females and transgender are also at risk. Youths mostly in their reproductive age are the most affected but initiation into various drugs –both licit and illicit are predominantly occurring during their teens. The nature of drugs used and their mode of administration varies from one district to another- opioids i.e. heroin, dextropropoxyphene and sedatives are the main choice of abused drugs. Female drug users, though numerically small, is slowly rising to a greater proportion of drug dependence and are of lesser proportions receiving treatment when compared to their male counterparts. Majority of drug users have reported initiation into various drugs below the age of 18 years (Mukherjee et al., 2017). Mizoram shares international border with Bangladesh and Myanmar and drugs often flow freely in and through along with people and goods. People in Mizoram have been known traditionally to use betel nut, tobacco, cannabis and country liquor. Heroin was introduced to Mizoram in the early seventies. In the eighties use of drugs through the injecting route attained epidemic proportions. Along with injecting of drugs came the sharing of needles and syringes bringing about the dual epidemic of drug use and HIV, affecting the youths and those from the reproductive age’s groups more than others. Attempts at curbing availability of heroin and its non-affordability among people who use it saw an increase in injecting prescription drugs such as dextropropoxyphene (proxivon/parvon-spas etc). This resulted in abscesses, non-healing ulcers and at times amputations. Recent evidence indicates an increasing trend in use of Amphetamine Type Stimulants-particularly in the bordering areas and Aizawl.

While research has now provided us with figures for national-level

prevalence, it would be prudent to recognize that there are regional differences in substance use prevalence and patterns as well as the dynamic nature of substance use. Substance use is associated with significant mortality and morbidity. Substance use among women and children is increasingly becoming the focus of attention and merits further research. Pharmaceutical drug abuse and inhalant use are serious concerns. For illicit drug use, rapid assessment surveys have provided insights into patterns and required responses. Drug-related emergencies have not been adequately studied in the Indian context (Murthy et al., 2010)

The increasing population of drug-dependent persons is a source of ongoing concern and has generated the same problem faced by other places, both within and outside India; such as problems in the family, the community and or society. In the context of Mizoram, the dependency problem on drugs has been a debatable issue both in terms of the reason for its usage, relapse and the treatment resources. Studies' relating to drug dependency problem in Mizoram is minimal at present. Therefore, the present study will try to bring out the social and psychological correlates of drug dependency among Mizo youth to form basis for more in-depth and or extended studies on drug dependency.

Objectives:

Given the theoretical and methodological foundations pertaining to drug dependency as explanations, the present study has been designed with the following objectives:

- (i) To study the level of depression, social support, personality and pattern of the family environment in drug-dependents as compared to non-dependents as well as female and male samples.
- (ii) To highlight the relationship between dependent variables – depression, personality, social support and family environment;
- (iii) To elucidate the independent 'drug' effect on depression, personality, social support, and family environment;

- (iv) To elucidate the independent 'gender' effect on depression, personality, social support, and family environment;
- (v) To study the interaction effects of 'drug and gender' on depression, personality, social support, and family environment;
- (vi) To study the predictability of drug addiction from the level of depression, social support, family environment, personality, and demographic variables over the levels of analyses.

Hypothesis:

Based on the objectives of the study, the following hypotheses were framed for the present study. It was hypothesized that:

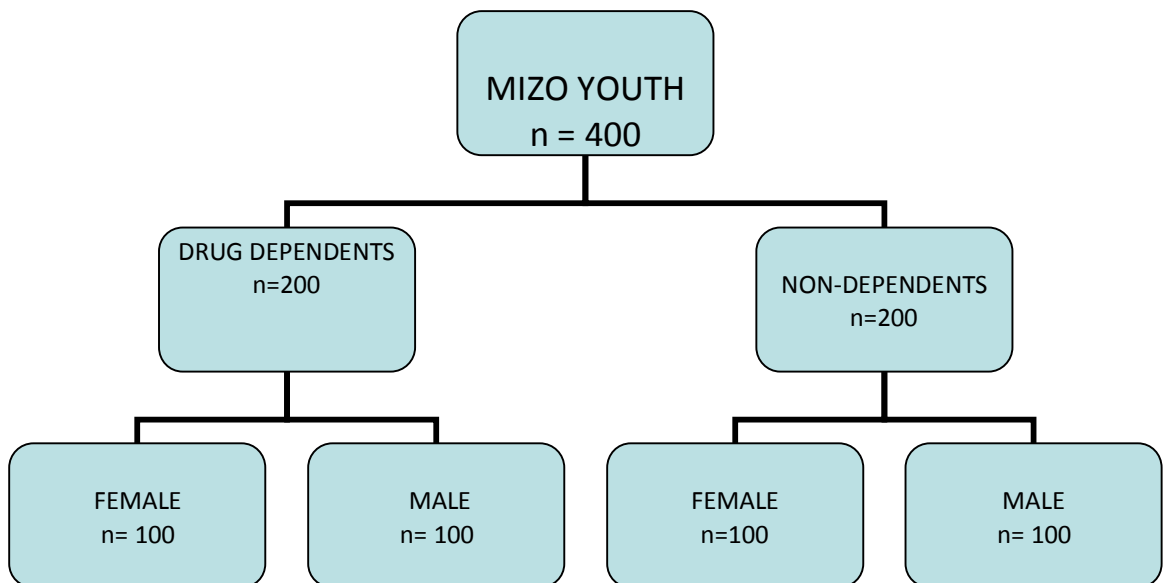
- (i) there will be a difference in the level of depression, personality, social support, family environment among the comparison groups.
- (ii) there will be a significant relationship between dependent variables – depression, personality, social support and family environment.
- (iii) It was expected that there will be an independent effect of 'drug' on depression, personality, social support and family environment.
- (iv) It was also expected that there will be an independent effect of 'gender' on depression, personality, perceived social support, and family environment.
- (v) It was assumed that the interaction effects of 'drug and gender' on depression, personality, social support, and family environment.
- (vi) It was expected that the predictability of drug addiction will be seen from the level of depression, social support, family environment, personality and demographic variables over the levels of analyses.

Sample - The sample consisted of 400 Mizo youths which comprise of 200 drug dependents (100 males and 100 females) and 200 non-dependence (100 males and 100 females), from the age group of 18 years to 30 years (NYP, 2003) to represent Mizo youth. The samples were selected by using multi-stage random sampling procedure at Aizawl, so as to have a good representation of Mizoram. The drug-dependent samples were selected from the lists maintained by hospitals and various non-government organizations (NGOs) from Aizawl city; the non-drug dependents were collected from the same population with as well-matched of the drug-dependent samples with the help of demographic profiles constructed by the researcher. The ICD-10 diagnostic criteria for psychoactive substance use were used to diagnose the drug-dependents, and General Health Questionnaire was used to screen their health conditions to pinpoint their current status. The socio-demographic profile was framed for cross-checking of the sample inclusion criteria, and also to discern socio-demographic variables factor which could contribute to drug dependence as qualitative study. The demographic profile includes - age, sex, family size, occupation, educational qualification, marital history, area of domicile, sibling size and position, family type, crime history, and drug-taking history (first drug use, age of first use, frequency, introduced by whom, route of use, type of drug used and currently used, treatment sought, whether currently under treatment or not including OST, treatment found most useful, test of hepatitis and STIs with HIV/AIDS). All these were recorded with the objectives of obtaining a truly representative sample for the study.

Design of the Study – The design incorporates a 2 x 2 factorial design {2 drug dependence (drug dependence and non-drug dependence youth) and 2 gender (male and female)} of Mizo Youth (who were representing different parts of Mizoram), four cells of comparison groups (female drug dependence, male drug dependence, female non- drug dependence, and male non-drug dependence youth) as it aims to elucidate the differences between the comparison groups on the selected psychological measures of depression, social support, family environment, and personality.

Keeping in view of the objectives of the study, the methodological refinements were aimed in a step-wise manner. The design may be represented in the diagram as follows:

Figure 1: Showing 2 x 2 factorial design of the present study



Test materials used: To meet the objectives of the present study, the following psychological measures were incorporated: (i) ICD-10 Diagnostic Criteria for Psychoactive Substance Abuse (WHO,2010); (ii) General Health Questionnaire (GHQ; Goldberg (1972); (iii) Beck’s Depression Inventory (BDI; Beck,A. et al, 1961); (iv) Eysenck’s Personality Questionnaire-Revised (EPQ-R; Eysenck, H.J. & Eysenck, S.B.G, 1980); (v) Social Support Questionnaire (SSQ; Sarason, et al, 1983); (vi) Family Environment Scale (FES; Moos, R.H., & Moos, B.S, 1974). The test instruments are described below to make lucid the behaviour components that are aimed to be investigated.

1. International Statistical Classification of Diseases and Related Health Problems-10 (ICD-10; WHO, 2010) Diagnostic Criteria for Psychoactive Substance Abuse-Dependence Syndrome.

ICD-10 classification given by World Health Organization (WHO), has given diagnostic criteria for substance dependence syndrome which includes strong desire or sense of compulsion to take the substance, impaired capacity to control substance-taking behaviour, physiological withdrawal state, tolerance effects, preoccupation with substance use and persistent substance use despite clear evidence of harmful consequences.

2. General Health Questionnaire (Goldberg, D., 1972)

The General Health Questionnaire (GHQ) constructed by Goldberg (1972) is a self-administered screening tool with 12 items aimed at detecting those individuals with a diagnosable psychiatric disorder. It is concerned with two major classes of phenomena; inability to carry out one's normal healthy functioning and the appearance of new phenomena of a distressing nature. There are four alternatives for each item, arranged in a continuum ranging from excellent health to very poor health. The alternatives are better than usual, same, worse and less than usual, much less than usual.

The GHQ has been standardized in the Indian setting (Sriram et al., 1989). The test is simple, easy to administer and its reliability and validity have been established. The version which is to be used in the present study consist of 12 items enquiring 'how the individual has been in general, over the past few weeks.

3. Beck's Depression Inventory (Beck, A. et al, 1961)

The Beck Depression Inventory (BDI), constructed by Beck and colleagues (1961), is a 21-item test presented in a multiple-choice format which purports to measure presence and degree of depression in adolescents and adults. Each of the 21-items of the BDI attempts to assess a specific symptom or attitude "which appears to be specific to depressed patients and which are consistent with descriptions of the depression contained in the psychiatric literature."

Each category purports to describe a specific behavioural manifestation of depression and consists of a graded series of four self-evaluative statements. The

statements are rank-ordered and weighted to reflect the range of severity of the symptom from neutral to maximum severity. Numerical values of zero, one, two, or three are assigned each statement to indicate degree of severity.

BDI is a widely used test and it has been found high reliability. Internal consistency for the BDI ranges from .73 to .92 with a mean of .86 (Beck, A. et al., 1988). The BDI also demonstrates high internal consistency with alpha coefficients of .86 and .81 for psychiatric and non-psychiatric populations, respectively (Beck, A. et al., 1988).

4. Eysenck's Personality Questionnaire-Revised (Eysenck, H.J. & Eysenck, S.B.G., 1980)

Eysenck's Personality Questionnaire-Revised (EPQ-R) constructed by Eysenck and Eysenck is a self-administered test designed to give the rough and ready measure of three important personality dimensions: Psychoticism, Extraversion, and Neuroticism. Each of these traits is measured by means of 90 questions, which have been carefully selected after lengthy item analysis and factor analysis. This test also contains Lie scale, designed to assess a socially desirable response. A dichotomous response format is used with respondents ticking 'Yes' or 'No'.

5. Social Support Questionnaire (Sarason et al., 1983).

The Social Support Questionnaire (SSQ) is constructed by Sarason, Levine, Basham and Sarason (1983) and consists of 27 items. It has been factor analytically derived from a large body of items intended to measure the functions of a social network. For each question two-part answer is requested. The two basic elements studied by this scale are:

- i) Number of available others to whom individual believe they can turn to in times of need (SSQN) and

- ii) The degree of satisfaction they anticipate from the support they see as available on a 6-point scale (SSQS) ranging from Very satisfied (1) to Very Dissatisfied (6).

The present study obtained scores in terms of both:

- (1) the number score (N) as well as the
- (2) satisfaction score (S)

6. Family Environment Scale (Moos & Moos, 1974)

The Family Environment Scale (FES) constructed by Moos and Moos (1974) is a self-report, 90 items, true or false questionnaire. It is designed to measure the social-environmental characteristics of all types of families. It is composed of 10 subscales that measure the actual, preferred and expected social environment of families. These 10 subscales assess three underlying sets of dimensions: relationship dimensions, personal growth (or goal orientation) dimensions and systems maintenance dimensions. The relationship and system maintenance dimensions primarily reflect internal family functioning, whereas the personal growth dimensions primarily reflect the linkages between the family and the larger social context. Scores for each of these 10 subscales are derived to create an overall profile of the family environment. Based on these scores, families are then grouped into one of three family environment typologies based on their most salient characteristics.

The Family Environment Scale (FES) was developed to measure social and environmental characteristics of families. The scale is based on a three-dimensional conceptualization of families. Additionally, three separate forms of the FES are available that correspondingly measure different aspects of these dimensions. The Real Form (Form R) measures people's perceptions of their actual family environments, the Ideal-Form (Form I) rewords items to assess individuals' perceptions of their ideal family environment, and the Expectations Form (Form E) instructs respondents to indicate what they expect a family environment will be like under, for example, anticipated family changes.

Internal consistency reliability estimates for the Form R subscales range from .61 to .78. Intercorrelations among these 10 subscales range from -.53 to .45. These data suggest that the scales are measuring relatively distinct characteristics of the family environment and with reasonable consistency. Test-retest reliabilities for the Form R subscales for 2-month, 3-month and 12-month intervals range from .52 to .91. These estimates suggest that the scale is reasonably stable across these time intervals. The face and content validity of the instrument is supported by clear statements about family situations that relate to subscale domains. Evidence of construct validity is presented in the manual through comparative descriptions of distressed and normal family samples; comparisons of parent responses with those of their adolescent children; descriptions of responses by families with two to six or more members; and descriptions of families with a single parent, of minority families, and of older families. The present study had used the Real Form of the FES.

Procedures:

In the first phase, for the drug-dependent group, permission was taken from the concerned authority (i.e., the NGOs with targeted population of drug dependents as well as hospitals). After being granted the permission, the identified samples were approached. The purpose of the interview was highlighted with the assurance of confidentiality so as to minimize the influence of socially desirable response. Consent was taken from each sample, after establishing rapport, the psychological tests were conducted. Each session with the samples lasted for approximately one and half hour or more. For the normal population, the same procedure of consent, assurance of confidentiality, and establishing rapport were followed before the questionnaires were provided. The questionnaires included: (1) Socio-demographic profile which includes information like age, sex, family size, occupation, educational qualification, marital history, area of domicile, sibling size and position, family type, crime history, and drug-taking history (first drug use, age of first use, frequency, introduced by whom, route of use, type of drug used and currently used, treatment sought, whether currently under treatment or not including OST, treatment found most useful, test of hepatitis and STIs with HIV/AIDS); (2) General Health

Questionnaire; (3) Beck's Depression Inventory; (4) Social Support Questionnaire; (5) Family Environment Scale and (6) Eysenck's Personality Questionnaire-Revised.

After all the questionnaires for both, all the comparison groups were collected, analysis of the data was initiated.

The data collected were analyzed in a stepwise manner. First of all, the sample characteristics of the present study were displayed for a better understanding of the context through the samples. Secondly, psychometric adequacy of the psychological tests was done to confirm the worthiness of the selected scales for the target population by employing Levene's statistics and Brown-Forsythe was done to see the reliability of the psychological tests. Thirdly, descriptive statistics were computed including the mean, standard deviation, standard error of mean, Kurtosis and Skewness on the measures of (i) General Health Questionnaire, (ii) Beck's Depression Inventory, (iii) Social Support Questionnaire, (iv) Family Environment Scale, and (v) Eysenck's Personality Questionnaire-Revised. Fourthly, Pearson Correlation was computed to show the relation of the whole sample on the behavioural measures of General Health, Depression, Social Support, Family Environment and Personality. Fifthly, 2 x 2 ANOVA with Post-hoc multiple mean comparisons was employed to illustrate the independent and interaction effect of the independent and variables on selected dependent variables for the whole sample. Sixthly, Logistic Regression was computed to show the prediction of drugs on the scale and subscales of social support, personality, general health, depression, personality, social support and family environment among the samples.

The results of the present study was represented in stepwise that; (i) Sample characteristics (distribution of samples); (ii) Psychometric Adequacy (checking the test scales for the target population); (iii) Descriptive statistics (checking parametric assumptions); (iv) Correlations (relationship between dependent variables); (v) Analysis of variance (independent and interaction effect of independent variables on dependent variables); (vi) Post hoc Means Comparision (comparision between four comparision groups); (vii) Regression Analysis (prediction of drug dependence by dependent variables)

(i) **Sample characteristics:** The sample characteristic of the present study was presented and displayed in the figures – 2 - 23. The result (Figure- 2) portrays the mean distribution of age of the whole sample wherein age 22 years is shown to have the highest frequency. The result (Figure – 3a) depicted the mean distribution of the level of education of the whole sample where 34.4 % studied till higher secondary school, 22.6% have studied till matriculation, 20.0% are graduate, 12.4% studied till high school, 6.8% are post-graduate, 3.2% studied till middle school, and 0.3% have studied till primary school as well as above post-graduation. The result (Figure – 3b) depicted the mean distribution of the level of education of the drug-dependent group that 35.3% have studied till higher secondary school, 22.9% are matriculate, 21.8% are high school graduate, 11.8% are graduates, 6.5% studied till middle school and 1.2% are postgraduate and 0.6 have studied till primary school. The result (Figure – 3c) depicted the mean distribution of the level of education of the non-drug-dependent group that 45.9% studied till higher secondary school, 28.2% are graduate, 12.4% are postgraduate, 10% are matriculated, 2.9% have studied till high school and 0.6% are postgraduate. The result (Figure – 4a) showed the distribution of occupation for the whole group where 65% are unemployed, 14% are employed in organized sector, 13% are employed in unorganized sector, and 9% are self-employed. The result (Figure – 4b) showed the distribution of occupation for the drug-dependent group that 63.5% are unemployed, 13.5% are employed in

unorganized sector, 12.4% are self-employed and 10.6% are employed in organized sector. The result (Figure – 4c) showed the distribution of occupation for the non-drug-dependent group that 65.9% are unemployed, 18.2% are employed in organized sector, 9.4% are employed in unorganized sector and 6.5 are self-employed. The result (Figure – 5) depicted the mean distribution of the father's occupation of the whole sample wherein 66.5% are employed, 22.4% have been deceased, 7.4% are pensioner and 3.5% are unemployed. The result (Figure – 6) depicted the mean distribution of the mother's occupation of the whole sample where 51.5% are unemployed, 37.4% are employed, 8.8% have been deceased and 2.4% are pensioners. The result (Figure – 7a) showed the mean distribution of family background of the whole sample where 78.8% are from intact family and 20.9 % are from broken family. The result (Figure – 7b) showed the mean distribution of family background of the drug-dependent group that 67.7% are from intact family and 31.8% are from broken family. The result (Figure – 7c) showed the mean distribution of family background of the non-drug-dependent group that 90.0% are from intact family and 10.0% are from broken family. The result (Figure-8) showed the mean distribution of family status of the whole sample where 55.9% are from nuclear family and 44.1% are from joint family. The result (Figure – 9a) portrayed the mean distribution of the marital status of the whole sample that 59.7% are unmarried, 22.1% are married, 16.5% have been divorced and 1.8% are widow/widower. The result (Figure – 9b) portrayed the mean distribution of the marital status of the drug-dependent group where 35.9% are unmarried, 31.2 % are divorced, 30.0% are married, and 2.9% are widow/widower. The result (Figure – 9c) portrayed the mean distribution of the marital status of the non-drug-dependent group where 83.5% are unmarried, 14.1% are married, 1.8% are divorced and 0.6% are widow/widower. The result (Figure – 10a) showed the mean distribution of remarriage of the whole sample that 80.9% have never remarried, 7.6% have remarried once, 6.8% have remarried twice and 4.7% have been remarried more than twice. The

result (Figure – 10b) showed the mean distribution of remarriage of the drug-dependent group that 63.5% have never remarried, 14.1% have been remarried once, 12.9% have been remarried twice and 9.4% have been remarried more than twice. The result (Figure – 10c) showed the mean distribution of remarriage of the non-drug-dependent group that 98.2% have never remarried, 1.2 % have been remarried once and 0.6% have been remarried twice. The result (Figure – 11a) showed the socioeconomic status of the whole sample that 94.7% are above poverty line and 5.3% are below poverty line. The result (Figure – 11b) showed the socioeconomic status of the drug-dependent group that 90.0% are from above poverty line and 10.0% are from below poverty line. The result (Figure – 11c) showed the socioeconomic status of the non-drug-dependent group that 99.4% are from above poverty line and 0.6% are from below poverty line. The result (Figure – 12a) portrayed the mean distribution of birth position of the whole sample wherein 37.4% is the middle child, 33.5% are the eldest, 21.5% are the youngest and 7.6% is the only child. The result (Figure – 12b) portrayed the mean distribution of birth position of the drug-dependent group where 36.5% is the eldest, 33.5% is the middle born, 20.0% are the youngest and 10.0% is the only child. The result (Figure – 12c) portrayed the mean distribution of birth position of the non-drug-dependent group where 41.2% is the middle born, 30.6% are the eldest, 22.9% are the youngest and 5.3% are the only child. The result (Figure -13) depicted the mean distribution of the area of domicile of the whole sample and that 97.0% are from the urban area and 3.0% are from the rural area. The result (Figure – 14) showed the mean distribution of crime history of the drug-dependent group that 64.1% have never been arrested, 60% had altercations with the police, 43.5% had altercations with the YMA (Young Mizo Association), 15.9% had altercations with the JAC (Joint Action Committee) and 7.1% have had altercations with organizations not listed. The result (Figure -15) showed the mean distribution of age of first substance used of the drug-dependent group wherein age 14 years has the highest percentage (26.0%) closely

followed by age 16 and 17 years with 22.0% each. The youngest age was found to be 8 years old and the oldest was 30 years old. The result (Figure – 16) showed the mean distribution of type of substance first used of the drug-dependent group that 70.6% had used tobacco, 49.4% had used alcohol, 18.8% had used codeine, 17.6% had used tablets (prescription drugs), 15.3% had used inhalants, 9.4% had used opioids (proxy on/parvon), 8.2% had used cannabis, and 4.7% had used heroin. The result (Figure -17) portrayed the mean distribution of substance being introduced by where 66.5% had been introduced to drugs by their friends, 26.5% did it on their own will, 5.3% had been introduced to drugs by their family members and 1.8% had been introduced to drugs by their siblings. The result (Figure – 18) had shown the mean distribution of type of substance currently used that 91.8% are using heroin, 56.5% are using tobacco, 47.6% are using alcohol, 36.5% are using tablets, 7.6% are using opioids, 5.3% are using codeine, and 4.7% are using cannabis. The result indicates that the samples studied are poly-substance users. The result (Figure – 19) showed the mean distribution of route of drug use that 92.9% are IDUs (Intravenous drug users), 80% used it orally, 2.9% chased drugs and 1.8% has answered as others. The result (Figure – 20) depicted the mean distribution of treatment sought for substance abuse where 77.6% have sought religious therapy, 65.9% have gone for rehabilitation, 51.8% have sought OST (Oral substitution therapy), 43.5% have sought psychiatric help, 33.5% have gone to hospitals, 20.0% have sought group therapy, 2.4% have mentioned other forms of treatment and 0.6% have never sought any form of treatment for substance abuse. The result indicates that the sample studied have sought various forms of treatment. The result (Figure -21) showed the mean distribution of treatment found most helpful by the drug-dependent group that 28.2% did not find any type of treatment as helpful, 25.9% found OST to be helpful, 21.2% found rehabilitation to be helpful, 10.6% found hospital treatment as helpful, 9.4% found religious therapy as helpful, 7.6% found psychiatric treatment as helpful, and 2.4% don't know which of the

treatment to be helpful. The result (Figure – 22) depicted the mean distribution of the status of diseases of the drug-dependent group where 53.5% of the sample are negative, 38.8% are found to be HIV+, 7.6% have hepatitis C, and 0.6% have hepatitis B. The result (Figure – 23) portrayed the mean distribution of those who are currently under treatment that 61% are under treatment and 39% are not.

Figure – 2: Showing distribution of the age of the whole sample.

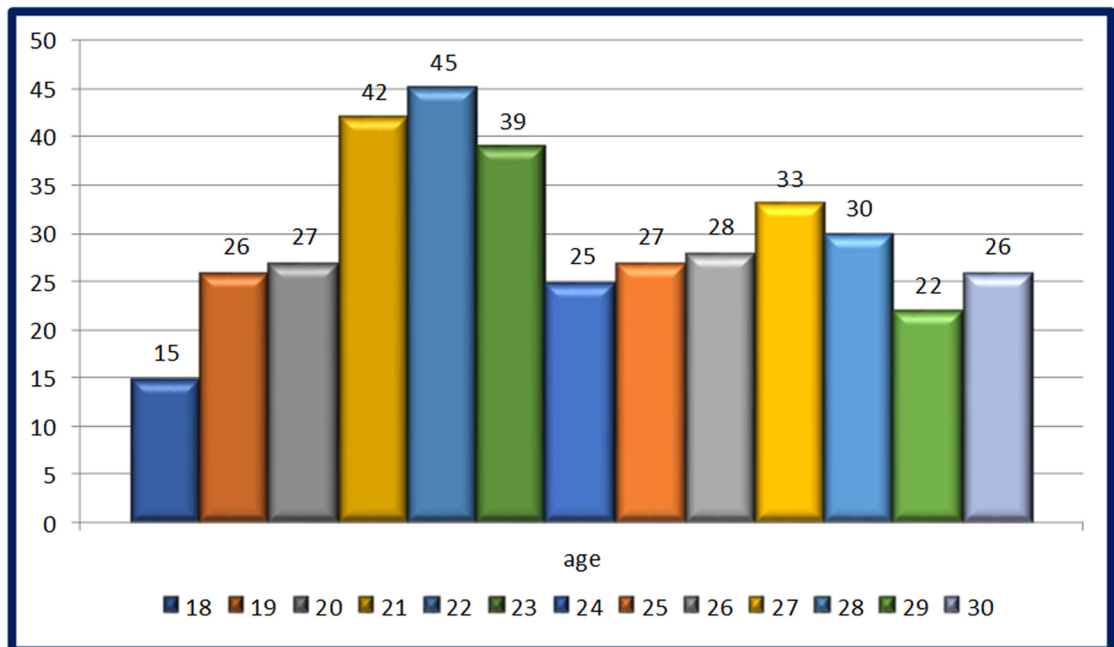


Figure – 3a: Showing mean distribution of the level of education of the whole sample

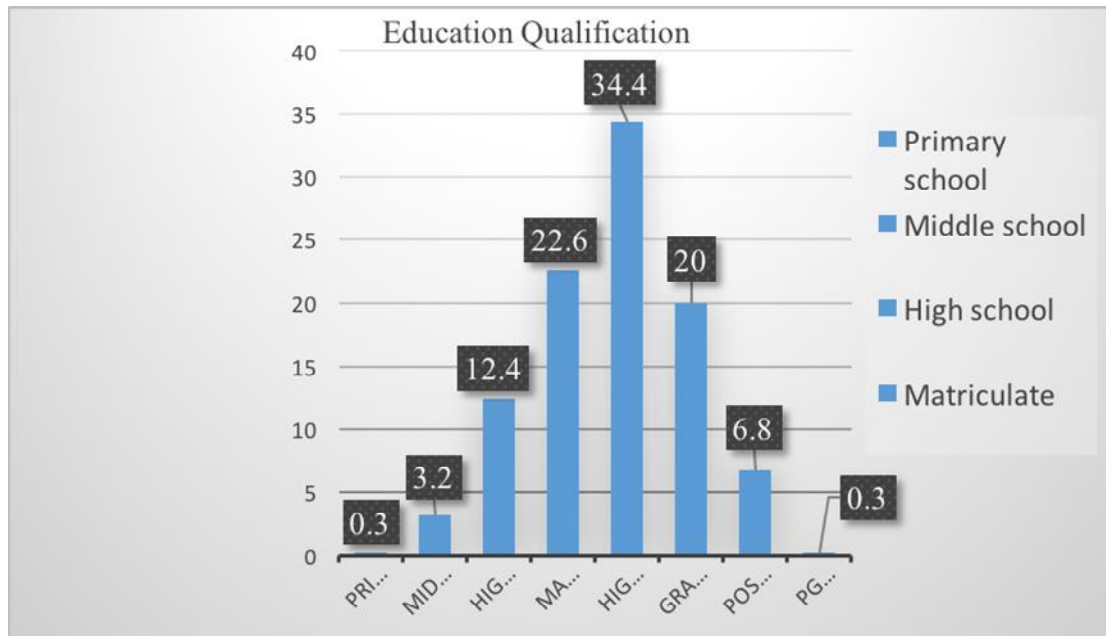


Figure – 3b: Showing mean distribution of the level of education of the Drug-dependent group

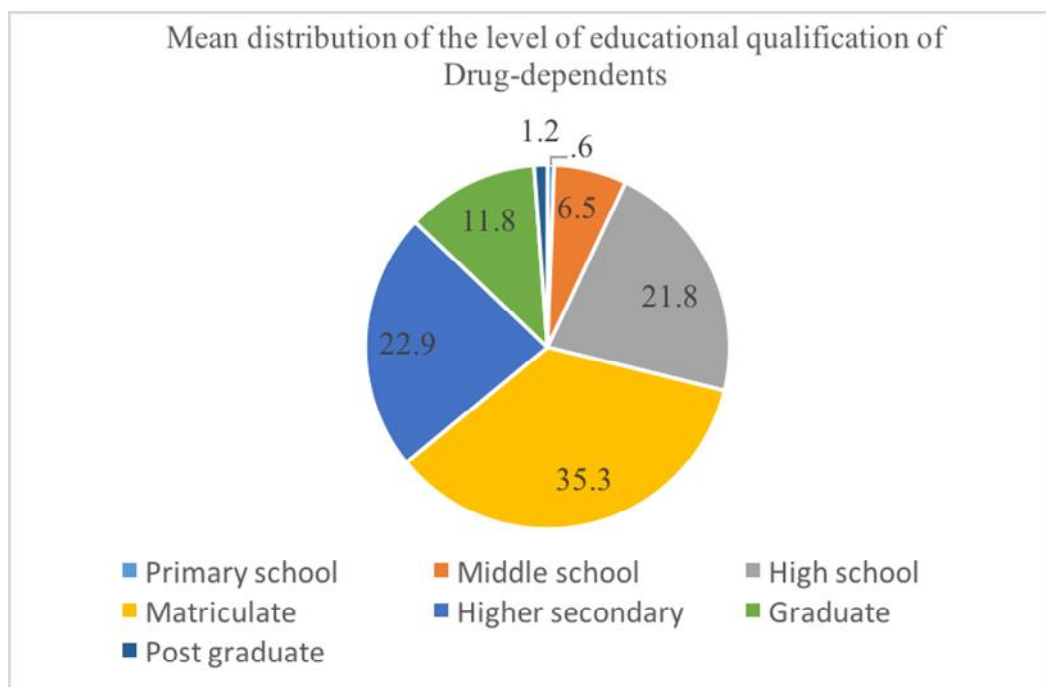


Figure – 3c: Showing mean distribution of the level of education of the Non-drug-dependent group

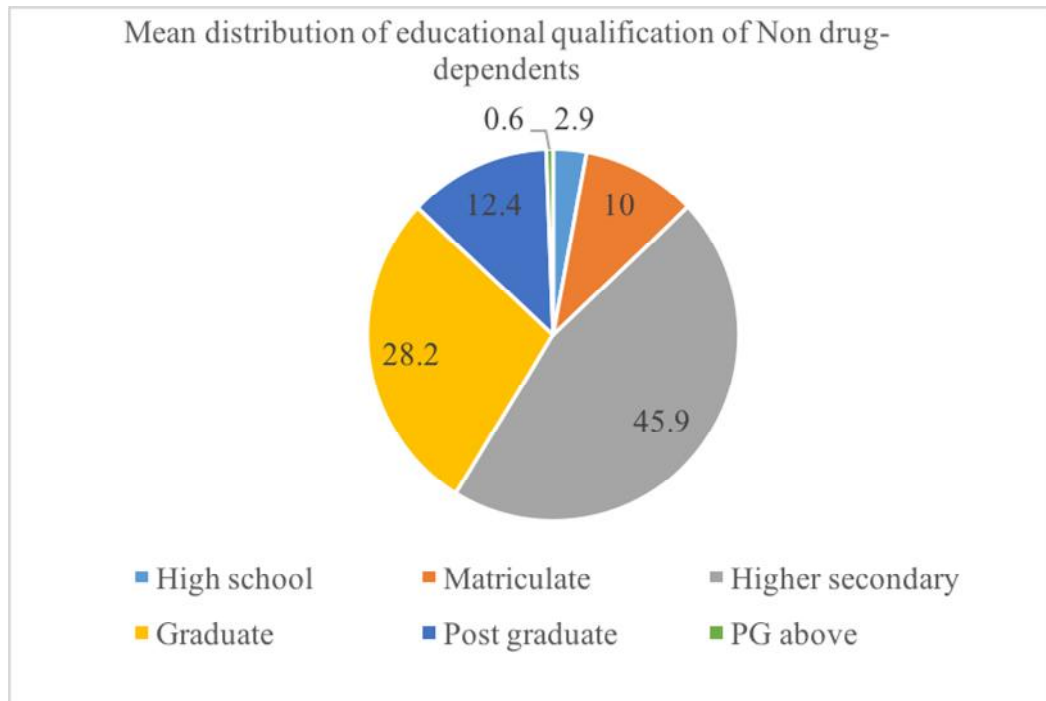


Figure – 4a: Showing the distribution of occupation for the whole group

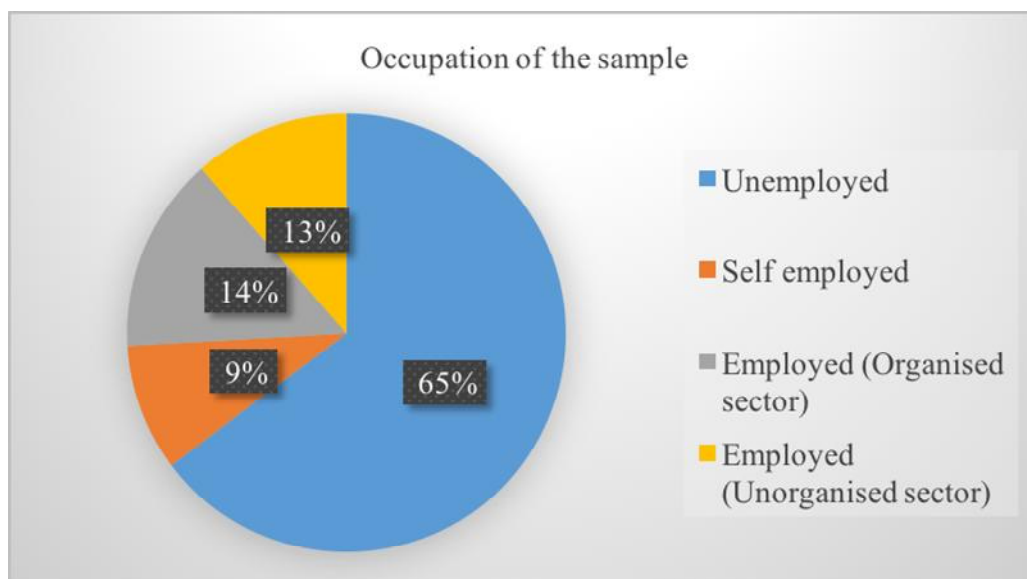


Figure – 4b: Showing the distribution of occupation of Drug-dependent group

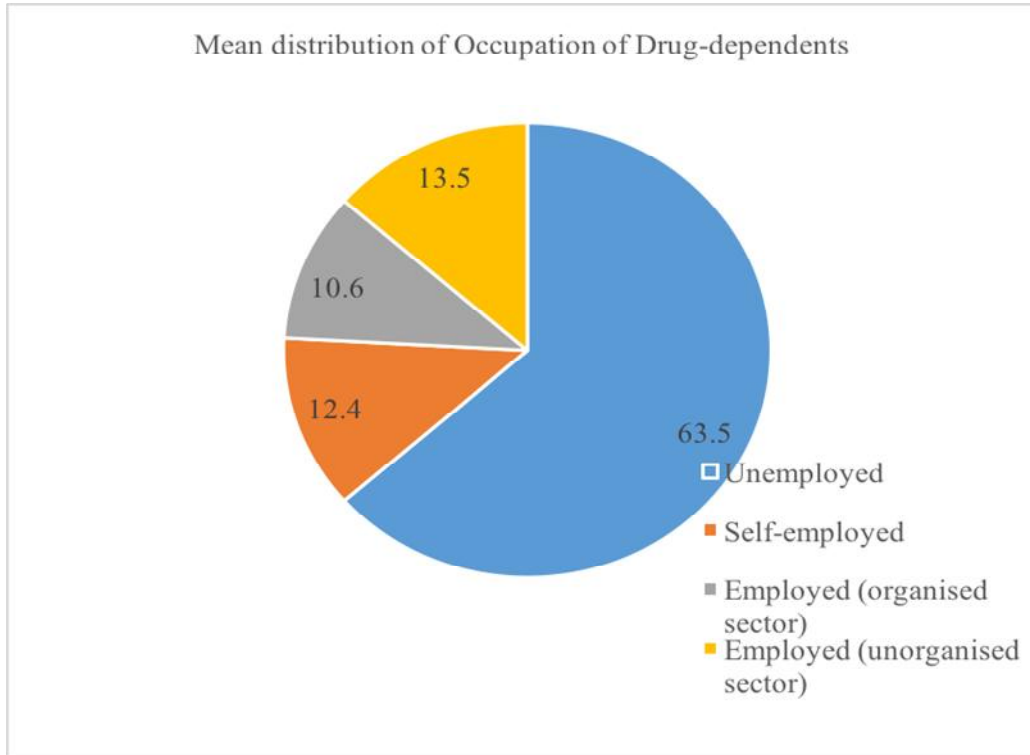


Figure – 4c: Showing the distribution of occupation of the Non-drug-dependent group.

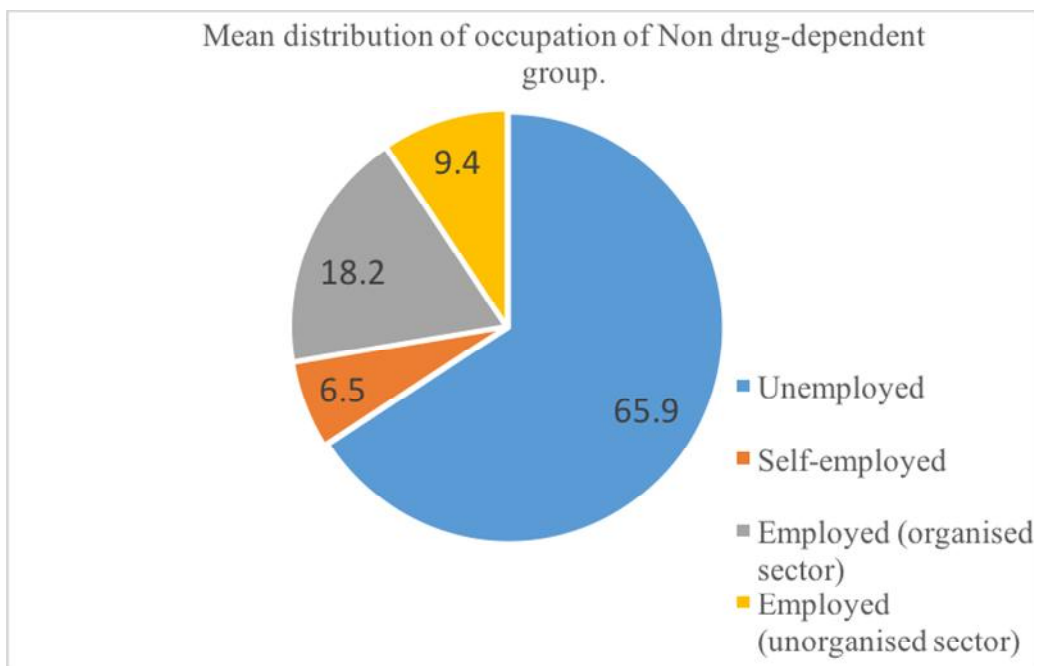


Figure – 5: Showing the mean distribution of father’s occupation of the whole sample

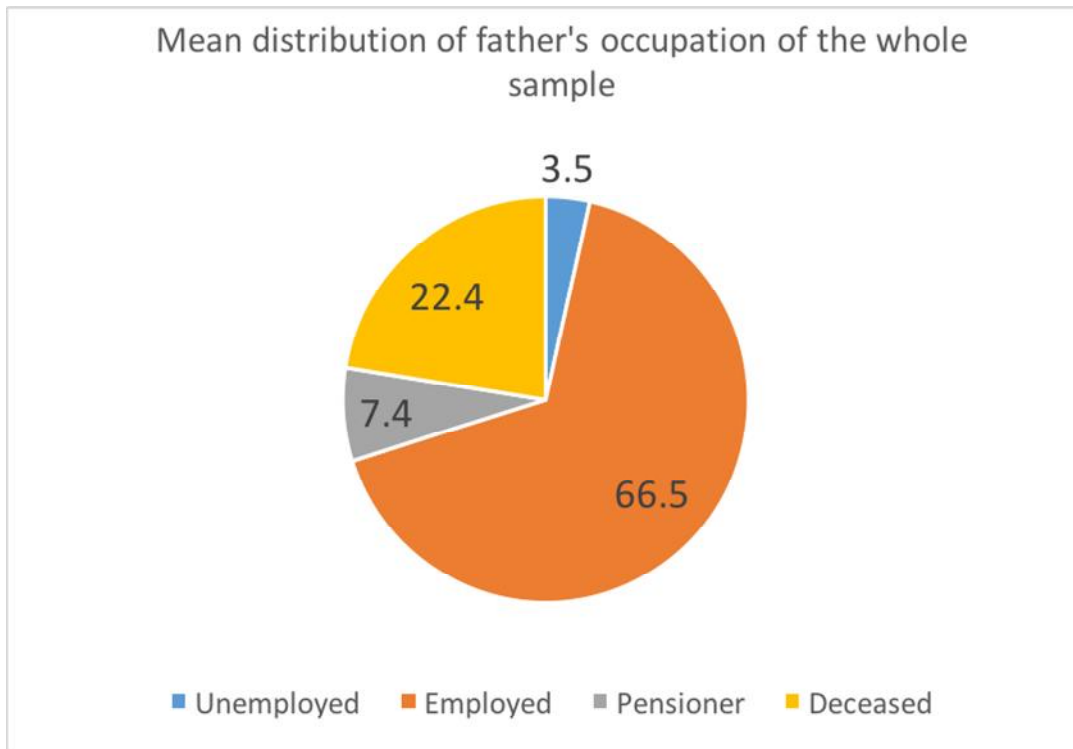


Figure – 6: Showing the mean distribution of the mother’s occupation of the whole sample

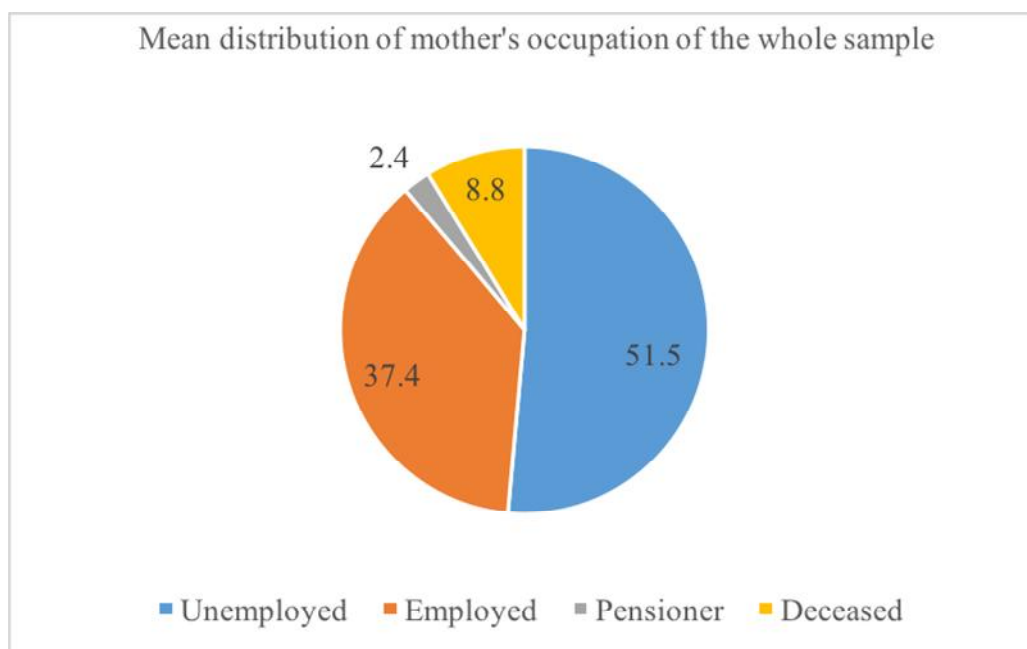


Figure – 7a: Showing the mean distribution of the family background of the whole sample.

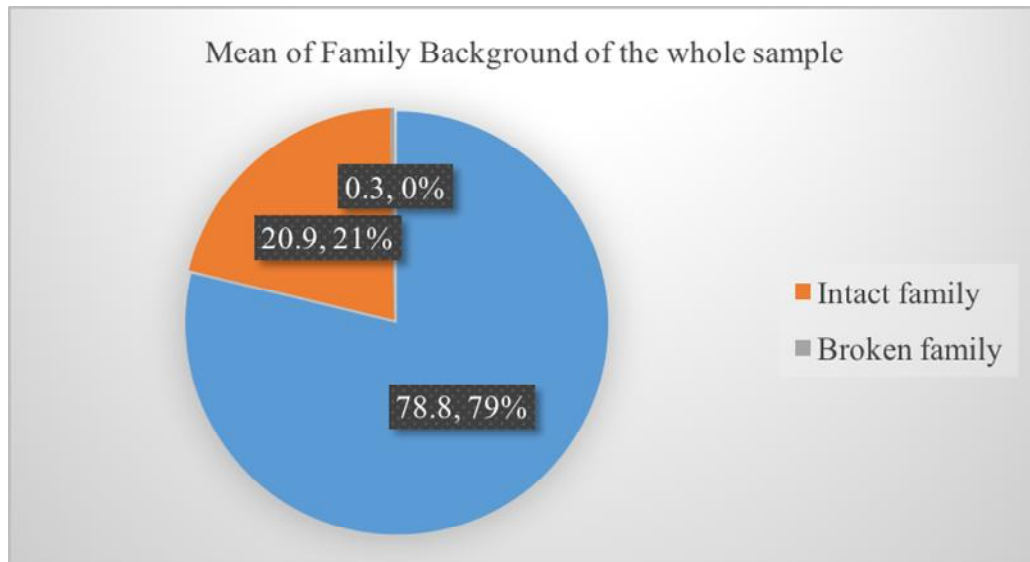


Figure – 7b: Showing the mean distribution of the family background of the Drug-dependent group

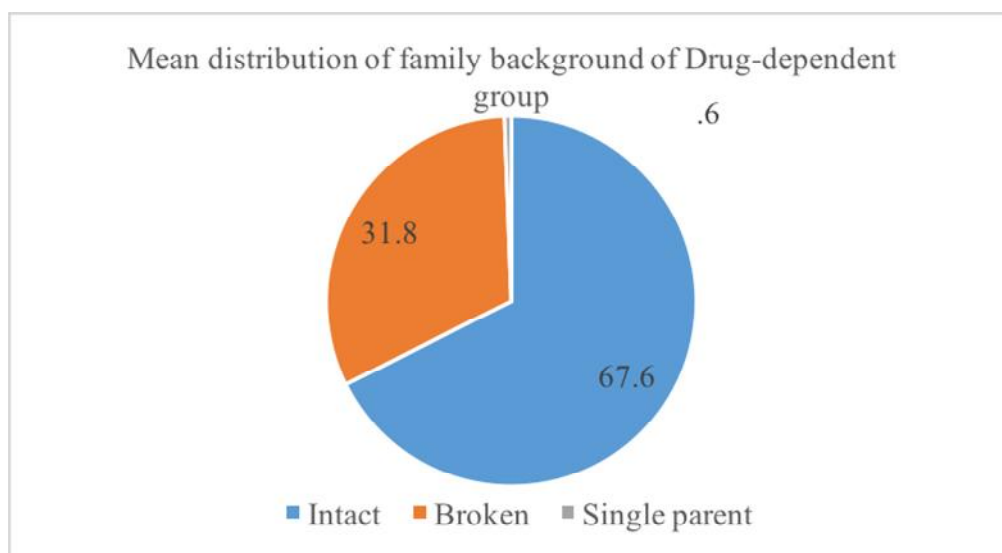


Figure – 7c: Showing the mean distribution of the family background of the Non-drug-dependent group

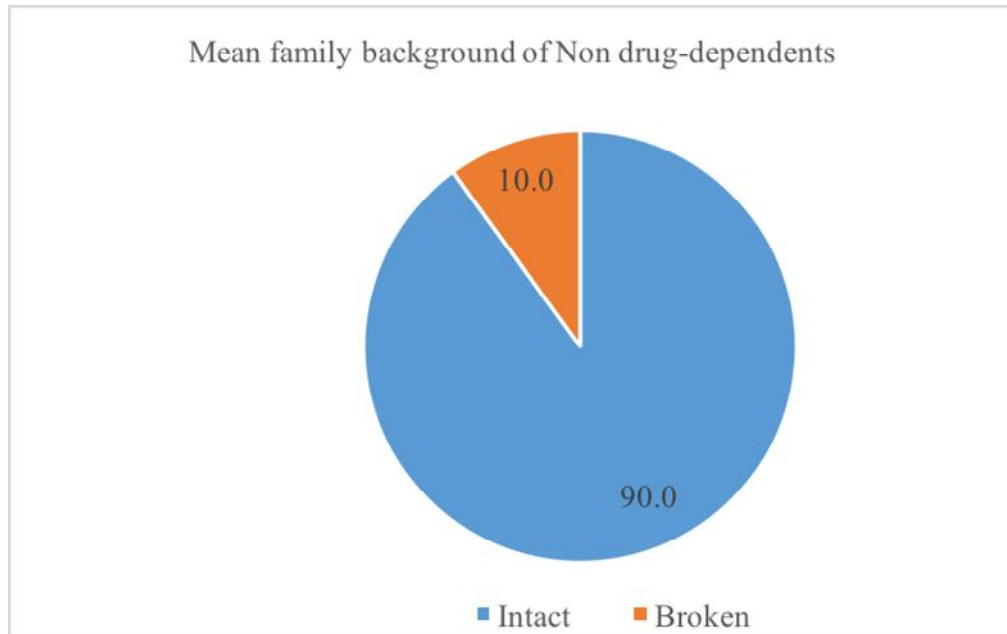


Figure – 8: Showing the mean distribution of the family status of the whole sample.

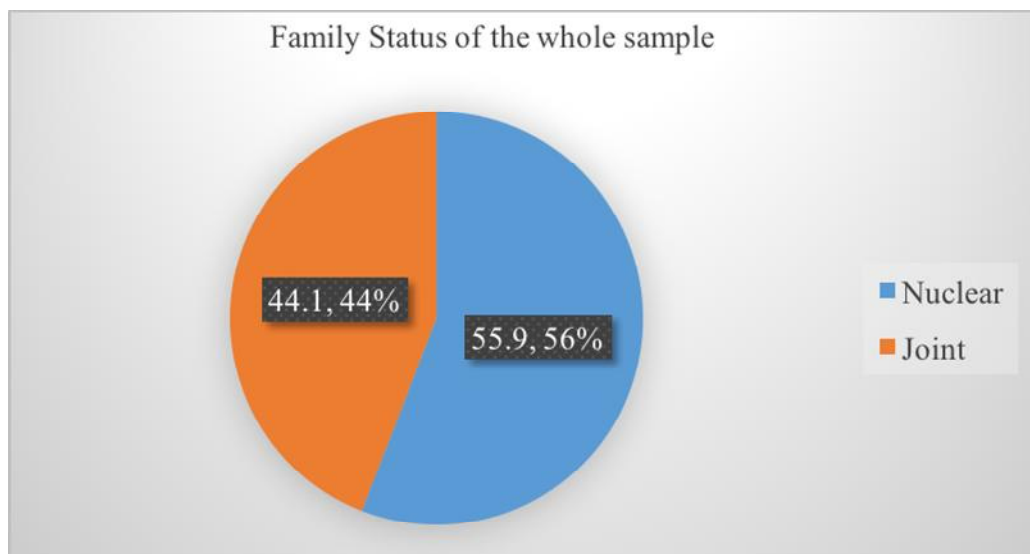


Figure – 9a: Showing the mean distribution of marital status of the whole sample.

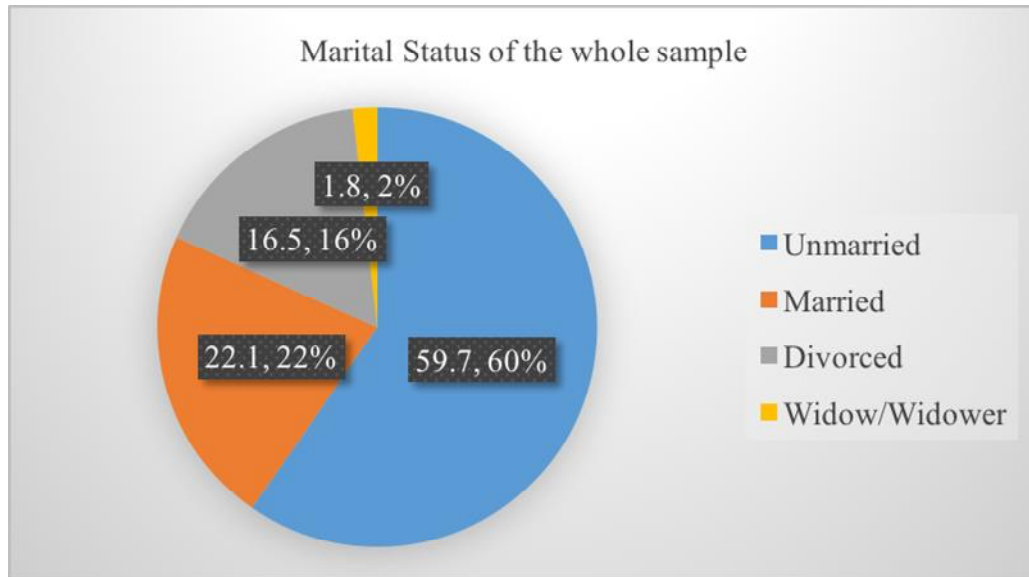


Figure – 9b: Showing the mean distribution of marital status of the Drug-dependent group

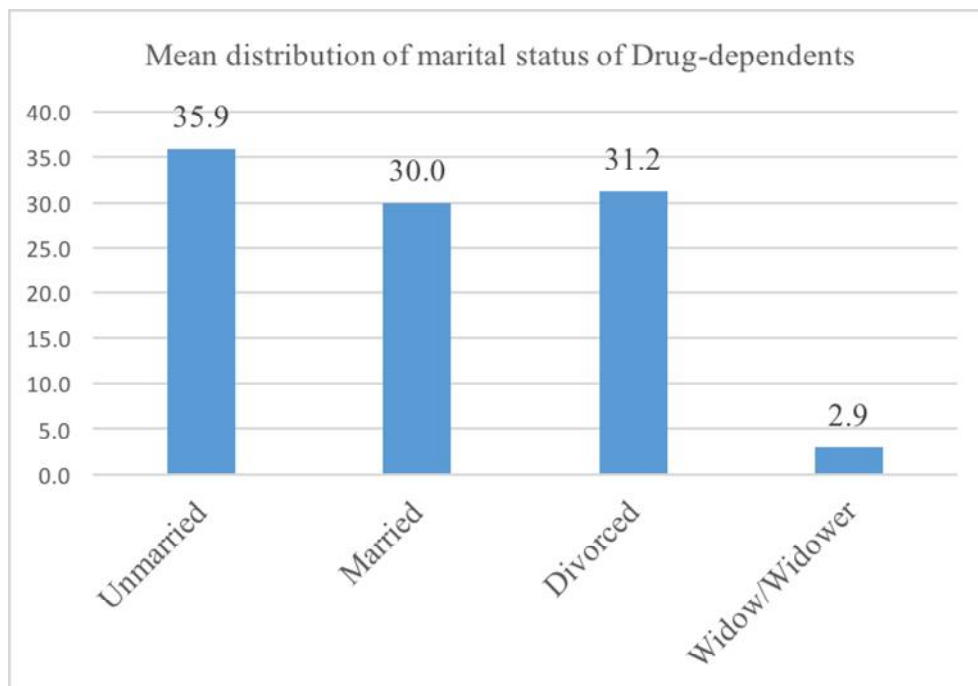


Figure – 9c: Showing the mean distribution of marital status of the Non-drug-dependent group

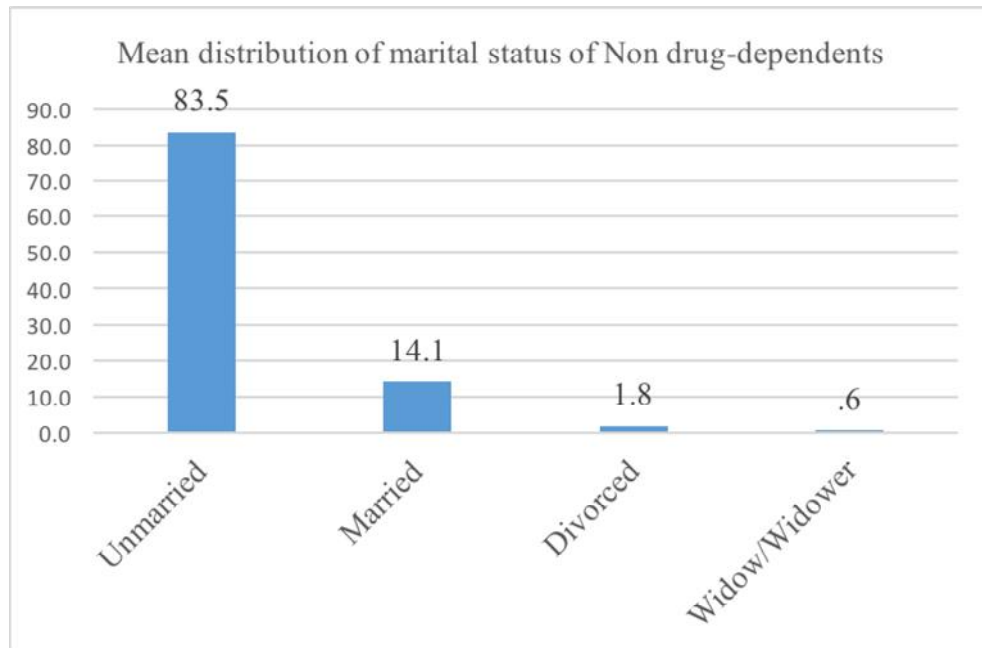


Figure – 10a: Showing the mean distribution of remarriage status of the whole sample.

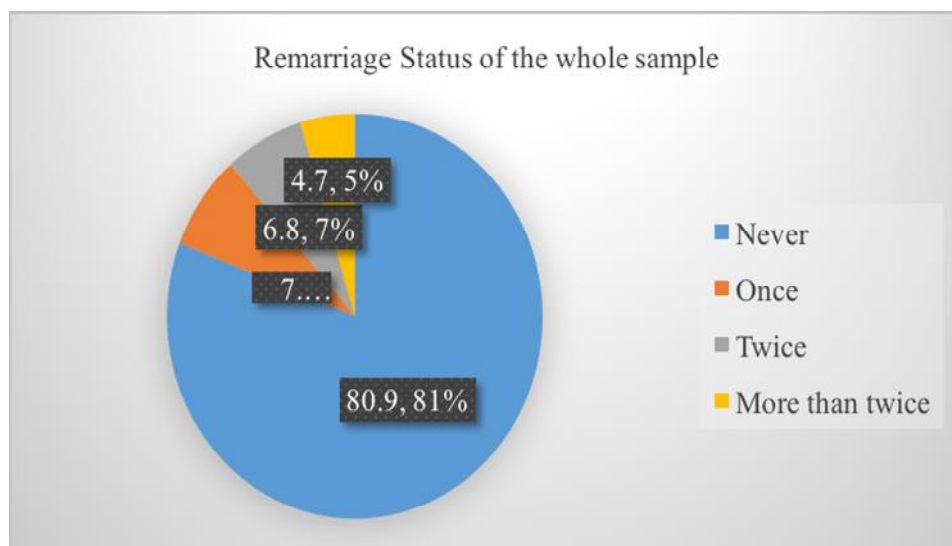


Figure – 10b: Showing the mean distribution of remarriage status of the Drug-dependent group

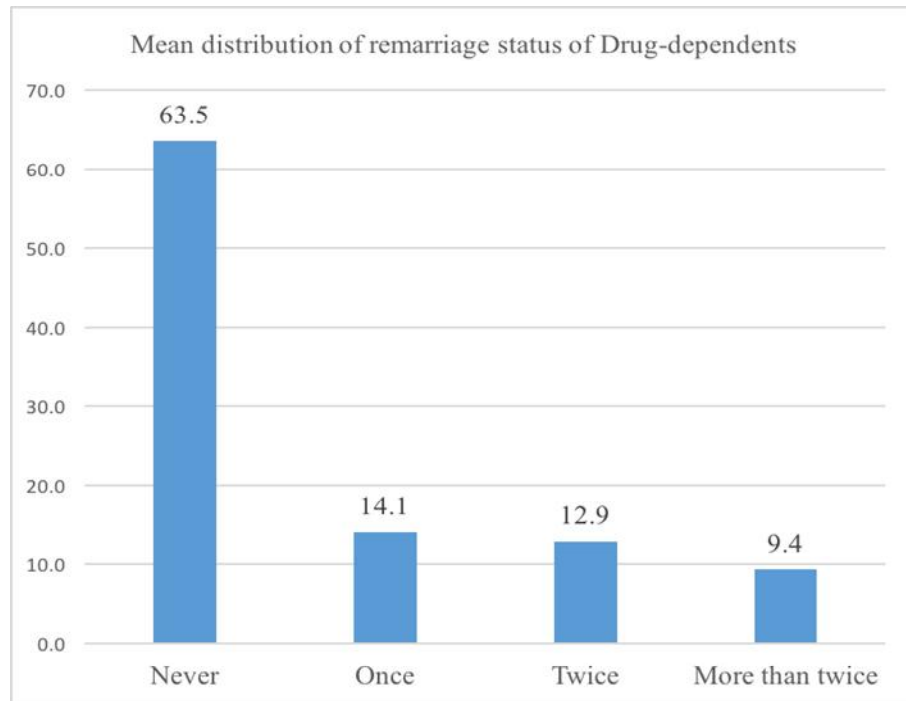


Figure – 10c: Showing the mean distribution of remarriage status of the Non-drug-dependent group.

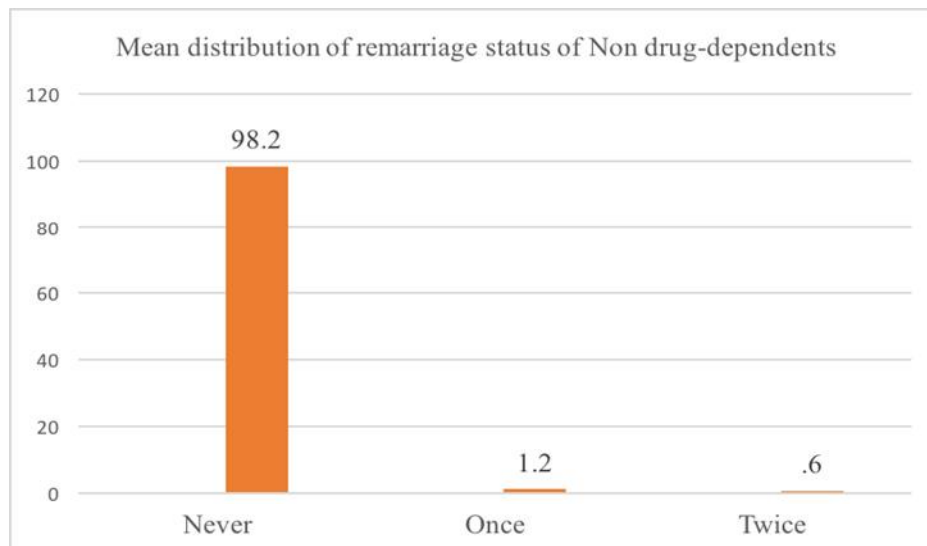


Figure – 11a: Showing the mean distribution of the socioeconomic status of the whole sample.

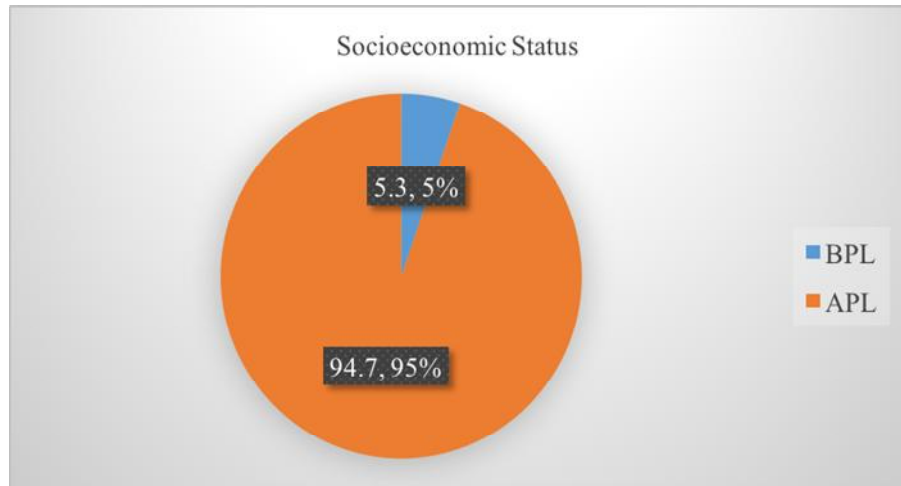


Figure – 11b: Showing the mean distribution of the socioeconomic status of the Drug-dependent group.

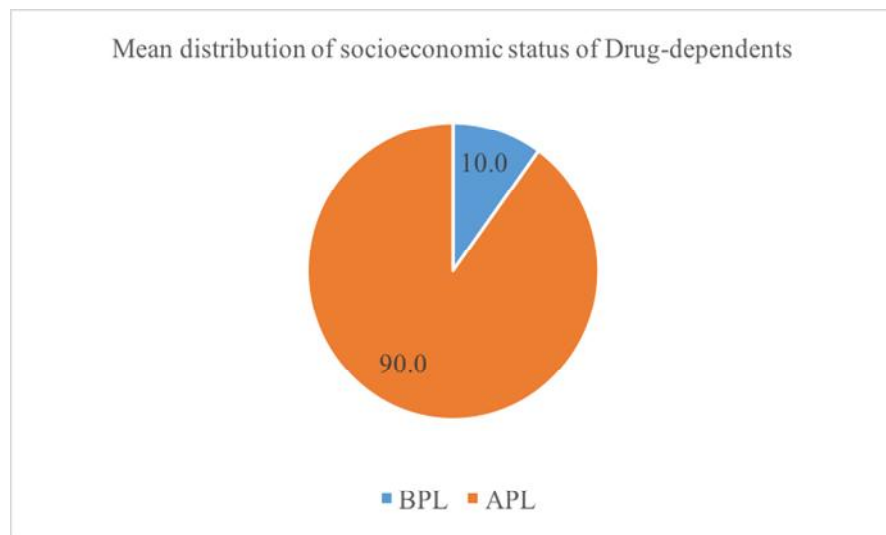


Figure – 11c: Showing the mean distribution of the socioeconomic status of the Non-drug-dependent group.

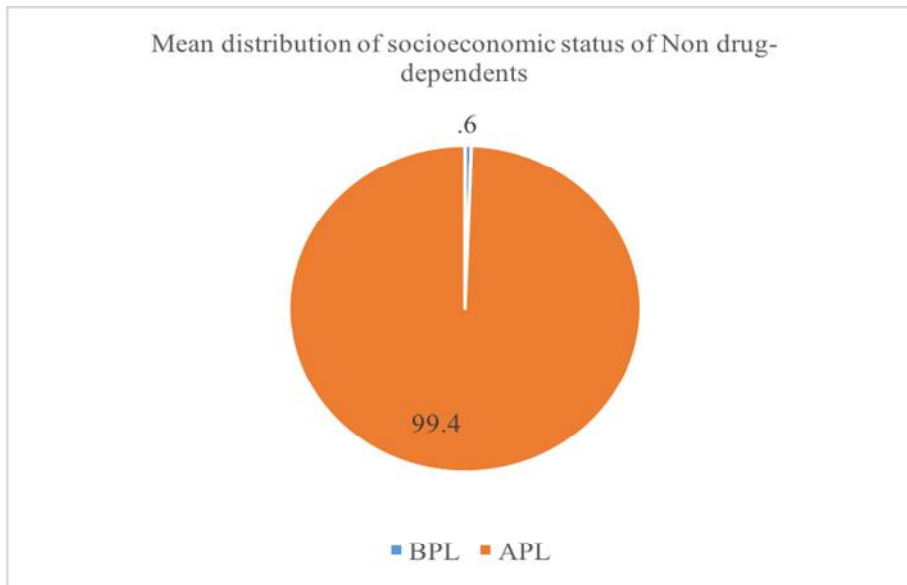


Figure – 12a: Showing the mean distribution of the birth position of the whole sample.

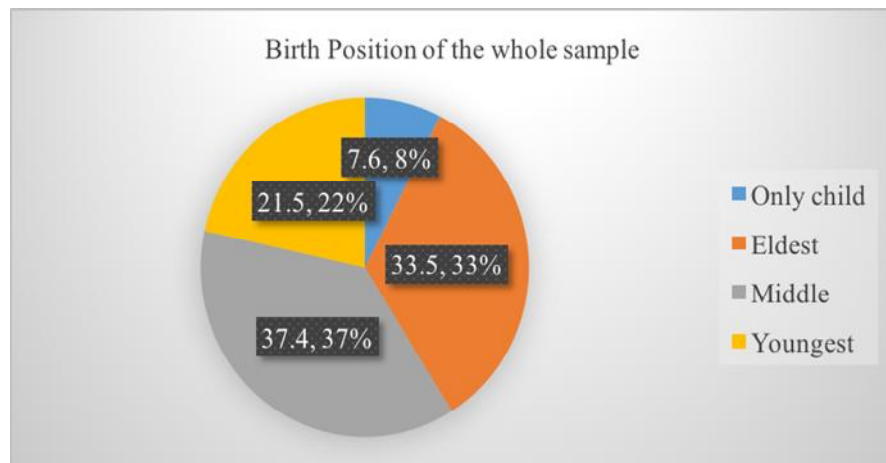


Figure – 12b: Showing the mean distribution of the birth position of the Drug-dependent group

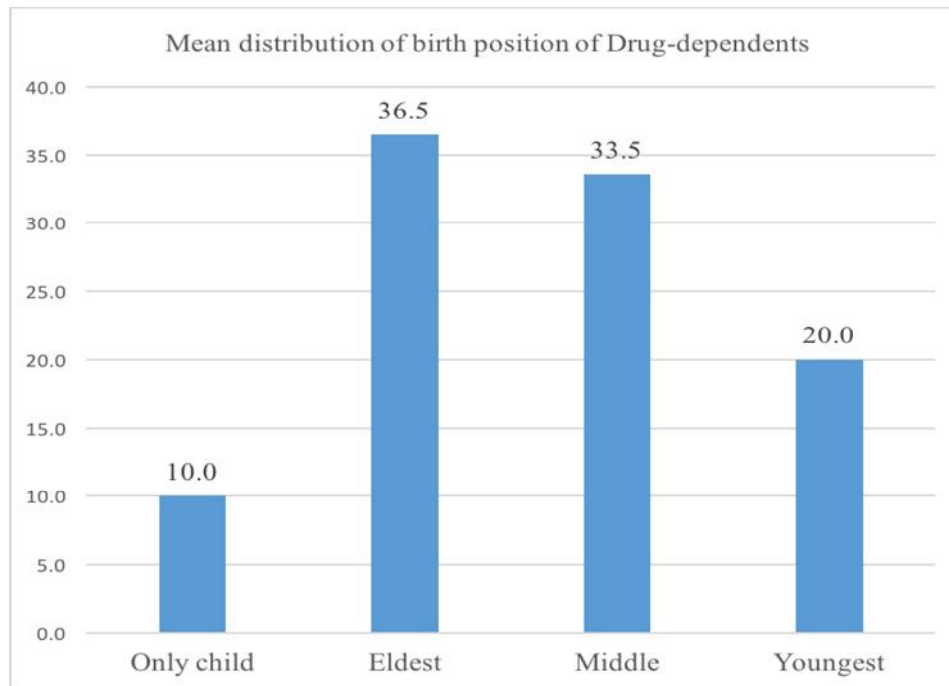


Figure – 12c: Showing the distribution of the birth position of the Non-drug-dependent

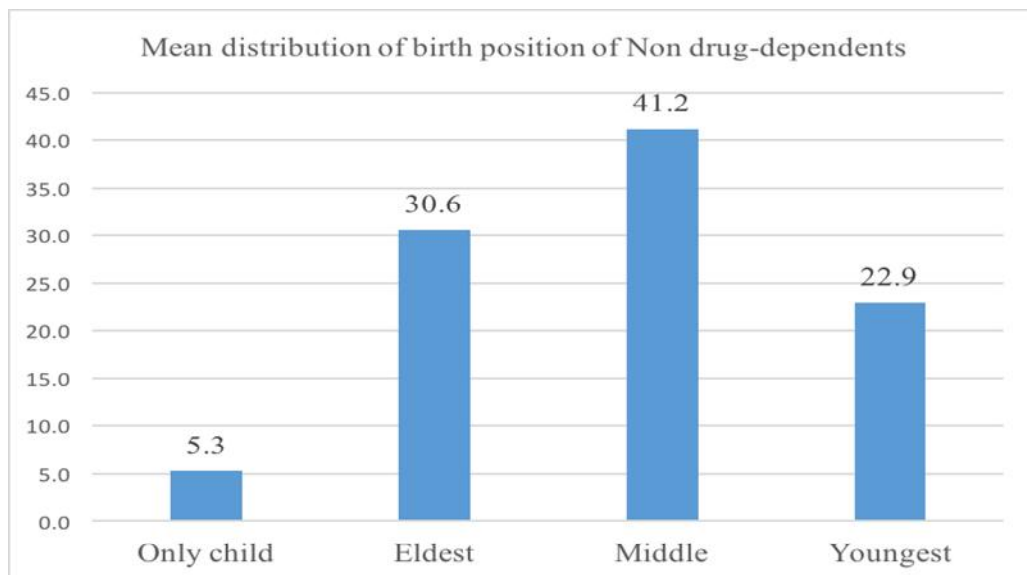


Figure – 13: Showing the distribution of the area of domicile of the whole sample.

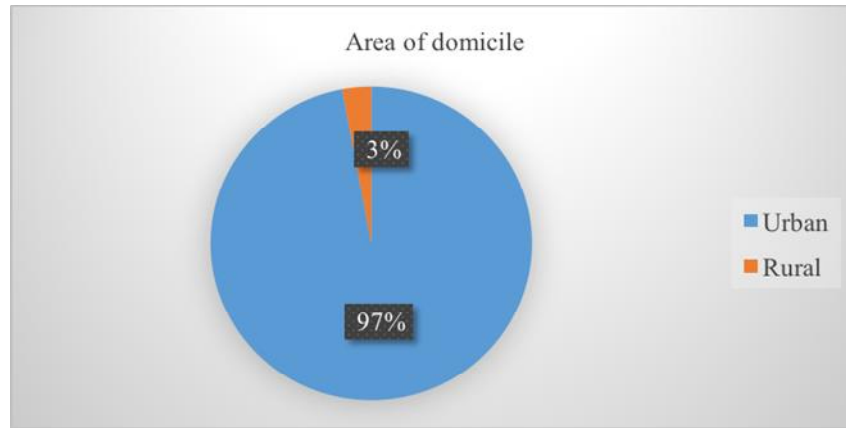


Figure – 14: Showing the mean distribution of crime history of the Drug-dependent group.

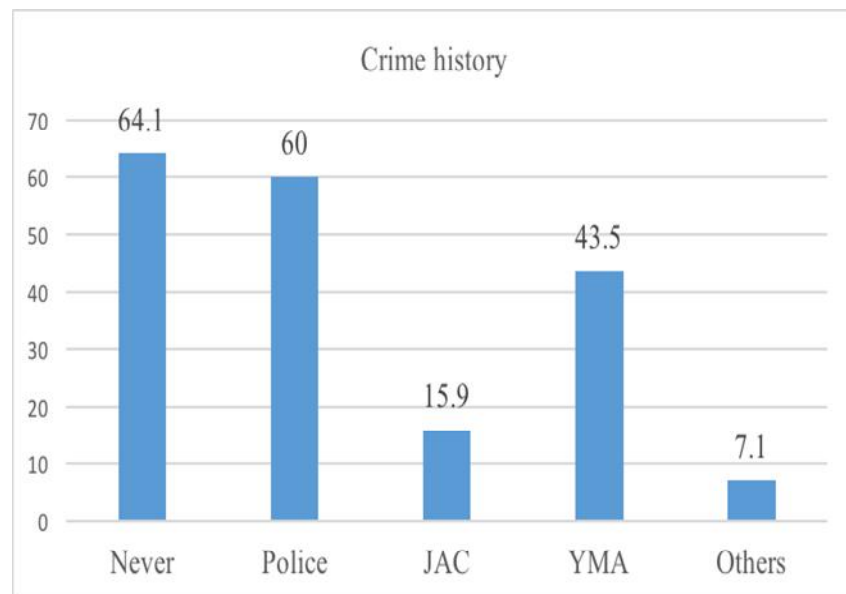


Figure – 15: Showing the distribution of age of first substance used in the Drug-dependent group.

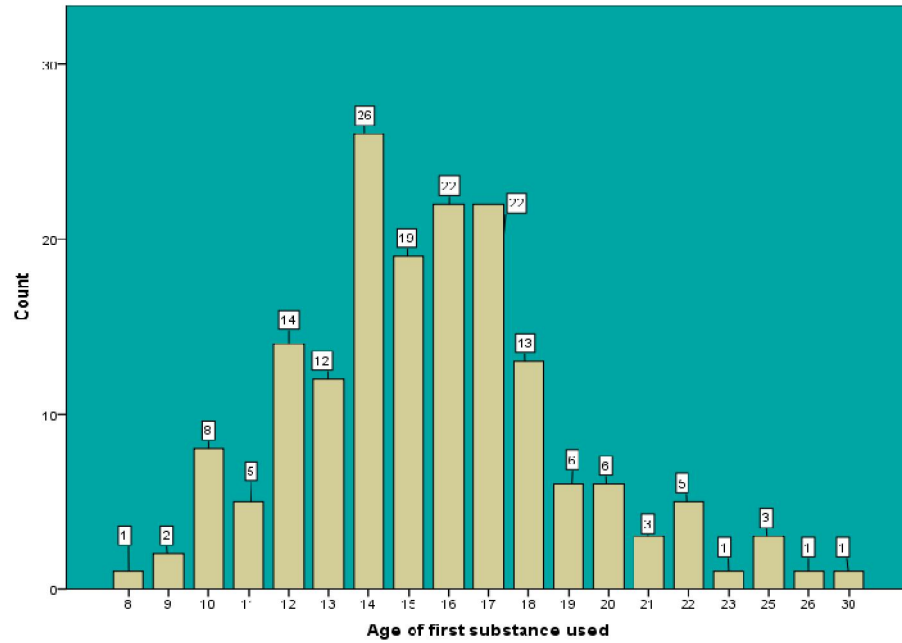


Figure – 16: Showing the distribution of the type of substance first used in the Drug-dependent group.

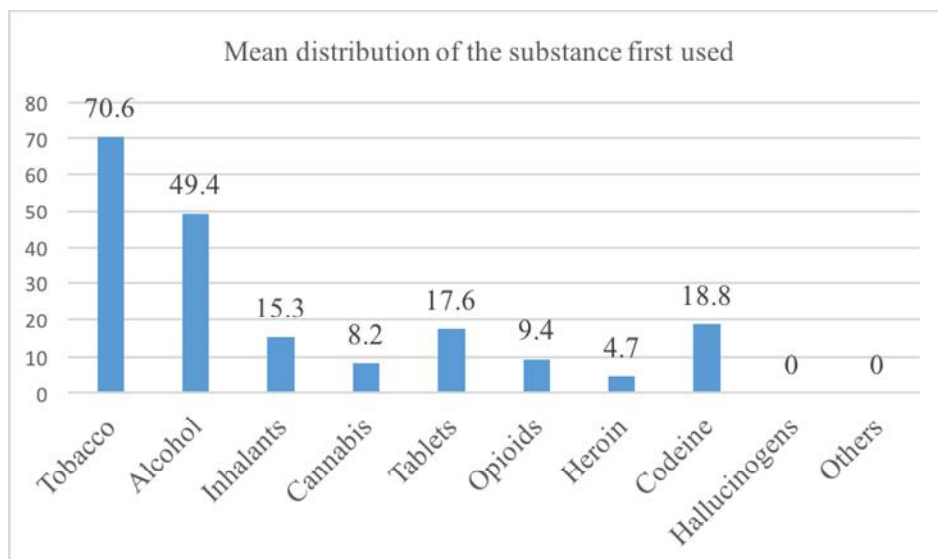


Figure – 17: Showing the distribution of substance being introduced by the Drug-dependent group.

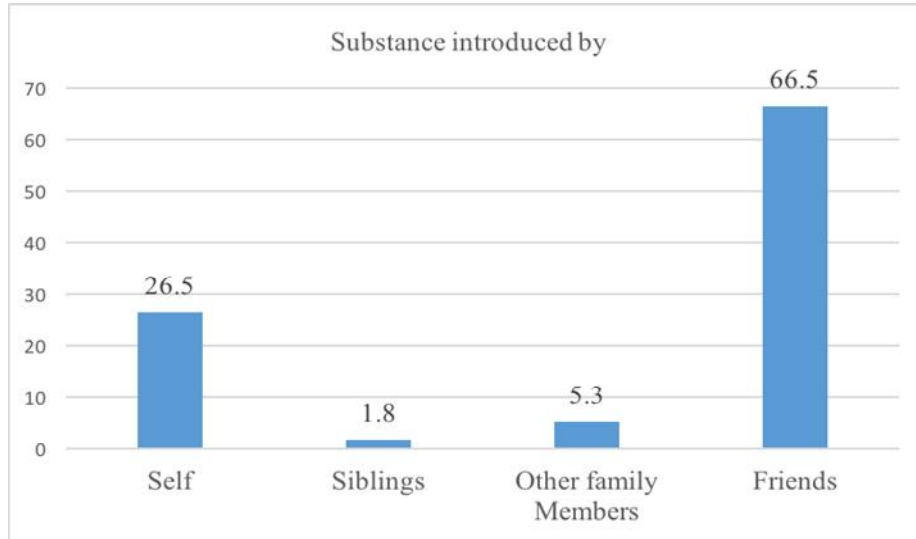


Figure – 18: Showing the distribution of age of type of substance currently used of the Drug-dependent group.

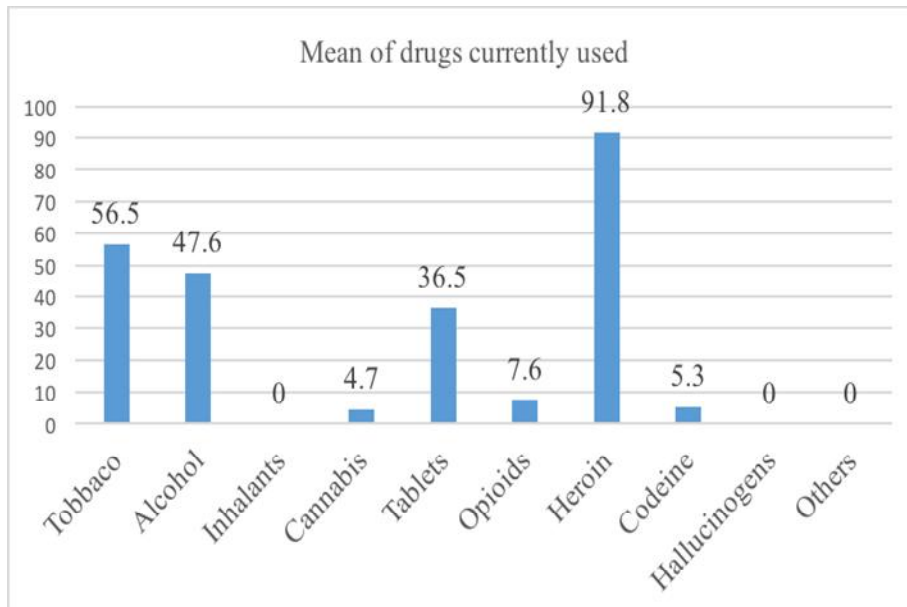


Figure – 19: Showing the distribution of route of use of the substance of the Drug-dependent group.

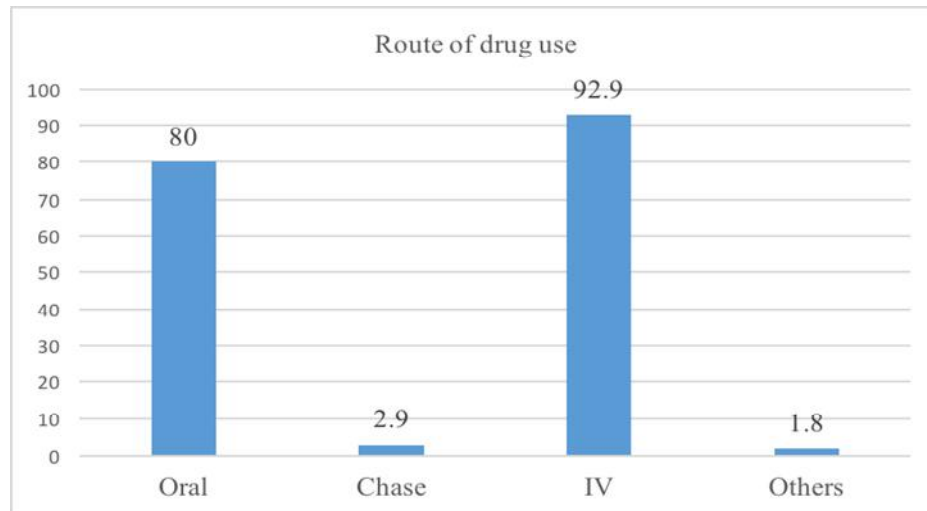


Figure – 20: Showing the mean distribution of treatment sought for substance used of the Drug-dependent group.

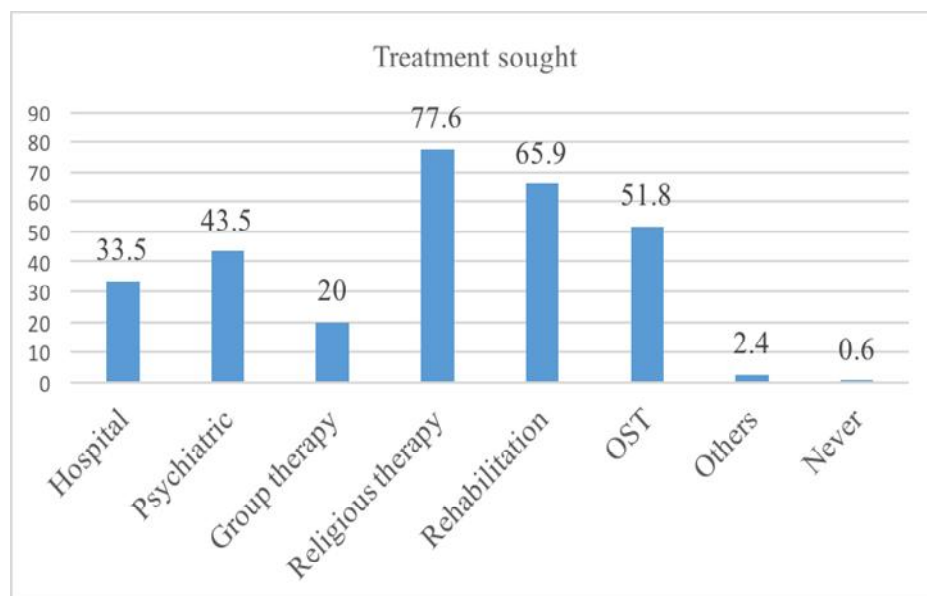


Figure – 21: Showing the mean distribution of treatment found most helpful of the Drug-dependent group.

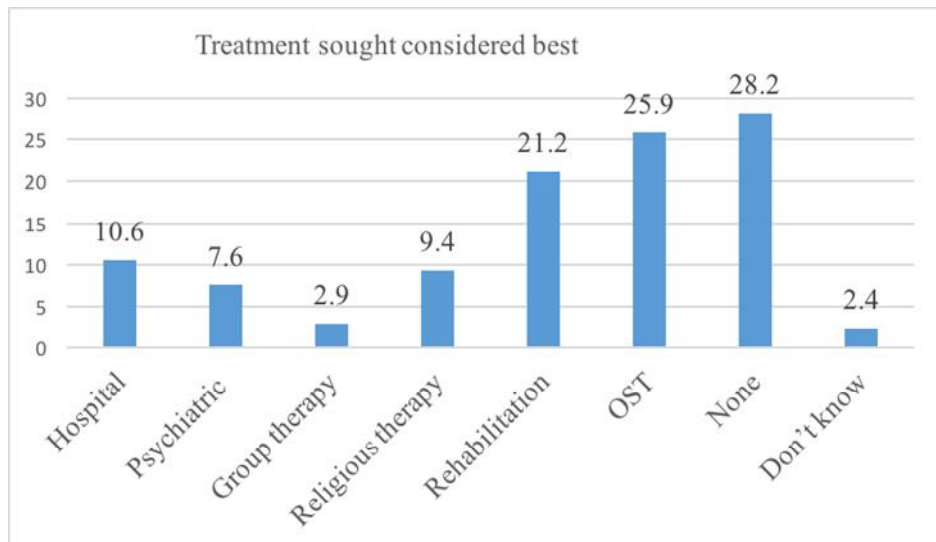


Figure – 22: Showing the distribution of status of diseases of the Drug-dependent group.

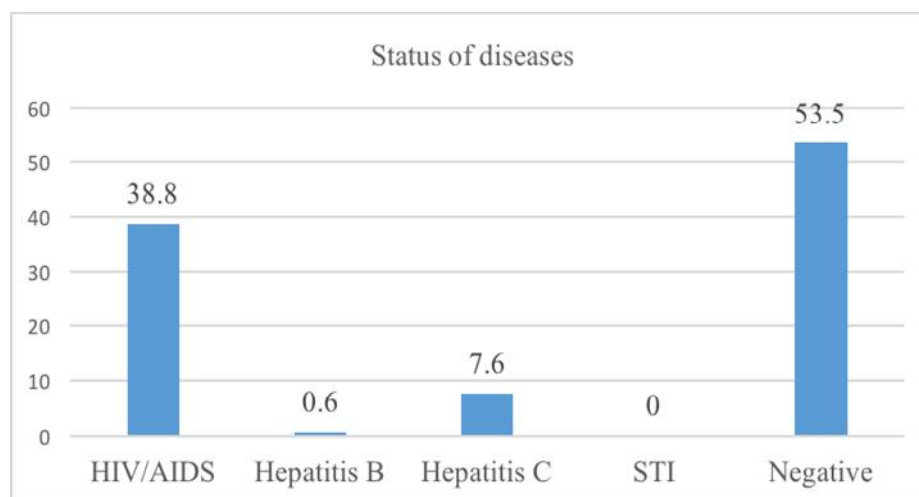
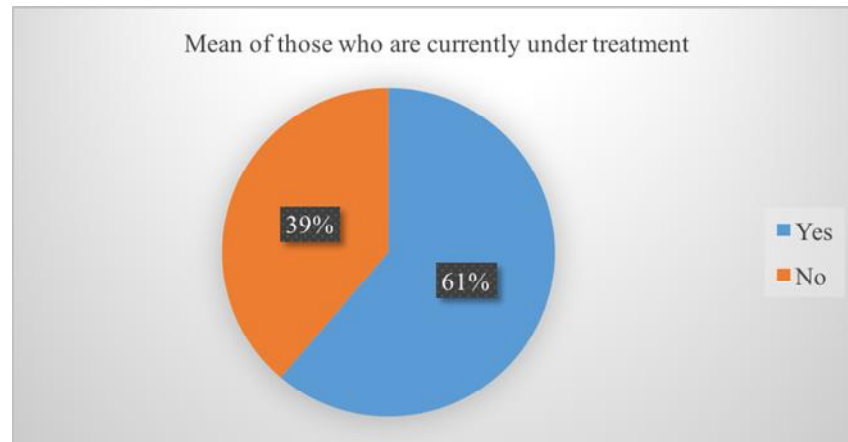


Figure – 23: Showing the distribution of those who are under treatment currently of the Drug-dependent group.



(ii) Psychometric Adequacy:

The psychological tests used were originally constructed for other culture. In order to rule out the difference in cultural norms, psychometric adequacy of the psychological tests was checked before further analysis by employing Reliability measures (Cronbach Alpha and Split - Half), Levene's Test of Homogeneity of Variance and Robust Tests of Equality of Means (Brown-Forsythe). The preliminary analyses of the psychometric properties of the behavioural measures thus computed was felt necessary because scale constructed and validated for measurement of the theoretical construct in a given population when taken to another cultural milieu may not be treated as reliable and valid unless specific checks are made (Witkin & Barry, 1975). The reliability and predictive validity of the scales and sub-scales were determined to ensure the psychometric adequacy of the scales used for the study using Cronbach's coefficient alpha (Cronbach, 1951). Split-half testing (Hathaway & McKinley, 1943) was employed to cross-check the Cronbach's coefficient alpha for methodological confinement of the internal consistency – how well the test components contribute to the construct that's being measured.

Result Table – 1 and Table – 2 showed the reliability of General Health Questionnaire ($\alpha = .83$; $r_{11} = .82$), Beck's Depression Inventory ($\alpha = .89$; $r_{11} = .84$),

Social Support Questionnaire {Number of social support ($\alpha = .89$; $r_{11} = .82$) and Level of satisfaction of social support ($\alpha = .88$; $r_{11} = .70$)}, and Eysenck's Personality Questionnaire – Revised {Psychoticism ($\alpha = .73$; $r_{11} = .80$), Neuroticism ($\alpha = .71$; $r_{11} = .77$), and Extraversion ($\alpha = .64$; $r_{11} = .63$)}, and Family Environment Scale {Cohesion ($\alpha = .75$; $r_{11} = .80$), Expressiveness ($\alpha = .55$; $r_{11} = .50$), Conflict ($\alpha = .67$; $r_{11} = .67$), Independence ($\alpha = .60$; $r_{11} = .57$), Achievement Orientation ($\alpha = .55$; $r_{11} = .50$), Intellectual Cultural Orientation ($\alpha = .70$; $r_{11} = .62$), Active Recreational Orientation ($\alpha = .66$; $r_{11} = .71$) Moral Religious Emphasis ($\alpha = .51$; $r_{11} = .50$), Organization ($\alpha = .67$; $r_{11} = .68$), and Control ($\alpha = .65$; $r_{11} = .70$)}. The reliability test of Cronbach Alpha and Split – Half reliability showed that all the scales and subscales fall between .50 - .89 which confirmed the trustworthiness of the selected scales for the present study. Accordingly, the selected psychological scales were used to determine the selected independent variables.

The data were also analyzed for finalizing an appropriate statistic for the present study. The results (Tables- 3,4,5,6,7 & 8) revealed that all the scales and subscales of the behavioural measures indicated homogeneity of variance along with the four main cells of the design. Therefore, the robustness of analysis of variance (ANOVA) was used in the interpretation of the results. The preliminary psychometric analyses over the level of analyses for each of the specific items and scales/subscales were determined with the objectives to ensure further statistical analyses, and the results are presented in Tables -3,4,5,6,7 & 8.

Levene's Test of Homogeneity of Variance was applied to indicate the difference between the variables. It was found that Levene's test was not significant for all the variables of the groups under study which indicated that there is a homogeneity of variance (the variability is not significantly different). Thus, the null hypothesis of equal variances is rejected and that there is a difference between the variances in the population on the selected dependent variables. A more robust test that is similar to the Levene's test was proposed by Brown and Forsythe (1974). Olejnik and Algina (1987) have shown that this test gives accurate error rates even when the underlying distribution for the raw scores deviates significantly from the

normal distribution. Brown – Forsythe Tests of Equality of Means shows significance on all the scales and subscales thus indicating that there is homogeneity of variance and so, therefore, we can proceed with the analysis of variance.

Table- 1: Showing the reliability (Alpha and split-half) of the scales and sub-scales of the General Health Questionnaire, Beck’s Depression Inventory. Social Support Questionnaire (Number of social support and level of satisfaction of social support), and Eysenck’s Personality Questionnaire-Revised (Psychoticism, Neuroticism and Extraversion) on the dependent variables (Drug dependents, Non-drug dependents, male and female)

Independent variable	Stats	General Health	Depression	Social Support		Personality		
				No. of support	Level of satisfaction	Psychoticism	Neuroticism	Extraversion
Reliability variables	Alpha	.83	.89	.89	.88	.73	.71	.64
	Split-half	.82	.84	.82	.70	.80	.77	.63

Table-2: Showing the reliability (Alpha and split-half) of the scales and subscales of the Family Environment Scale (Cohesion, Expressiveness, Conflict, Independence, Achievement Orientation, Intellectual Cultural Orientation, Active Recreational Orientation, Moral Religious Emphasis, Organization, and Control) on the dependent variables (Drug dependents, Non-drug dependents, male and female).

Independent variable	Stats	Family Environment scale									
		Cohesion	Expressive	Conflict	Independen	Ach Orientation	Intell-Cultural	Active Recreation	Moral Religious	Organization	Control
Reliability	Alpha	.75	.55	.67	.60	.55	.70	.66	.51	.67	.65
	Split-half	.80	.50	.67	.57	.50	.62	.71	.50	.68	.70

The psychological scales were constructed for other culture, and the research would like to check the trustworthiness for the present population, for which the reliability (Alpha and Split half) was calculated before applying to the samples. Results (Tables- 2 & 3) showed that all scales and subscales fall between .50 - .89 which confirmed the trustworthiness of the selected scales for the present study. Accordingly, the selected psychological scales were used to determine the selected independent variables.

Table-3: Showing the Mean, SD, Kurtosis, Skewness, Homogeneity test of the scales and sub-scales on the dependent variables (Drug dependents and Non-drug dependents).

Independent variable	Stats	General Health	Depression	Social Support		Personality		
				No. of support	Level of support satisfaction	Psychotic	Neurotic	Extravert
Drug dependent	Mean	12.69	25.45	66.42	138.65	15.51	13.71	12.33
	SD	2.40	8.70	18.77	12.14	4.58	3.70	2.74
	Kurtosis	-0.19	-0.73	-0.73	-0.96	-1.17	-0.85	-0.28
	Skewness	0.30	-0.01	0.00	0.01	-0.08	-0.13	-0.35
	Levene Statistic	.12	.16	.14	.18	.08	.09	.10
	Brown-Forsythe	.00	.00	.00	.00	.00	.00	.00
Non- Drug dependent	Mean	20.36	15.78	70.71	138.21	13.88	14.21	13.51
	SD	4.94	3.32	20.26	11.55	2.42	2.13	2.86
	Kurtosis	-0.49	-0.37	-0.86	-0.71	-0.54	-0.70	-1.19
	Skewness	-0.30	0.49	-0.24	0.15	-0.24	0.14	-0.04
	Levene Statistic	.16	.07	.13	.09	.15	.18	.10
	Brown-Forsythe	.00	.00	.00	.00	.00	.00	.00

Table-4: Showing the Mean, SD, Kurtosis, Skewness, Homogeneity test of the scales and sub-scales on the dependent variables (between male and female)

Independent variable	Stats	General Health	Depression	Social Support		Personality		
				No. of support	Level of support satisfaction	Psychotic	Neurotic	Extravert
Male	Mean	17.82	19.32	68.68	136.31	14.95	13.28	12.52
	SD	5.94	8.94	20.20	11.89	4.19	3.15	3.35
	Kurtosis	-0.83	-0.54	-0.92	-0.80	-0.76	-0.47	-0.90
	Skewness	0.07	0.12	-0.10	0.23	0.23	-0.23	-0.09
	Levene Statistic	.12	.11	.09	.07	.13	.09	.14
	Brown-Forsythe	.00	.00	.00	.00	.00	.00	.00
Female	Mean	15.23	21.90	68.45	140.55	14.44	14.64	13.32
	SD	5.89	11.24	19.07	11.43	4.04	4.47	3.40
	Kurtosis	-0.82	-0.99	-0.74	-0.81	-0.93	-1.08	-0.66
	Skewness	0.16	-0.03	-0.11	-0.04	-0.18	-0.09	0.18
	Levene Statistic	.19	.12	.15	.19	.09	.17	.15
	Brown-Forsythe	.00	.00	.00	.00	.00	.00	.00

Table-5: Showing the Mean, SD, Kurtosis, Skewness, Homogeneity test of the scales and sub-scales on the dependent variables among the four comparison (Drug dependents male, Drug dependents female, Non-drug dependents male and Non-drug dependents female)

Independent variable	Stats	General Health	Depression	Social Support		Personality		
				No. of support	Level of support satisfaction	Psychotic	Neurotic	Extravert
Drug Dependents Male	Mean	13.52	23.36	67.14	135.74	15.86	13.09	11.87
	SD	3.76	7.91	19.68	12.52	5.06	3.59	3.16
	Kurtosis	0.47	-0.65	-0.75	-1.13	-1.39	-1.01	-0.98
	Skewness	-0.05	0.15	-0.12	0.12	-0.10	-0.23	-0.19
	Levene Statistic	.06	.12	.13	.09	.07	.09	10
	Brown-Forsythe	.00	.00	.00	.00	.00	.00	.00
Drug Dependents Female	Mean	11.86	27.53	65.69	141.56	15.16	14.32	12.79
	SD	4.83	8.99	17.90	11.08	4.04	3.73	2.16
	Kurtosis	-0.12	-0.59	-0.68	-0.95	-0.96	-0.86	0.71
	Skewness	0.68	-0.28	0.13	0.08	-0.18	-0.09	-0.10
	Levene Statistic	.09	.07	.12	.13	.13	.11	.09
	Brown-Forsythe	.00	.00	.00	.00	.00	.00	.00
Non-Drug Dependents Male	Mean	22.13	15.28	70.21	136.88	14.05	13.47	13.16
	SD	4.40	8.06	20.71	11.26	2.84	2.63	3.44
	Kurtosis	-0.57	-0.54	-1.07	-0.39	0.20	0.32	-1.02
	Skewness	-0.44	0.26	-0.12	0.42	-0.07	-0.03	-0.11
	Levene Statistic	.12	.13	.10	.08	.11	.12	.09
	Brown-Forsythe	.00	.00	.00	.00	.00	.00	.00
Non-Drug Dependents Female	Mean	18.60	16.27	71.21	139.53	13.71	14.95	13.86
	SD	4.85	10.45	19.90	11.74	3.93	5.12	4.24
	Kurtosis	-0.32	-0.58	-0.58	-0.77	-1.06	-1.34	-1.40
	Skewness	-0.11	0.53	-0.37	-0.11	-0.23	-0.17	-0.09
	Levene Statistic	.12	.13	.12	.11	.09	.13	.08
	Brown-Forsythe	.00	.00	.00	.00	.00	.00	.00
Total Samples	Mean	16.53	20.61	68.56	138.43	14.69	13.96	12.92
	SD	6.05	10.22	19.62	11.84	4.12	3.92	3.39
	Kurtosis	-0.79	-0.77	-0.84	-0.85	-0.78	-0.69	-0.70
	Skewness	0.11	0.10	-0.10	0.08	0.04	0.05	0.05
	Levene Statistic	.12	.13	.09	.11	.13	.14	.08
	Brown-Forsythe	.00	.00	.00	.00	.00	.00	.00

Table-6: Showing the Mean, Standard Deviation, Kurtosis, Skewness, Levene test and Brown – Forsythe test of the scales and sub-scales of the Family Environment (Cohesion, Expressiveness, Conflict, Independence, Achievement Orientation, Intellectual Cultural Orientation, Moral Religious Emphasis, Organization, and Control) on the dependent variables (Drug dependents and Non-drug dependents).

Independent variable	Statisticss	Family Environment scale									
		Cohesion	Expressive	Conflict	Independence	Ach Orien	Intellect-Cultural	ActiveRecretn	Moral Reli	Organization	Control
Drug dependents	Mean	4.02	5.76	3.51	4.80	4.35	3.47	3.31	4.71	3.92	3.84
	SD	2.33	1.87	2.18	1.90	1.77	1.92	1.90	1.85	2.59	2.20
	Kurtosis	-0.72	-0.51	-0.65	-0.56	-0.65	-0.31	-0.59	0.07	-0.69	-0.67
	Skewness	0.46	-0.14	0.34	-0.45	-.08	0.21	0.08	0.54	0.34	0.01
	Levene Statistic	.12	.16	.14	.18	.08	.09	.10	.06	.11	.18
	Brown-Forsythe	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Non- Drug dependents	Mean	5.26	4.64	4.98	5.83	6.05	5.79	5.20	6.22	5.35	5.05
	SD	2.51	1.86	2.25	2.13	1.74	2.06	2.08	1.73	1.82	2.22
	Kurtosis	-0.31	-0.89	-0.61	-1.28	-0.03	-0.09	-0.46	-0.59	-.64	-.95
	Skewness	-0.60	-0.31	-0.12	-0.12	-0.43	-0.47	-0.13	-.35	-.20	0.04
	Levene Statistic	.16	.07	.13	.09	.15	.18	.10	.11	.08	.13
	Brown-Forsythe	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

Table-7: Showing the Mean, Standard Deviation, Kurtosis, Skewness, Levene test and Brown – Forsythe test of the scales and sub-scales of the Family Environment (Cohesion, Expressiveness, Conflict, Independence, Achievement Orientation, Intellectual Cultural Orientation, Moral Religious Emphasis, Organization, and Control) on the dependent variables (Male and Female).

Independent variable	Statisticss	Family Environment scale									
		Cohesion	Expressive	Conflict	Independence	Ach Orien	Intellct-Cultural	ActiveRecretn	Moral Reli	Organization	Control
Male	Mean	4.45	4.61	3.99	5.51	4.55	4.32	4.04	5.10	4.13	3.91
	SD	2.01	2.01	0.43	2.19	1.50	2.03	1.86	1.90	1.36	0.51
	Kurtosis	-0.73	-.97	-.92	-.60	-.97	-.71	-.88	-.60	-.67	-.69
	Skewness	0.09	-.13	0.22	-.54	-.06	-.25	-.05	.35	.05	.43
	Levene Statistic	.11	.15	.13	.17	.08	.06	.11	.07	.14	.17
	Brown-Forsythe	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Female	Mean	4.82	5.79	4.49	5.12	5.85	4.95	4.47	5.82	5.14	4.97
	SD	1.43	1.69	1.21	1.95	1.65	1.34	1.13	1.92	1.23	1.90
	Kurtosis	-1.09	-.46	-.52	-.68	0.33	-.90	-.26	-.54	-.61	-.23
	Skewness	-.23	0.06	0.04	0.31	0.02	0.13	0.25	-.26	-.22	-.25
	Levene Statistic	.17	.08	.14	.08	.16	.15	.11	.10	.09	.12
	Brown-Forsythe	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

Table-8: Showing the Mean, Standard Deviation, Kurtosis, Skewness, Levene test and Brown – Forsythe test of the scales and sub-scales of the Family Environment (Cohesion, Expressiveness, Conflict, Independence, Achievement Orientation, Intellectual Cultural Orientation, Moral Religious Emphasis, Organization, and Control) on the dependent variables (Drug dependents male, Drug dependents female, Non-drug dependents male and Non-drug dependents female)

Independent variable	Stats	Family Environment scale									
		Cohesion	Expisives	Conflict	Independence	Ach Orien	Intellct-Cultural	ActiveRecretn	Moral Reli	Organization	Control
Drug Dependents Male	Mean	3.89	5.45	3.21	4.88	3.66	3.44	3.18	4.27	3.20	3.02
	SD	.66	1.82	.28	.97	.78	.21	.23	1.16	.52	.30
	Kurtosis	.78	-.46	-.40	-.41	-1.23	-.68	-.85	-.08	-.15	-.86
	Skewness	1.08	-.39	.65	-.74	.17	.14	.26	.31	.69	.47
	Levene Statistic	.12	.14	.14	.12	.07	.07	.10	.08	.12	.16
	Brown-Forsythe	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Drug Dependents Female	Mean	4.13	6.08	3.80	4.72	5.05	3.51	3.44	5.14	4.65	4.65
	SD	1.64	1.87	0.64	1.73	1.46	0.59	0.52	1.08	0.47	1.76
	Kurtosis	-1.35	-.87	-.63	-.79	.12	-.01	-.65	-.45	-.70	.67
	Skewness	.14	.06	.04	.00	.10	.44	-.19	.33	.10	-.02
	Levene Statistic	.13	.07	.13	.09	.15	.14	.10	.11	.08	.11
	Brown-Forsythe	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Non-Drug Dependents Male	Mean	5.01	3.78	4.76	6.14	5.45	5.20	4.89	5.93	5.06	4.80
	SD	2.14	0.84	1.33	2.14	1.82	1.89	1.46	1.93	1.76	1.41
	Kurtosis	-0.79	-1.39	-0.74	-1.05	-0.46	-0.10	-0.76	-0.98	-0.46	-0.97
	Skewness	-0.52	0.06	-0.15	-0.57	-0.39	-0.52	-0.16	-0.02	-0.09	0.47
	Levene Statistic	.10	.13	.12	.14	.09	.07	.10	.08	.13	.15
	Brown-Forsythe	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Non-Drug Dependents Female	Mean	5.51	5.49	5.19	5.52	6.65	6.39	5.51	6.51	5.64	5.29
	SD	1.97	1.45	2.16	2.09	1.44	2.06	1.16	1.45	1.84	1.98
	Kurtosis	-.68	-.33	-.50	-1.08	-.72	0.27	-.25	.38	-.65	-.47
	Skewness	-.34	-.35	-.05	.33	.03	-.69	-.20	-.68	-.36	-.54
	Levene Statistic	.14	.07	.13	.09	.15	.10	.10	.10	.09	.12
	Brown-Forsythe	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Total Samples	Mean	4.64	5.20	4.24	5.31	5.20	4.63	4.25	5.46	4.64	4.44
	SD	2.01	1.95	0.49	2.08	1.95	1.09	1.18	1.94	0.35	0.59
	Kurtosis	-0.93	-0.52	-0.78	-0.76	-0.52	-0.69	-0.54	-0.76	-0.69	-0.70
	Skewness	-0.07	-0.19	0.11	-0.15	-0.19	-0.03	0.06	0.04	-0.10	0.03
	Levene Statistic	.16	.07	.13	.07	.17	.14	.12	.11	.08	.11
	Brown-Forsythe	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

(iii) Descriptive Statistics:

The results (Table 3,4,5,6,7 & 8) highlight the Mean and SD of the scales and subscales of (i) General Health Questionnaire, (ii) Beck's Depression Inventory, (iii) Social Support Questionnaire (Number of social support and Level of satisfaction of social support), and (iv) Eysenck's Personality Questionnaire – Revised (Psychoticism, Neuroticism and Extraversion) and (v) Family Environment Scale (Cohesion, Expressiveness, Conflict, Independence, Achievement Orientation, Intellectual Cultural Orientation, Active Recreational Orientation, Moral Religious Emphasis, Organization, and Control). The results (Table 4,5,6,7,8 & 9) revealed the mean and standard deviation as well as Skewness and Kurtosis as indices for normality of the scores on the measured variables. All the skewness and kurtosis fall below 2.0 which indicates that none of the skew and kurtosis were greater than twice the standard error within an acceptable range thus revealing the applicability of parametric statistics for further analysis (Miles & Shevlin, 2001).

Table 3 showed the Mean Comparisons among the dependent variables of Drug – dependents and Non drug-dependents. Results showed that Non drug – dependents scored higher (M = 20.36) on General health than drug-dependents (M = 12.69); while the Drug-dependent group scored higher in Depression (M = 25.45) than the Non drug-dependents (M = 15.78). The result is in line with other studies that had showed depression to be common and high among persons diagnosed with substance abuse or substance dependence (e.g., Rabkin et al., 1997; Sadock, B.J. & Sadock, V.A., 2003; Hatim Alzahrani, Peter Barton & Bianca Brijnath 2015). It is likely that drugs may be used as a form of self-medication (e.g., Deykin et al, 1987) as certain drugs like cocaine and heroin may provide better "relief from depression (e.g., Curran, White & Hansell, 2000) or perhaps the use of these drugs is more likely to cause it as depression is associated with substantial physical morbidity and disability, as well as mental suffering (Lyketsos et al., 1996). It has also been observed that when substance use disorder occurs first, depressive symptoms are associated with increased frequency and severity of substance use disorder illness (Riggs et al., 1995) and increased the likelihood of relapse (White et al., 2004).

Adolescents with both disorders face increased risk of a range of negative outcomes such as increased severity of illness, relapse, and suicidal ideation, attempts, and completions (Brent, 1995; King et al., 1996; Riggs, Baker, Mikulich, Young, & Crowley, 1995; White et al., 2004). Substance use disorder symptoms also worsen existing major depressive disorder, resulting in longer and more severe depressive episodes (King et al., 1996).

In the Number of Social Support, Non drug-dependents scored higher ($M = 70.71$) than the Drug-dependents ($M = 66.42$), however, the Level of satisfaction of social support is the same for both the variables ($M = 138$ each). Existing research has suggested a positive role of social support in reducing drug use. The result can be corroborated with other studies as it has been shown that those who have more social support are more likely to stop using drugs than those with less social support (e.g., Majer et al., 2016; Tucker et al., 2005). Current drug use was predicted by more negative social support (from drug-using family/friends), depression, and less positive coping (Galaif et al., 1999). Because of their drug use, the drug dependents group may receive less physical and psychological comfort from friends and family. As psychological well-being very much depends on how a person is valued by those around him, the drug dependent group can have problems relating to physical and mental health, high levels of stress, poor capacity to cope with stress leading to increased illness and early death (e.g. Monroe & Steiner, 1986; House, 1987; House, Landis, & Umberson, 1988). Due to the low social support received by the drug dependent group, drug abstinence, treatment goals and prevention of relapse may be thwarted (e.g., Spoth and Redmond, 1994; Blume et al., 1994; Davis & Jason, 2005). However, perceived support from friends has shown a strong positive relationship with drug users' abstinence intentions, the positive influence from family support on the willingness to seek and choose abstinence may not be as great as scholars have suggested (Liu et al., 2018).

Drug – dependents have been found to have higher Psychoticism ($M = 15.5$) than the Non drug -dependents ($M = 13.88$). However, Non drug-dependents have been found to score higher on Neuroticism ($M = 14.21$) and Extraversion ($M =$

13.51) than the Drug – dependents (M = 13.71; M = 12.33). Personality has been considered as an important factor that plays a role in the predisposition, precipitation or perpetuation of drug abuse or dependence. Much attention has been given to the so-called addictive personality. People who are addicted are often found to have low self-esteem, are immature, are easily frustrated, and have difficulty solving personal problems and relating to people of the complementary sex. Addicts may try to escape reality and have been described as fearful, withdrawn, and depressed. Some have a history of frequent suicide attempts or self-inflicted injuries. Addicts have sometimes been described as having dependent personalities, grasping for support in their relationships and having difficulty taking care of them. Others exhibit overt and unconscious rage and uncontrolled sexual expression. The traits that have emerged can be a result of long-term addiction and not necessarily an antecedent of drug abuse. However, it is particularly the psychoticism dimension, which refers to the degree to which reality is distorted, has been found to be correlated with addictive behavior (Eysenck and Eysenck, 1985). The underlying theory states that there is a dimension of personality which relates to a person's liability to functional psychosis (Eysenck, 1992). Psychoticism measures a dispositional variable; and it has to be combined with stress to produce actual psychiatric symptoms.

The result which showed that Psychoticism being high in Drug-dependents and Extraversion being low as compared to Non drug-dependents can be supported by other related studies (Gossop ,1978; Teasdale et al., 1971; Gossop & Eysenck. 1983; Abu-Arab and Hashem ,1995). High correlations between Novelty Seeking and Impulsive Sensation Seeking (Zuckerman-Kuhlman Personality Questionnaire; Zuckerman, Kuhlman, Joireman, Teta & Kraft, 1993; Zuckerman & Cloninger, 1996) and Eysenck's Psychoticism factor has also been found (De Fruyt et al., 2000), and both novelty seeking and sensation seeking measures have been known to have strong relationships with antisocial behaviour, antisocial personality, and substance abuse, but little or no relationship to neurotic or anxious personality disorders. As Barratt (1990) had posited that impulsivity which is one of the main tenets of Eysenck's psychoticism scale levels have been found to be higher in substance abusers than in the controls (alcohol: Heath et al., 1997; Cooper et al., 2000; tobacco:

Patton et al., 1993; Mitchell, 1999; caffeine: Revelle et al., 1980). Studies by Gossop (1978) and Teasdale et al. (1971) showed that drug-dependent groups had typically high levels of psychoticism. Gossop and Eysenck (1983) had found that drug addicts and criminals scored higher on Psychoticism, lower on Extraversion, and higher on Neuroticism (particularly the women). It is not surprising that the degree of sociability, extraversion has been found to be low in many studies among drug dependents (Gossop, 1978; Teasdale et al., 1971; Gossop & Eysenck, 1983; Abu-Arab & Hashem, 1995) and this low extraversion is associated with symptoms of anxiety, mood disorders, and psychotic disorders (Malouff, Thorsteinsson & Schutte, 2005). Drug dependent group may have difficulty in being positive, assertive, dynamic, kind, and sociable and will be less likely to seek social interactions (e.g., McCrae & Costa 1991; Larsen & Ketelaar 1991). As they are low in extraversion, they are likely to be less sensitive to pleasure or reward cues from the environment (Larsen & Ketelaar 1991; McCrae & Costa 1991; Pickering & Gray 2001).

Various studies have found Neuroticism to be high among drug dependents (Gossop & Eysenck, 1983; Abu-Arab & Hashem, 1995; Lodhi & Thakur, 1993; Madhuri, 2012; Seyed, 2016; Wani & Singh, 2016). Neuroticism refers to the tendency to experience negative emotions such as fear, sadness, impulsivity, and vulnerability to pressure (De Fruyt et al., 2009) as well as the tendency to experience anxiety, stress, hostility, impulsivity, shyness, irrational thought, depression and low self-esteem. It is characterized by a pervasive sensitivity to negative or punishment cues in the environment (McCrae & Costa 1991; Watson & Clark 1992). Individuals who rate high on a scale for neuroticism tend to avoid social situations, are reserved or socially awkward, and prefer solitary activities to social ones. Further, they tend to have negative views of themselves and the world, regardless of the objective reality (McCrae & Costa 1991). It has been postulated that Novelty Seeking was highly correlated with Extraversion and Conscientiousness of the NEO (De Fruyt et al., 2000). In the present study as seen on Table – 4, Non drug-dependents have been found to score higher on Neuroticism ($M = 14.21$) than the Drug – dependents ($M = 13.71$). The result is in disparity with numerous findings, however, Bukhtawer and colleagues (2014) had found a similar result where Neuroticism trait was found to be

less among drug abuse cases. Cultural variation and social desirability can be the causal factors for such result.

Table 4 showed the Mean Comparison among the dependent variables of Male and Female. Results have shown that Males scored higher on General health ($M = 17.82$) than Females ($M = 15.23$). Females are revealed to score higher on Depression ($M = 21.9$) as compared to Males ($M = 19.32$). Several studies have indicated that women are more twice as likely to have mood disorders as men (Kessler, 2006; Kessler & Wang, 2009). The result is supported by other studies that have found significant gender difference in various studies on depression and that female have higher depression as compared to male. The source of these differences can be cultural, in the sex roles assigned to men and women in our society where males are strongly encouraged to be independent, masterful, and assertive; females, by contrast, are expected to be more passive, sensitive to other people, and, perhaps, to rely on others more than males do (Cryanowski, Frank, Young & Shear, 2000; Hankin & Abramson, 2001). Women experience more discrimination, poverty, sexual harassment, and abuse than do men. They also earn less respect and accumulate less power. In addition, role-gender interaction theory proposes that the lower social status of women negatively influences the quality of their social roles (Gove, 1972). The unrewarding and stressful nature of these roles may account for the higher rate of depression in women. Women tend to place higher value on intimate relationships than men, which can be protective if social networks are strong, but may also put them at risk. Disruptions, in such relationships, combined with an inability to cope with the disruptions, seem to be far more damaging to women than to men (Nolen-Hoeksema & Hilt, 2009; Rudolf & Conley, 2005). Even when women and men are confronted with similar stressors, women may be more vulnerable than men to developing depression and related anxiety disorders such as posttraumatic stress disorder (Breslau, Davis, Andreski, Peter son, & Schultz, 1997). Women's greater reactivity compared with that of men has been attributed to gender differences in biological responses, self-concepts, and coping styles. Myers and Prescott (2005) also observed that women tend to have larger and more intimate social networks than men and that emotionally supportive groups of friends protect

against depression. The tendency for women to ruminate more than men about their situation leading them to blame themselves for being depressed can also be an important factor (Nolen-Hoeksema, 1990, 2000; Nolen-Hoeksema, Wisco & Lyubomirsky, 2008). This response style predicted later development of depression when under stress (Abela & Hankin, 2008). Men tend to ignore their feelings, perhaps engaging in activity to take their minds off them (Addis, 2008) and this male behaviour may be therapeutic because 'activating' people (getting them busy with something) is a common element of successful therapy for depression (Jacobson, Martell & Dimidjian, 2001). The learned helplessness theory can also explain the problem of differential sex ratio in depression, where women are more likely to be socialized to make depressive attributions for failure (Dweck & Bush, 1976; Dweck, Davidson, Nelson & Enna, 1978; Radloff, 1975; Radloff & Rae, 1979).

In terms of the Number of social support, no difference has been found between Male and Female as they have approximately the same score ($M = 68.68$; $M = 68.45$), and in the Level of satisfaction of social support, Female scored higher ($M = 140.55$) than Male ($M = 136.61$). Although several findings have suggested that females have greater social support from friends and family (Zimet et al., 1988; Ashton & Fuehrer, 1993; Burda, Vaux & Schill, 1984; Hirsch, 1979; Stokes & Wilson, 1984), others have also revealed that gender was not significantly associated with any form of social support (Rothman et al., 2006). Women and men do not usually differ in reported amounts of informational or tangible support (Burda et al., 1984), however, in one study men reported a greater number of people who provided financial aid to them than women did (Vaux, 1985). The reason and the means with which men and women sought social support can differ (e.g., Defares, Brandjes, Nass, and van der Ploeg, 1984). Stokes and Wilson (1984) had conducted a research with college students. They had found that females reported receiving more emotional social support than males. It has also been indicated that women reported establishing more of all kinds of support, and they have been found to be better satisfied with the quality of support they received than did men (Allen & Stoltenberg, 1995). Males have also been found to perceive significantly higher social support from friends than females, whereas support from significant others was higher in

females (Soman et al., 2016). The tendency to use social support as a significant palliative for coping with stressful circumstances is a well-learned behaviour pattern for women (Eagly & Wood, 1991), and women are better at providing social support than are men and hence that social relationships with women are more beneficial to health and well-being than relationships with men (House, 1986).

Male has been found to have higher score in Psychoticism (Male $M = 14.95$; Female $M = 14.44$) while in Neuroticism and Extraversion, Female are found to have higher scores than Male (Neuroticism – Male $M = 13.28$; Female $M = 14.64$, Extraversion – Male $M = 12.52$; Female $M = 13.32$). Because of the more stress and emotional distress experienced by women in daily event (Hyde, J.S., Mezulis, A.H., & Abramson, 2008), neuroticism tends to be higher in women than men (Weisberg, Deyoung & Hirsh, 2011). Blatt (2008) had explained that women's and men's experience in personality development are different. In particular, women are argued to place more emphasis on issues related to interpersonal relatedness, especially in terms of giving and receiving care, affection, and love. On the contrary, men tend to place more emphasis on self-definition, especially in terms of individualistic self-assertion. Feingold (1994) had found that males were more assertive and had slightly higher self-esteem than females. On the other hand, extraversion, anxiety, trust, and especially, tender-mindedness (e.g., nurturance) of females were higher than males. Women have been found to score higher than men on Neuroticism as measured at the Big Five trait level, as well as on most facets of Neuroticism included in a common measure of the Big Five, the NEO-PI-R (Costa et al., 2001). In fact, they have even reported themselves to be higher in neuroticism, agreeableness, warmth, and openness to feelings, whereas men were higher in assertiveness and openness to ideas (Costa, Terracciano, & McCrae, 2001). Women tend to score higher than men on Warmth, Gregariousness, and Positive Emotions, whereas men score higher than women on Assertiveness and Excitement Seeking (Feingold, 1994; Costa et al., 2001). It has also been reported that for females, neuroticism (as measured by elevations on the hypochondriasis, depression and hysteria scales) was more important in predicting the use of licit drugs and cannabis, with psychopathic deviance and mania being more important in predicting other illicit drugs. For males, elevated

psychopathic deviance and mania scale scores were strongly associated with extent of drug use (Tara Lavelle et al., 1993). Individuals with high Neuroticism with negative emotions and low Agreeableness, and those who are undisciplined and disorganized (low Conscientiousness) are more likely to use substance than those who have opposite of these traits (Sutin, Evans & Zonderman, 2013).

Table 5 showed the Mean Comparison among the four comparison groups (Drug-dependent Male, Drug – dependent Female, Non drug-dependent Male, Non drug-dependent Female). In General health, Non drug-dependent Male has been found to score the highest ($M = 22.13$) while Drug-dependent Female has scored the lowest ($M = 11.86$). Drug – dependent Female scored the highest in Depression ($M = 27.53$) while Non drug-dependent Male has been found to have the lowest score ($M = 15.28$). While women may typically begin using substances later than men, once they have initiated substance use, women tend to increase their rate of consumption of substances such as alcohol, cannabis, cocaine and opioids more rapidly than men thereby rapidly develop drug use disorders. Women are more disadvantaged in the society and are therefore more likely to have more problems relating with both physical and mental health. Women with substance use disorders are reported to have high rates of post-traumatic stress disorder and may also have experienced childhood adversity such as physical neglect, abuse or sexual abuse. More men than women use and become dependent upon most drugs, and drug use falls more in females than males during the transition to adulthood. However, females may progress more rapidly from initiation of use to problematic use to treatment (Kahn, 2015). Women have also been found to have more psychiatric problems than men, particularly in terms of depression and anxiety (Grella & Joshi, 1999; Pelissier & Jones, 2005; Stevens, Andrade & Ruiz, 2009; Han, et al., 2016). Substance-abusing women are more likely to face problems with limited income, education, job skills, and living with substance-abusing individuals (Hser, et al., 2004; Hser et al., 2003; Niv & Hser, 2007). As women are more likely to experience mood disorder, they need more responsive psychiatric services than men. (Shand, Degenhardt, Slade & Nelson, 2011; Zhang et al., 2013). In the treatment of drug dependency, it was found that women generally pursue substance use to alter feelings about relationships, while men prefer an independently pleasurable experience (Stevens et al., 2009).

Non drug-dependent Male has the highest number of Social Support (M = 70.21) while Drug-dependent female has the lowest number of Social Support (M = 65.69) even though they have the highest score in the level of satisfaction in social support (M = 141.56) while the Drug-dependent Male has the lowest level of satisfaction in social support (M = 135.74). Studies have consistently reported that women tend to be higher when it comes to seeking and receiving higher levels of emotional support than men do (Ashton & Fuehrer, 1993; Burda, Vaux & Schill, 1984; Hirsch, 1979; Stokes & Wilson, 1984). Defares, Brandjes, Nass and van der Ploeg (1984), for example, has found that men more frequently utilized an active cognitive coping strategy, such as assertive attitudes and leadership behaviours, where as women tend to seek out social support in order to find solutions to their problems. Shumaker and Hill (1991) had suggested that women were more likely to seek out support from others than were men. Women have also been revealed to be social support providers more often than men are (Belle, 1982; Fischer, 1982). With regard to sources of support, men report more support from their spouses than women do (Antonucci & Akiyama, 1987; Wong, 1986), whereas women report more support from friends and neighbours (Allen & Stoltenberg, 1995; Depner & Ingersoll-Dayton, 1988; Olsen & Shultz, 1994; Vaux, 1985; Wohlgemuth & Betz, 1991; Wong, 1986). It has also been revealed that women find a greater number of family members supportive than men do (Allen & Stoltenberg, 1995; Caldwell & Bloom, 1982; McFarlane, Neale, Norman, Roy, & Streiner, 1981; Stokes & Wilson, 1984). Drug use has been found to be associated with dissatisfaction in perceived social support from most sources, with the strongest relationships amongst drug using females. The result is consistent with other findings that had shown that women who reported drug misuse had lower levels of family and friend support (Rothman et al., 2006; D'Orion et al., 2015).

Drug – dependent Male has the highest score in Psychoticism (M = 15.86) with Drug – dependent Female scoring the next highest (M = 15.16), Non drug-dependent Male (14.05) and Non drug-dependent Female has the lowest score (M = 13.71). However, Non drug -dependent Female has the highest score in both Neuroticism and Extraversion (M = 14.95; M = 13.86 respectively) while Drug-

dependent Male has the lowest score (Neuroticism $M = 13.09$; Extraversion $M = 11.8$). People who are addicted often found to have low self-esteem, are immature, are easily frustrated, and have difficulty solving personal problems and relating to people of the complementary sex. Addicts may try to escape reality and have been described as fearful, withdrawn, and depressed. Some have a history of frequent suicide attempts or self-inflicted injuries. Addicts have sometimes been described as having dependent personalities, grasping for support in their relationships and having difficulty taking care of them. Others exhibit overt and unconscious rage and uncontrolled sexual expression. Evidence has suggested that most of these traits emerged as a result of long-term addiction and are not necessarily an antecedent of drug abuse. Many researches have found addicts higher on psychoticism, lower on extraversion, higher on neuroticism; particularly the women), and lower on the lie scale (Gossop & Eysenck, 1983; Abu-Arab & Hashem, 1995). Gossop and Eysenck, (1980) also found that for both males and females' high level of P (Psychoticism) was an important discriminant factor for drug addicts, with high neuroticism (N) also important, but less so for women than for men.

Mean Comparison among the dependent variables of Drug – dependents and Non drug-dependents on Family Environment is shown on Table - 6. Results showed that Non drug-dependents scored higher on Cohesion ($M = 5.26$), Conflict ($M = 4.98$), Independence ($M = 5.83$), Achievement Orientation ($M = 6.05$), Intellectual Cultural Orientation ($M = 5.79$), Active Recreation ($M = 5.20$), Moral Religious Emphasis ($M = 6.22$), Organization ($M = 5.35$) and Control ($M = 5.05$) as compared to Drug -dependents. Non drug-dependents scored higher on Cohesion ($M = 5.26$) than Drug-dependents ($M = 4.02$). The result is consistent with other findings (e.g., Duncan, Duncan and Hops, 1994; Andrews et al., 1991; Slesnick & Prestopnik, 2004). Family has been considered a significant source of protection against drug and alcohol abuse and engagement in deviant behaviours among adolescents (Chen et al., 2010; Hawkins et al., 1992; Bahr et al, 1995; Broman et al., 2006; Vega et al., 1998; Gil, Vega & Dimas, 1994; Ramirez et al., 2004). It has also been found that family with high cohesion, support and communications produces a better adolescent (Loeber et al., 1998).

Drug-dependents scored higher ($M = 5.76$) than Non drug-dependents in Expressiveness ($M = 4.64$), the degree to which family members are encouraged to express feelings and problems. Although some findings have suggested the difficulty of expressing feelings and problems in the family, especially in collectivistic society among drug dependents (Sobia Masood & Najam Us Sahar, 2014; Bala, Balda & Kumari, 2018), the present study reveals otherwise. Non drug-dependents scored higher ($M = 4.98$) than Drug-dependents ($M = 3.51$) on Conflict. The result is in contradictory with various findings that has found conflict to be higher among drug dependents as compared to normal population (Andrews et al., 1991; Slesnick & Prestopnik, 2004). The reason for the contradictory findings can be explained in terms of the family made up of different individuals making different settings thereby making the family environment unique. The environments can differ in many ways. For example, one obvious difference lies in the socio-economic level and parenting practices (Zastrow & Kirst-Ashman, 2013). The high Psychoticism level of the Drug-dependents group that makes it hard for them to be reality oriented and that they are likely to believe that they have the opportunity to be expressive freely could be one possible factor. Cultural variations and social desirability should also be taken into account.

Non drug-dependents scored higher ($M = 5.83$) than Drug-dependents ($M = 4.80$) on Independence. The result is consistent with other findings (Andrews et al., 1991; Slesnick & Prestopnik, 2004). Non drug-dependents feel that family members are assertive and that they can independently make their own decisions.

Non drug-dependents ($M = 6.05$) scored higher than Drug-dependents ($M = 4.35$) on Achievement Orientation. The result is in consistent with other findings (Bala, Balda & Kumari, 2018). The detrimental physical and psychological effects of drug dependency can result in being inactive and less productive.

In Intellectual cultural orientation, Non drug-dependents have scored higher ($M = 5.79$) than the drug-dependents ($M = 3.47$). The result is consistent with other findings (Friedman et al., 1991; Bala, Balda & Kumari, 2018). Impaired functioning being one of the distressing consequences of drug dependency, being less proactive

in political, social, intellectual, and cultural activities is likely among the drug dependents.

Non drug-dependents scored higher ($M = 5.20$) than Drug-dependents ($M = 3.31$) in Active recreational orientation, the extent to which family members emphasized participation in social and recreational activities. The result is consistent with other findings (Bala, Balda & Kumari, 2018).

In Moral religious emphasis, Non drug-dependents scored higher ($M = 6.22$) than drug-dependents ($M = 4.71$). The result is consistent with other studies (e.g., Madu & Matla, 2003; Bradford et al., 2008; Manlove et al., 2008; Bala, Balda & Kumari; 2018). Increased religiosity has been linked with less antisocial or problem behaviour, including reduced substance use and risky sexual behaviour (Bradford et al., 2008; Manlove et al., 2008). The more religious the family is; the less likely adolescents will use illicit drugs. Hence, religiosity in the family may provide more support, which protects children from associating with drug-using peers (Hardesty & Kirby, 1995). Some have even suggested that programmes for the reduction of substance use among adolescents should include activities designed to reduce family conflict and strengthen family moral-religious emphasis (Madu & Matla, 2003).

Non drug-dependents have scored higher ($M = 5.35$) than Drug-dependents ($M = 3.92$) on Organization which entails the extent to which family endorses clear organization and structure in planning family activities and responsibilities. Similar results have been found in other studies (Kothari & Nair, 2010; Bala, Balda & Kumari; 2018; Friedman et al., 1991).

Non drug-dependents scored higher ($M = 5.05$) than Drug-dependents ($M = 3.84$) on Control. The result is consistent with other studies (Friedman et al., 1991; Bala, Balda & Kumari; 2018). The extent to which rules and procedures are followed and enforced by family members have been found to be carried out easier among the non drug-dependents.

Mean Comparison among the dependent variables of Male and Female on Family Environment (Table – 7) has revealed that Female scored higher on Cohesion

(M = 4.82), Expressiveness (M = 5.79), Conflict (M = 4.49), Achievement Orientation (M = 5.85), Intellectual Cultural Orientation (M = 4.95), Active Recreation (M = 4.47), Moral Religious Emphasis (M = 5.82), Organization (M = 5.14) and Control (M = 4.97) as compared to Male. Male however, scored higher on Independence (M = 5.51) than Female (M = 5.12).

The result that revealed that Females scored higher (M = 4.85) as compared to Males (M = 4.45) on Cohesion has been substantiated by other studies (Tung & Dhillon, 2006; Sharma, 2014). Family cohesion (i.e., the emotional bonding among family members and the feeling of closeness) is expressed by feelings of belonging and acceptance within the family system (McKeown et al., 1997). Cohesion has been viewed as a positive factor and it has been suggested that cohesiveness and bonding may have progressive effects in adolescent development as cohesive families ensure better psycho-social development in adolescents and that families marked by cohesion and moderate amount of control with moderate independence serve as the right combination for adolescents' growth by reducing their stress and anxiety (Tung & Sandhu, 2008).

In Expressiveness, Females scored higher (M = 5.79) than Males (4.61). Some studies have found that adolescent boys and girls did not differ significantly on any dimension of family environment (Devi & Kavitha, 2014), while others have showed that adolescent boys perceived family environment as more expressive, more accepting and caring, more independent, while, adolescent girls perceived family environment as more organized and controlling (Shanti Balda, Sheela Sangwan & Arti Kumari, 2019). The reason for this was interpreted in terms of cultural norms and expectation for gender roles where boys were encouraged to act openly and express their feelings and thoughts directly as compared to girls. Verma and Ghadially (1985) also reported that male children received more independence and encouragement than females because of cultural roles assigned to both the sexes in adult life. Weng-Lin and colleagues (2008) have found that males score higher than females in expressive hostility behaviour and females have significantly higher scores in suppressive hostility than males. Weng, Lin, and Jiang (2010) found that

both suppressive hostility and expressive hostility is found high among females.

In Conflict, Females scored higher ($M = 4.49$) than Males (3.99). The result is corroborated by previous findings (Meyerson et al., 2002; Mohanraj & Latha, 2005; Wu et al., 2004). Women being at a more disadvantaged status in the society, they are prone to various forms of abuse, and hence tend to perceive more conflict in the family. Cultural roles and expectations that girls are subjected to; such as, being involved in heavy sex role constraints, more vulnerable to social criticism as well as having to be contend with culturally created values can also be an important factor (Mohanraj & Latha, 2005).

In Independence, Males scored higher ($M = 5.51$) than Females ($M = 5.12$). Other studies have found similar result (Verma & Ghadially, 1985; Shanti Balda, Sheela Sangwan & Arti Kumari, 2019). Cultural norms and expectation for gender roles where boys were encouraged to act openly and express their feelings and thoughts directly as compared to girls has been considered as an important aspect (Verma & Ghadially, 1985). Boys have also been found to receive more encouragement for personal growth through acceptance and caring attitude and independence; as well as through participation in social and recreational activities as compared to their female counterparts.

In Achievement orientation, Females scored higher ($M = 5.85$) than Males ($M = 4.55$). Some studies have found that Males are higher in achievement orientation (Ninaniya, Sangwan & Balda, 2019). However, other studies have found that males and females did not differ significantly on any dimension of family environment (Devi & Kavitha Kiran, 2014).

In the dimension of Personal Growth, females scored higher than males. In Intellectual cultural orientation, Females scored higher ($M = 4.95$) than Males (4.32); in Active recreational orientation, Females scored higher ($M = 4.47$) than Males (4.04); and in Moral religious emphasis, Females scored higher ($M = 5.82$) than Males (5.10). The result is consistent with other findings (Tung & Dhillon, 2006).

In Organization, Females scored higher (M = 5.14) than Males (4.13) and in Control, Females scored higher (M = 4.97) than Males (3.91). The result is consistent with other findings (Tung & Dhillon, 2006; Pinki Ninaniya, Santosh Sangwan & Shanti Balda, 2019).

Table - 8 showed the Mean Comparison among the four comparison groups (Drug-dependent Male, Drug – dependent Female, Non drug-dependent Male, Non drug-dependent Female) on Family Environment. Result table revealed that Non drug-dependent Female scored the highest on Cohesion (M = 5.51), Conflict (M = 5.19), Achievement Orientation (M = 6.65), Intellectual Cultural Orientation (M = 6.39), Active Recreation (M = 5.51), Moral Religious Emphasis (M = 6.51), Organization (M = 5.64) and Control (M = 5.29). Drug – dependent Female scored the highest in Expressiveness (M = 6.08) while in Independence, Non drug-dependent Male scored the highest (M = 6.14). Drug – dependent Male scored the lowest in Cohesion (M = 3.89), Conflict (M = 3.21), Achievement Orientation (M = 3.66), Intellectual Cultural Orientation (M = 3.44), Active Recreation (M = 3.18), Moral Religious Emphasis (M = 4.27), Organization (M = 3.20) and Control (M = 3.02). Non drug-dependent Male has the lowest score on Expressiveness (M = 3.78) while Drug-dependent Female has the lowest score in Independence (M = 4.72).

Skeer and colleagues (2011) had suggested that the association between childhood family conflict and SUDs in adolescence differed by gender ($p=0.04$) and that family conflict was significantly associated with SUDs among females (OR: 1.61; CI: 1.20, 2.15), but not among males (OR: 1.00; CI: 0.76, 1.32). Females living in families with elevated levels of conflict were more likely to engage in acting out behaviours, which was associated with the development of substance use disorders. The elevated risk of SUDs among females exposed to family conflict was partly explained by girls' conduct problems but not anxious/depressive symptoms.

Figure – 24: Showing the Mean Comparison of the scales and sub-scales of the General Health, Depression, Number of social support, Level of satisfaction of social support, Psychoticism, Neuroticism and Extraversion on the dependent variables (Drug dependents and Non-drug dependents).

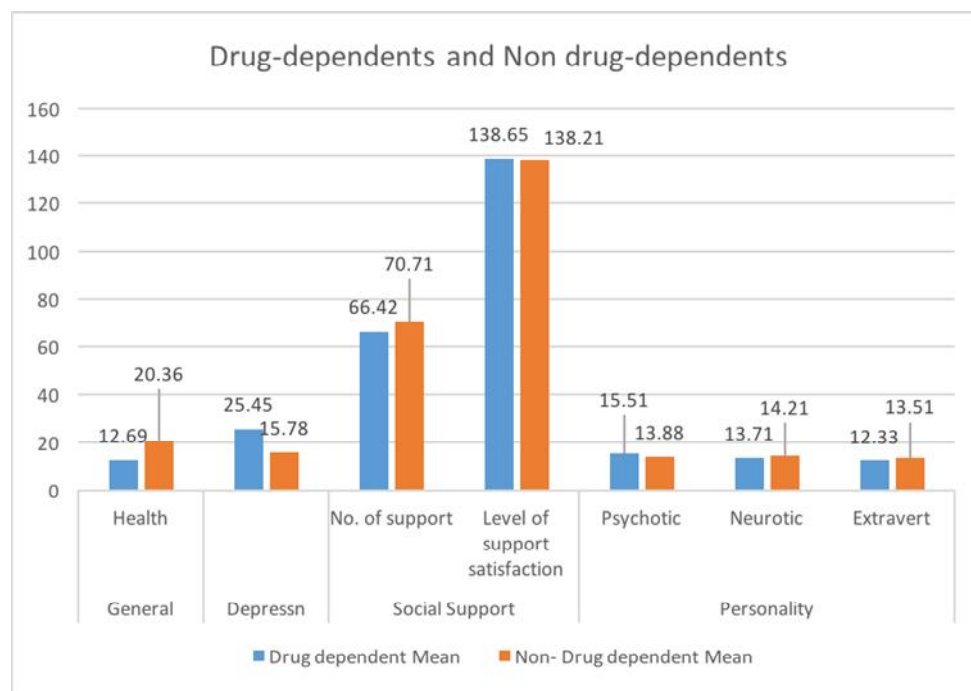


Figure – 25: Showing the Mean Comparison of the scales and sub-scales of the General Health, Depression, Number of social support, Level of satisfaction of social support, Psychoticism, Neuroticism and Extraversion on the dependent variables (Male and Female).

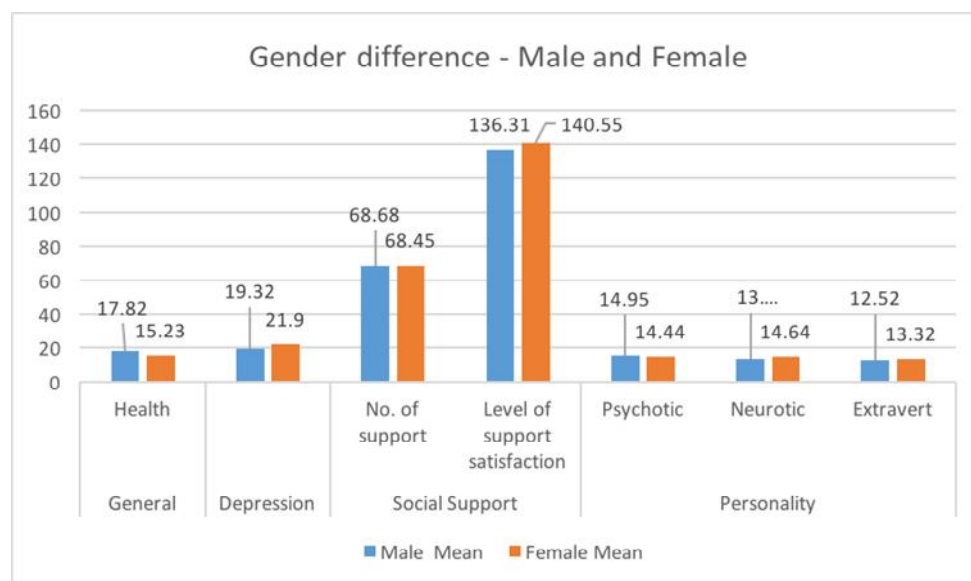


Figure – 26: Showing the Mean Comparison of the scales and sub-scales of the General Health, Depression, Number of social support, Level of satisfaction of social support, Psychoticism, Neuroticism and Extraversion on the dependent variables among the four comparison (Drug dependents male, Drug dependents female, Non-drug dependents male and Non-drug dependents female).

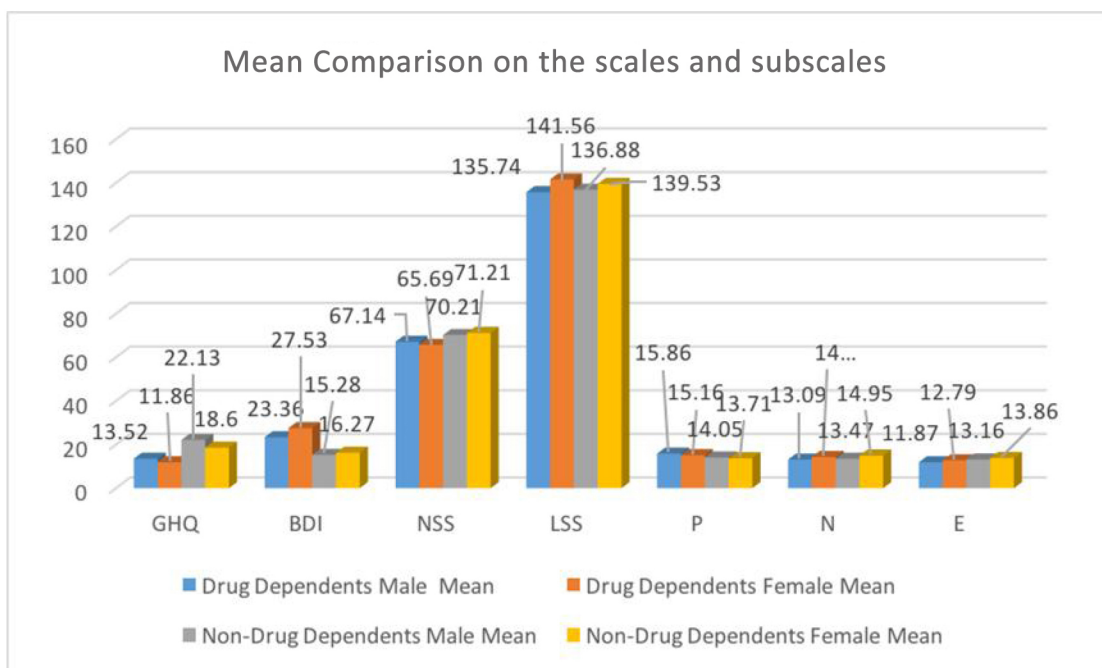


Figure – 27: Showing the Mean Comparison of the Family Environment Scale (Cohesion, Expressiveness, Conflict, Independence, Achievement Orientation, Intellectual Cultural Orientation, Moral Religious Emphasis, Organization, and Control) on the dependent variables (Drug dependents and Non-drug dependents).

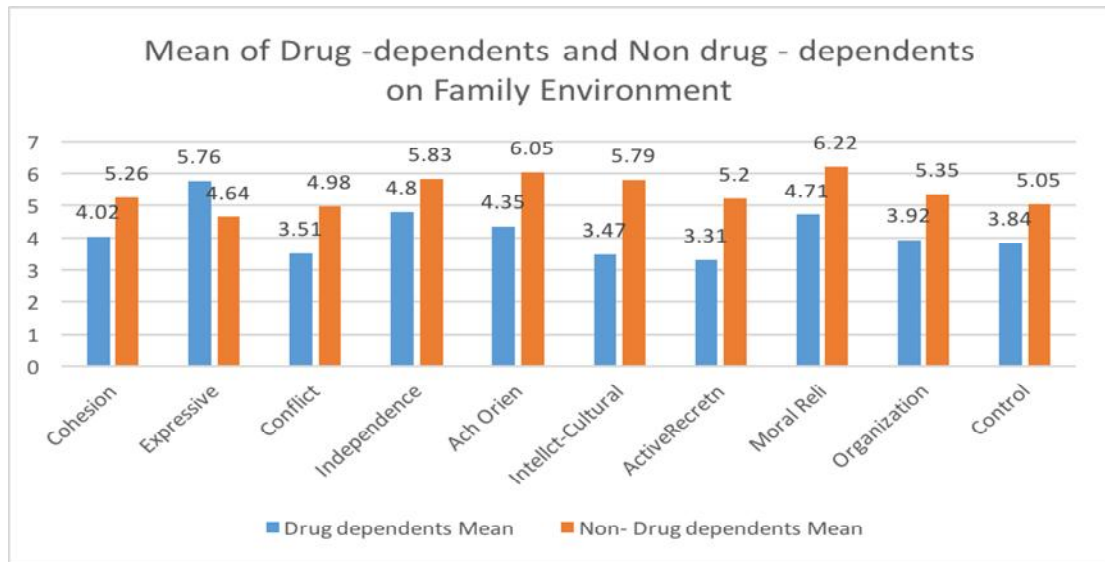


Figure – 28: Showing the Mean Comparison of the Family Environment Scale (Cohesion, Expressiveness, Conflict, Independence, Achievement Orientation, Intellectual Cultural Orientation, Moral Religious Emphasis, Organization, and Control) on the dependent variables (Male and Female).

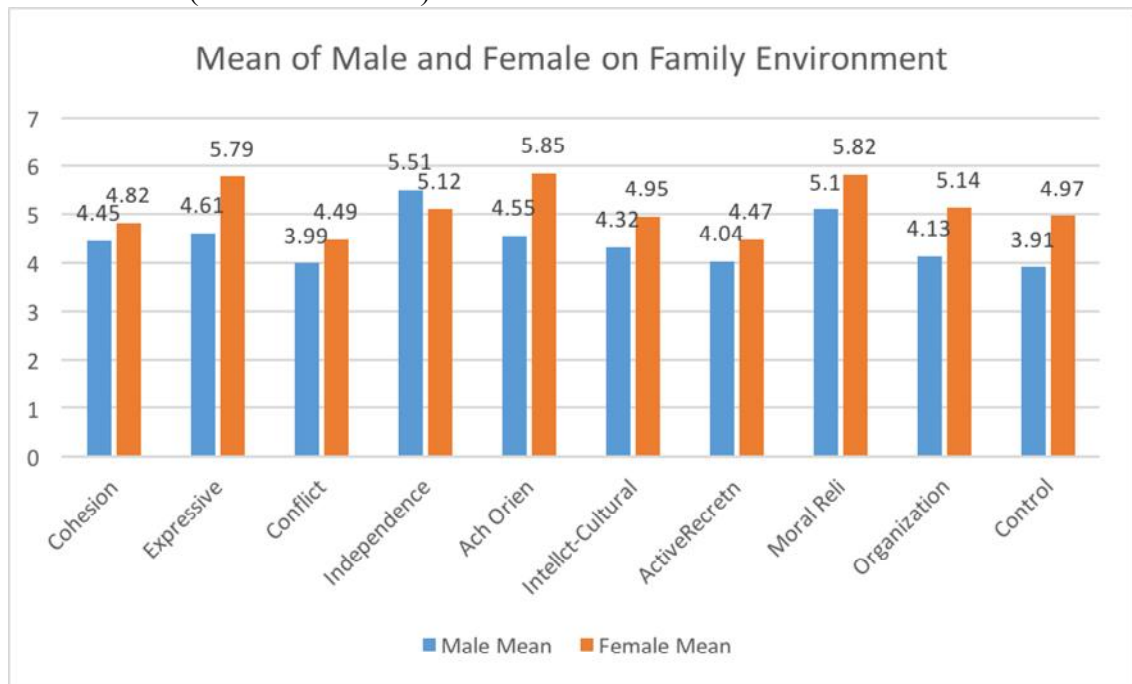
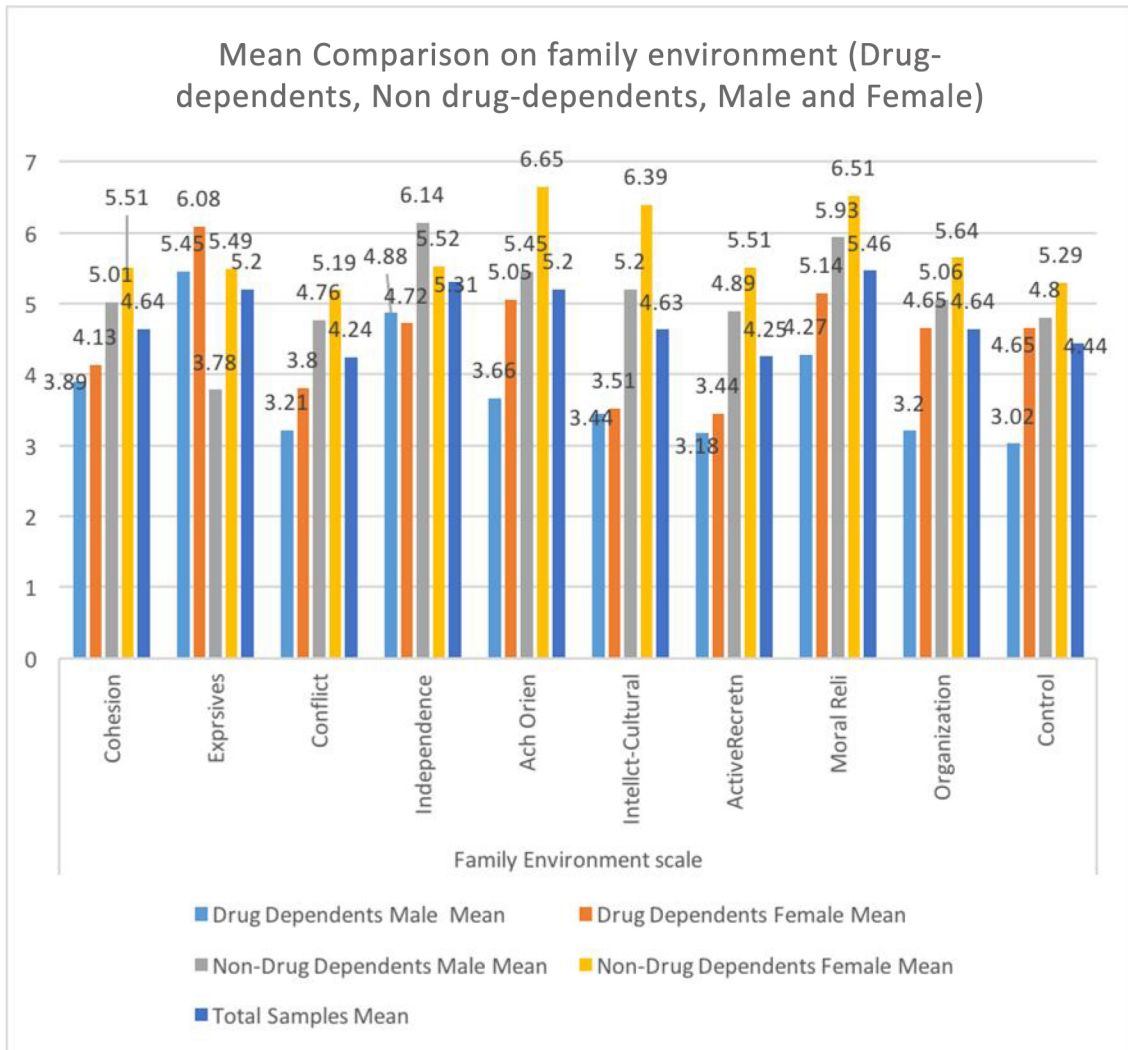


Figure – 29: Showing the Mean Comparison of the Family Environment Scale (Cohesion, Expressiveness, Conflict, Independence, Achievement Orientation, Intellectual Cultural Orientation, Moral Religious Emphasis, Organization, and Control) on the dependent variables (Drug dependents male, Drug dependents female, Non-drug dependents male and Non-drug dependents female).



(iv) Correlation Statistics:

The correlation matrix of the psychological variables of the scales and subscales of General Health, Depression, Number of social support, Level of satisfaction of social support, Psychoticism, Neuroticism and Extraversion, and Family Environment (Cohesion, Expressiveness, Conflict, Independence, Achievement Orientation, Intellectual Cultural Orientation, Moral Religious Emphasis, Organization, and Control) is presented in Table – 9. The results revealed that Health has significant positive correlation with Cohesion ($r = .20$; $p < .01$), Conflict ($r = .21$; $p < .01$), Independence ($r = .16$, $p < .01$), Achievement Orientation ($r = .19$; $p < .01$), Intellectual Cultural Orientation ($r = .25$; $p < .01$), Active recreation ($r = .26$; $p < .01$), Moral Religious Emphasis ($r = .13$; $p < .05$), Organization ($r = .12$; $p < .05$); and negative correlation with Depression ($r = -.33$; $p < .01$), Psychoticism ($r = -.12$; $p < .05$), Expressiveness ($r = -.32$; $p < .01$).

Depression has positive correlation with Expressiveness ($r = .20$; $p < .01$) while it has negative correlation with Conflict ($r = -.11$; $p < .05$), Independence ($r = -.22$; $p < .01$), Achievement Orientation ($r = -.14$; $p < .05$), Intellectual Cultural Orientation ($r = -.27$; $p < .01$), Active Recreation ($r = -.25$; $p < .01$), Moral Religious Emphasis ($r = -.24$; $p < .05$). Poor family environment in terms of parental hostility, rejection and inconsistencies has been found to contribute to psychological problems viz. anxiety, stress, neuroticism, depression and many others (e.g., Sharma, Verma and Malhotra, 2008). Depressed persons often perform poorly in marriage and relationship with family members and they also might respond negatively to others, which have the ability to create stressful life events, which as a result might drive the person further into depression. Depressed people are dependant on other people and constantly seek reassurance in such a way that drives people away. Rudolph, Kurlakowsky and Conley (2001) has demonstrated that family disruption, as well as exposure to chronic stressful circumstances within the family, peer and school settings, predicted decrease in perceptions of control and increase in helpless behaviour in academic and social situations. These maladaptive beliefs and behaviour were in turn associated with depression. The ambiance of a family has the

most weight and impact on a depressed individual. Family and peer social support may be significant promotive factors for youth by helping them cope with difficult challenges and reducing depression risk, particularly for those living in high-risk environments (Rosenfeld, Richman, Bowen & Wynns, 2006). Despite changes in family relationships during adolescence (Steinberg, 1999), parents continue to be a vital source of support for youth (Cobb, 2007). Depressive symptoms were elevated across adolescence with higher levels of violence observation and conflict in the family environment. Violence observation and conflict in the family were each associated with increased depressive symptoms during the high school years (Eisman et al., 2015). Those who are high in family relationship (cohesion), personal growth and system maintenance were low in different depression (Lau & Kwok, 2000).

Correlation analysis showed that depression was found to be significantly and negatively correlated with cohesion, expressiveness, independence and recreational orientation dimensions of family environment. Regression analysis showed that expressiveness, cohesion and independence significantly contributed to depression independently as well as conjointly. Further, it was suggested that adolescents having families high on expressiveness, cohesion and independence exhibited lower level of depression (Aydin & Oztutuncu, 2001). Kaur and Sapra (2014) had found depression to be negatively and significantly correlated with four dimensions of family environment namely cohesion, active recreational orientation, independence and organization whereas it is positively correlated with conflict in the family. Lee and colleagues (2006) had found that low levels of family cohesion, support and high levels of parent- adolescent conflict were positively related to depression and suicide ideation in both male and female.

The Number of Social Support has a positive correlation with Cohesion ($r = .14$; $p < .01$), Active recreation ($r = .11$; $p < .05$), Organization ($r = .13$; $p < .05$) and Level of satisfaction of social support has a positive correlation with Neuroticism ($r = .14$; $p < .05$), Extraversion ($r = .13$; $p < .05$), Control ($r = .11$; $p < .05$). The family domain is a salient influence in the development of healthy youth. Family and peer social support may be significant protective factors for youth by helping them cope

with difficult challenges and reducing depression risk, particularly for those living in high-risk environments (Rosenfeld, Richman, Bowen, & Wynns, 2006). Despite changes in family relationships during adolescence (Steinberg, 1999), parents continue to be a vital source of support for youth (Cobb, 2007). Helsen and colleagues (2000) had reported that parents remain a key source of support during adolescence. Social support has been found to moderate the effects of interpersonal conflict when conflicted networks were large (Nitz, Ketterlinus & Brandt, 1995). Although, several studies have found that a social support to be negatively correlated with depression (Franks et al., 1992), however, the present study did not find any significant correlation between social support and depression.

Farrell and Barnes (1993) had indicated that the more cohesion in a family, the better all family members function, and this linear relationship holds true across a wide range of outcome indicators of psychological functioning, relationship quality, and behaviour. While family environmental factors influence early stages of drug involvement and choice of peers, socialization by peers significantly influences both initiation and continued substance use (Steinberg et al., 1994). Having more emotional support and more instrumental financial support were significantly associated with having better cohesiveness in the family (Milburn et al., 2005)

Psychoticism has a positive correlation with Neuroticism ($r = .34$; $p < .01$) while it has a negative correlation with Conflict ($r = -.14$; $p < .01$), Achievement Orientation ($r = -.24$; $p < .01$), Intellectual Cultural Orientation ($r = -.11$; $p < .05$), Active Recreation ($r = -.12$; $p < .05$), and Control ($r = -.13$; $p < .05$). The negative correlation between Psychoticism and Conflict ($r = -.14$; $p < .01$), Achievement Orientation ($r = -.24$; $p < .01$), Intellectual Cultural Orientation ($r = -.11$; $p < .05$), Active Recreation ($r = -.12$; $p < .05$), and Control ($r = -.13$; $p < .05$) can be corroborated with other findings (e.g., Sines, 1984). Chauhan (2006) had revealed that family environment contributed 85% of variance in neuroticism which is all emotionality and anxiety disorders. Jenkins (1967, 1968, & 1969) found that anxiety run in families i.e. overanxious children due to their genetic make-up tend to have over-neurotic parents and the situation worsens with poor environment which is full

of conflicts and turmoil. Wang and friends (2016) had suggested that a harmonious family environment, healthy personality characteristic and mature coping style were essential factors in preventing and reducing adolescent depression. Neuroticism has been found to have a positive correlation with Extraversion ($r = .62$; $p < .01$) and Extraversion has a positive correlation with Achievement Orientation ($r = .11$; $p < .05$), Intellectual Cultural Orientation ($r = .15$; $p < .01$), and Moral Religious Emphasis ($r = .15$; $p < .01$). As Extraversion is the tendency to be positive, assertive, dynamic, kind, and sociable, people who are high in this personality dimension are likely to be more achievement oriented i.e., to be more active at school or work, and engage in social interactions (McCrae & Costa 1991; Larsen & Ketelaar 1991), including political, cultural and religious activities.

Cohesion has positive correlation with Active Recreation ($r = .15$; $p < .01$), Moral Religious Emphasis ($r = .11$; $p < .05$), Organization ($r = .13$; $p < .05$), and Control ($r = .14$; $p < .05$). And Expressiveness has been found to have negative correlation with Intellectual Cultural Orientation ($r = -.12$; $p < .05$) and Active Recreation ($r = -.19$; $p < .01$). Conflict has a positive correlation with Intellectual Cultural Orientation ($r = .18$; $p < .01$), and Moral Religious Emphasis ($r = .12$; $p < .05$). Independence has a positive correlation with Intellectual Cultural Orientation ($r = .11$; $p < .05$) and Active Recreation ($r = .12$; $p < .05$). Achievement Orientation has a positive correlation with Intellectual Cultural Orientation ($r = .31$; $p < .01$), Active Recreation ($r = .23$; $p < .01$), Moral Religious Emphasis ($r = .29$; $p < .01$), Organization ($r = .28$; $p < .01$), and Control ($r = .32$; $p < .01$). Intellectual Cultural Orientation has a positive correlation with Active Recreation ($r = .43$; $p < .01$), Moral Religious Emphasis ($r = .14$; $p < .01$), Organization ($r = .20$; $p < .01$), and Control ($r = .19$; $p < .01$). Active Recreation has a positive correlation with Moral Religious Emphasis ($r = .13$; $p < .05$), Organization ($r = .17$; $p < .01$), and Control ($r = .16$; $p < .01$). Moral Religious Emphasis has a positive correlation with Organization ($r = .27$; $p < .01$), and Control ($r = .20$; $p < .01$). Organization has a positive correlation with Control ($r = .21$; $p < .01$).

Table-9: Showing the significant correlations between dependent variables- General Health, Depression, Number of social support, Level of satisfaction of social support, Psychoticism, Neuroticism and Extraversion; sub-scales of Family Environment.

	Health	Depression	No. of support	Level of Support	Psychoticism	Neuroticism	Extraversion	Cohesion	Expressiveness	Conflict	Independence	Ach Orientation	Intellectual Cultural	Active Recreation	Moral Religious	Organization	Control
Health	1	-.33**	.08	-.002	-.12*	.04	.05	.20**	-.32**	.21**	.16**	.19**	.25**	.26**	.13*	.12*	.05
Depression		1	-.05	-.05	.07	-.01	-.07	-.06	.20**	-.11*	-.22**	-.14*	-.27**	-.25**	-.24**	-.05	-.06
No. of Support			1	.03	-.04	.00	.04	.14**	-.08	.01	.03	.01	.11*	.11*	-.01	.13*	.09
Level of support satisfaction				1	-.05	.14*	.13*	.04	.01	-.03	.03	.09	.02	.01	.08	.03	.11*
Psychoticism					1	.34**	-.00	.01	.10	-.14**	.08	-.24**	-.11*	-.12*	-.05	-.04	-.13*
Neuroticism						1	.62**	.05	.03	.001	.03	.02	.09	.04	.11	.07	.06
Extraversion							1	.06	.01	.03	.08	.11*	.15**	.09	.15**	.06	.09
Cohesion								1	-.079	.016	.097	.101	.079	.146**	.111*	.134*	.139*
Expressiveness									1	-.07	-.09	-.07	-.12*	-.19**	.04	-.04	-.03
Conflict										1	-.04	.08	.18**	.07	.12*	.07	.003
Independence											1	.03	.11*	.12*	.05	.08	.03
Ach Orientation												1	.31**	.23**	.29**	.28**	.32**
Intellect-cultural													1	.43**	.14**	.20**	.19**
Active recreation														1	.13*	.17**	.16**
Moral religious															1	.27**	.20**
Organization																1	.21**
Control																	1

** . Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Table-10: Showing the ANOVA of ‘drug’, ‘gender’ and ‘drug and gender’ on dependent variables of Health, Depression, Number of Social Support, Level of satisfaction of Social Support, Psychoticism, Neuroticism and Extraversion among the whole samples

Dependent variable	Independent variable	F-ratio	Significant	Eta square
Health	Drug	228.91	0.00	.40
	Gender	16.34	0.00	.046
	Drug x Gender	93.84	0.00	.46
Depression	Drug	97.83	0.00	.22
	Gender	5.47	0.02	.016
	Drug x Gender	36.63	0.00	.25
No of Social Support	Drug	4.11	0.04	.02
	Gender	0.01	0.92	.01
	Drug x Gender	1.48	0.22	.01
Level of satisfaction of social support	Drug	0.12	0.73	.01
	Gender	11.21	0.00	.01
	Drug x Gender	4.30	0.01	.04
Psychoticism	Drug	13.90	0.00	.04
	Gender	1.34	0.25	.01
	Drug x Gender	5.15	0.00	.04
Neuroticism	Drug	1.42	0.23	.01
	Gender	10.40	0.00	.02
	Drug x Gender	3.98	0.01	.03
Extraversion	Drug	10.61	0.00	.03
	Gender	4.85	0.03	.01
	Drug x Gender	5.26	0.00	.04

Table-11: Showing the ANOVA of ‘drug’, ‘gender’ and ‘drug and gender’ on dependent variables of the sub-scales of the Family Environment Scale among the whole samples

Dependent variable	Independent variable	F-ratio	Significant	Eta square
Cohesion	Drug	22.58	0.00	.06
	Gender	1.82	0.18	.01
	Drug x Gender	8.26	0.00	.07
Expressiveness	Drug	31.16	0.00	.08
	Gender	34.08	0.00	.09
	Drug x Gender	27.20	0.00	.20
Conflict	Drug	37.51	0.00	.10
	Gender	4.04	0.05	.01
	Drug x Gender	14.13	0.00	.11
Independence	Drug	22.11	0.00	.06
	Gender	3.07	0.08	.01
	Drug x Gender	8.88	0.00	.07
Achievement Orientation	Drug	79.25	0.00	.19
	Gender	42.13	0.00	.11
	Drug x Gender	48.31	0.00	.30
Intellectual Cultural Orientation	Drug	115.91	0.00	.26
	Gender	6.45	0.01	.02
	Drug x Gender	45.50	0.00	.29
Active Recreational Orientation	Drug	76.62	0.00	.18
	Gender	3.33	0.07	.01
	Drug x Gender	27.33	0.00	.20
Moral Religious Emphasis	Drug	60.78	0.00	.15
	Gender	12.23	0.00	.03
	Drug x Gender	26.06	0.00	.19
Organization	Drug	34.36	0.00	.09
	Gender	16.52	0.00	.05
	Drug x Gender	19.38	0.00	.15
Control	Drug	25.61	0.00	.07
	Gender	19.21	0.00	.05
	Drug x Gender	18.16	0.00	.14

(v) Analysis of Variance (Independent and interaction effects of the dependent variables)

In an attempt to illustrate the independent effect of the independent variables (Drug dependency and Gender) on the dependent variables (Health, Depression, Number of Social Support, Level of satisfaction of Social Support, Psychoticism, Neuroticism and Extraversion; Family Environment - Cohesion, Expressiveness, Conflict, Independence, Achievement Orientation, Intellectual Cultural Orientation, Active Recreational Orientation, Moral Religious Emphasis, Organization, and Control) and also the independent interaction effects on dependent variables, Two-way ANOVA was computed. The results are shown in Tables – 10 & 11.

The ANOVA result presented in Table – 10 and 11 showed that significant independent effect of Drug dependency was found on Health with 40% effect ($F=228.91$; $\eta^2 = .40$), Depression with 22% effect ($F = 97.83$; $\eta^2 = .22$), Number of social support with 2% effect ($F = 4.11$; $\eta^2 = .02$), Level of satisfaction of social support with 1 % effect ($F = .12$; $\eta^2 = .01$), Psychoticism with 4% effect ($F = 13.90$; $\eta^2 = .04$), Neuroticism with 1 % effect ($F = 1.42$; $\eta^2 = .01$), Extraversion with 3 % effect ($F = 10.61$; $\eta^2 = .03$), Cohesion with 6% effect ($F = 22.58$, $\eta^2 = .06$), Expressiveness with 8 % effect ($F = 31.16$, $\eta^2 = .08$), Conflict with 10 % effect ($F = 37.51$, $\eta^2 = .10$), Independence with 6 % effect ($F = 22.11$, $\eta^2 = .06$), Achievement Orientation with 19 % effect ($F = 79.25$; $\eta^2 = .19$), Intellectual Cultural Orientation with 26% effect ($F = 115.91$, $\eta^2 = .26$), Active Recreation with 18 % effect ($F = 76.62$, $\eta^2 = .18$), Moral Religious Emphasis with 15 % effect ($F = 60.78$, $\eta^2 = .15$), Organization with 9 % effect ($F = 34.36$, $\eta^2 = .09$), and Control with 7 % effect ($F = 25.61$; $\eta^2 = .07$).

The ANOVA result also showed that significant independent effect of Gender was found on Health with 46% effect ($F=16.34$; $\eta^2 = .46$), Depression with 2% effect ($F = 5.47$; $\eta^2 = .02$), Number of social support with 1% effect ($F = .01$; $\eta^2 = .01$), Level of satisfaction of social support with 1 % effect ($F = 11.21$; $\eta^2 = .01$), Psychoticism with 1% effect ($F = 1.34$; $\eta^2 = .01$), Neuroticism with 2% effect ($F = 10.4$; $\eta^2 = .02$), Extraversion with 1% effect ($F = 4.85$; $\eta^2 = .01$), Cohesion with 1%

effect ($F = 1.82$, $\eta^2 = .01$), Expressiveness with 9% effect ($F = 34.08$, $\eta^2 = .09$), Conflict with 1 % effect ($F = 4.04$, $\eta^2 = .01$), Independence with 1% effect ($F = 3.07$, $\eta^2 = .01$), Achievement Orientation with 11 % effect ($F = 42.13$; $\eta^2 = .11$), Intellectual Cultural Orientation with 2% effect ($F = 6.45$, $\eta^2 = .02$), Active Recreation with 1% effect ($F = 3.33$, $\eta^2 = .01$), Moral Religious Emphasis with 3% effect ($F = 12.23$, $\eta^2 = .03$), Organization with 5% effect ($F = 16.52$, $\eta^2 = .05$), and Control with 5 % effect ($F = 19.21$; $\eta^2 = .05$).

The significant interaction effect of ‘Drug dependency and Gender’ was also found on Health with 46% effect ($F = 93.84$; $\eta^2 = .46$), Depression with 25% effect ($F = 36.63$; $\eta^2 = .25$), Number of social support with 1% effect ($F = 1.48$; $\eta^2 = .01$), Level of satisfaction of social support with 4 % effect ($F = 4.30$; $\eta^2 = .04$), Psychoticism with 4% effect ($F = 5.15$; $\eta^2 = .04$), Neuroticism with 3% effect ($F = 3.98$; $\eta^2 = .03$), Extraversion with 4% effect ($F = 5.26$; $\eta^2 = .04$), Cohesion with 7% effect ($F = 8.26$, $\eta^2 = .07$), Expressiveness with 20% effect ($F = 27.20$, $\eta^2 = .20$), Conflict with 11 % effect ($F = 14.13$, $\eta^2 = .11$), Independence with 7% effect ($F = 8.88$, $\eta^2 = .07$), Achievement Orientation with 30 % effect ($F = 48.31$; $\eta^2 = .30$), Intellectual Cultural Orientation with 29% effect ($F = 45.50$, $\eta^2 = .29$), Active Recreation with 20 % effect ($F = 27.33$, $\eta^2 = .20$), Moral Religious Emphasis with 19% effect ($F = 26.06$, $\eta^2 = .19$), Organization with 15% effect ($F = 19.38$, $\eta^2 = .15$), and Control with 14 % effect ($F = 18.16$; $\eta^2 = .14$).

There was significant difference between Health and Drug dependency with 40% effect, Health and Gender with 5% effect ($F = 16.34$; $\eta^2 = .46$), and significant interaction effect was found with ‘Drug dependency and Gender’ with 46% effect.

Significant difference was also found between Depression and Drug dependency with 22% effect, Gender with 2 % effect, and with ‘Drug dependency and Gender’ with 25% effect. Depression has been found to be common among persons diagnosed with substance abuse or substance dependence (Robbins, 1974; Rabkin et al., 1997; Deykin, Buka & Zeena, 1992; Miller et al., 1996; Blum et al., 2013). Depression can be either the precursor or the consequences of substance abuse (Khantzian, 1985; Deykin et al., 1987; Geoffrey et al., 2000). As certain

affective states may be associated with the use of specific drug and that drugs like cocaine and heroin provide better "relief" from depression and therefore, drug dependents are likely to continue their use of drugs as a form of self-medication (Khantzian, 1985). Blum and colleagues (2013) found that heroin-dependent people reported more severe depression than did healthy controls, but that their depression was significantly lower post-injection. They argued that opioid use dysregulated the reward system, and activated the circuits of the stress-system and obsessive-compulsive system. Therefore, heroin abusers could not easily stop using heroin, especially for depression. It has also been suggested that heroin dependent patients might take higher doses to reduce the severity of depressive symptoms (Sordo et al., 2012) indicating that depression might be a significant predictor of heroin use. Studies have found that among adolescents, the onset of major depressive disorder almost always preceded alcohol or substance abuse suggesting the possibility of self-medication as a factor in the development of alcohol or substance abuse (Deykin et al., 1987). Persons who has both disorders of drug dependency and depression has an increased risk of various negative effects such as increased severity of illness, relapse, and suicidal ideation, attempts, and completions (Brent, 1995; King et al., 1996; Riggs, Baker, Mikulich, Young & Crowley, 1995; Rao et al., 1999; White et al., 2004) as well as less social support, and more peer conflict (Aseltine, Gore & Colten, 1998).

There has been significant gender difference in many studies on depression where the prevalence of depression is higher in females (Cryanowski et al., 2000; Hankin & Abramson, 2001; Kessler, 2006; Kessler & Bromet, 2013). It may be that gender differences in the development of emotional disorders are strongly influenced by perceptions of uncontrollability (Barlow, 1988; Barlow et al., 2013). The source of these differences can be cultural, in the sex roles assigned to men and women in our society. Males are strongly encouraged to be independent, masterful, and assertive; females, by contrast, are expected to be more passive, sensitive to other people, and, perhaps, to rely on others more than males do (needs for affiliation) (e.g., Cryanowski, Frank, Young & Shear, 2000; Hankin & Abramson, 2001). The unrewarding and stressful nature of these roles may account for the higher rate of

depression in women. Depression is about twice as common in women, and greater depressive symptoms are consistently found in women compared to men across Western and Asian countries (Besser & Shackelford, 2007; Kim, 2016).

Women are at a disadvantage in our society. They experience more discrimination, poverty, sexual harassment, and abuse than do men. They also earn less respect and accumulate less power. Women tend to place higher value on intimate relationships than men, which can be protective if social networks are strong, but may also put them at risk. Disruptions, in such relationships, combined with an inability to cope with the disruptions, seem to be far more damaging to women than to men (Nolen-Hoeksema & Hilt, 2009; Rudolf & Conley, 2005). Even when women and men are confronted with similar stressors, women may be more vulnerable than men to developing depression and related anxiety disorders such as posttraumatic stress disorder (Breslau, Davis, Andreski, Peterson & Schultz, 1997). Women's greater reactivity compared with that of men has been attributed to gender differences in biological responses, self-concepts, and coping styles.

In a study done on depression and its associated factors among male inpatients admitted for substance use disorders in Saudi Arabia (Alzahrani, Barton & Brijnath, 2015), it was found that high prevalence of depression existed among substance users. High BDI scores were reported by 95.2% of participants with more than two-thirds scoring severe (37%) or very severe (33.9%). Prevalence and comorbidity have been found to be significantly associated with duration of substance abuse.

Disorders associated with aggressiveness, overactivity, and substance abuse occur far more often in men than in women (Barlow, 1988, 2002). There has also been a significant emergence of gender differences in rates of depression in adolescence, matching the 2:1 ratios of female to male depression observed in adulthood. However, for many depressed adolescents, perhaps especially girls, the lives they create are dysfunctional and entrapping and may portend a vicious cycle of recurring depression and stress. Ping Wu and colleagues (2008) examined gender differences in patterns of the co-occurrence of alcohol abuse and depression in youth

and they had found that the relationship between depression and alcohol abuse/dependence was not significant for girls, but it remained significant for boys. Among girls, however, cigarette smoking emerged as significantly related to depression.

Significant difference was found between Number of social support and Drug dependency with 2% effect. There was significant difference between Level of satisfaction of social support and Gender with 1 % effect, and 'Drug dependency and Gender' with 4% effect. There was significant difference between Psychoticism and Drug dependency with 4% effect, and with 'Drug dependency and Gender' with 4% effect. Much attention has been given to the so-called addictive personality. People who are addicted often found to have low self-esteem, are immature, are easily frustrated, and have difficulty solving personal problems and relating to people of the complementary sex. Addicts may try to escape reality and have been described as fearful, withdrawn, and depressed. Some have a history of frequent suicide attempts or self-inflicted injuries. Addicts have sometimes been described as having dependent personalities, grasping for support in their relationships and having difficulty taking care of them. Others exhibit overt and unconscious rage and uncontrolled sexual expression. Evidence has suggested that most of these traits emerged as a result of long-term addiction and are not necessarily an antecedent of drug abuse. Excessive dopamine functioning is related to the personality dimension of psychoticism, and evidence is cited to the effect that psychoticism is closely related to a large number of addictions (Eysenck & Eysenck, 1985). However, it is particularly the psychoticism dimension that has been found to be correlated with addictive behaviour.

There was significant difference between Neuroticism and Gender with 2% effect, and with 'Drug dependency and Gender' with 3% effect. There was significant difference between Extraversion and Drug dependency with 3% effect, Gender with 1% effect and with 'Drug dependency and Gender' with 4% effect. There was significant difference between Cohesion and Drug dependency with 6% effect, 'Drug dependency and Gender' with 7% effect. There was significant

difference between Expressiveness and Drug dependency with 8% effect, Gender with 9% effect, and with 'Drug dependency and Gender' with 20% effect. There was significant difference between Conflict and Drug dependency with 10% effect, Gender with 1% effect and 'Drug dependency and Gender' with 11% effect. There was significant difference between Independence and Drug dependency with 6% effect, and 'Drug dependency and Gender' with 7% effect. There was significant difference between Achievement orientation and Drug dependency with 19% effect, Gender with 11% effect, and 'Drug dependency and Gender' with 30% effect. There was significant difference between Intellectual cultural orientation and Drug dependency with 26% effect, Gender with 2% effect, and 'Drug dependency and Gender' with 29%. There was significant difference between Active recreational orientation and Drug dependency with 18% effect, and 'Drug dependency and Gender' with 20% effect. There was significant difference between Moral religious emphasis and Drug dependency with 15% effect, Gender with 3% effect and with 'Drug dependency and Gender' with 19% effect. There was significant difference between Organization and Drug dependency with 9% effect, Gender with 5% effect, and 'Drug dependency and Gender' with 15% effect. There was significant difference between Control and Drug dependency with 7% effect, Gender with 5% effect and 'Drug dependency and Gender' with 14% effect.

(vi) Post hoc mean comparison (Mean Comparison between the four groups)

Table-12: Showing the Post Hoc Mean comparison (Scheffe) between four groups on General Health, Depression, Number of Social Support, Level of satisfaction of Social Support, Psychoticism, Neuroticism, and Extraversion among the samples.

Dependent variable	Independent variable	Drug - dependent Male	Drug-dependent Female	Non-Drug dependent Male	Non-Drug dependent Female
Health	Drug -dependent Male	1	1.66	-8.61*	-5.08*
	Drug- dependent Female	-1.66	1	-10.27*	-6.74*
	Non-Drug dependent Male	8.61*	10.27*	1	3.53*
	Non-Drug dependent Female	5.08*	6.74*	-3.53*	1
Depression	Drug dependent Male	1	-4.16*	8.08*	7.09*
	Drug dependent Female	4.16*	1	12.25*	11.26*
	Non-Drug dependent Male	-8.08*	-12.25*	1	-.99
	Non-Drug dependent Female	-7.09*	-11.26*	.99	1
No of Support	Drug- dependent Male	1	1.45	-3.07	-4.07
	Drug- dependent Female	-1.45	1	-4.52	-5.52
	Non-Drug dependent Male	3.07	4.52	1	-1.00
	Non-Drug dependent Female	4.07	5.52	1.00	1
Level of support satisfaction	Drug- dependent Male	1	-5.82*	-1.14	-3.79
	Drug- dependent Female	5.82*	1	4.68	2.04
	Non-Drug dependent Male	1.14	-4.68	1	-2.65
	Non-Drug dependent Female	3.79	-2.04	2.65	1
Psychoticism	Drug- dependent Male	1	.69	1.81*	2.15*
	Drug- dependent Female	-.69	1	1.12	1.46
	Non-Drug dependent Male	-1.81*	-1.12	1	.34
	Non-Drug dependent Female	-2.15*	-1.46	-.34	1
Neuroticism	Drug- dependent Male	1	-1.22	-.38	-1.86*
	Drug- dependent Female	1.22	1	.85	-.64
	Non-Drug dependent Male	.38	-.85	1	-1.48
	Non-Drug dependent Female	1.86*	.64	1.48	1
Extraversion	Drug- dependent Male	1	-.92	-1.29	-1.99*
	Drug- dependent Female	.92	1	-.38	-1.07
	Non-Drug dependent Male	1.29	.38	1	-.69
	Non-Drug dependent Female	1.99*	1.07	.69	1

Table-13: Showing the Post Hoc Mean comparison between four groups on subscales of Family Environment among the samples.

Dependent variable	Independent variable	Drug-dependent Male	Drug-dependent Female	Non-Drug dependent Male	Non-Drug dependent Female
Cohesion	Drug- dependent Male	1	-.24	-1.12*	-1.61*
	Drug- dependent Female	.24	1	-.88	-1.38*
	Non-Drug dependent Male	1.12*	.88	1	-.49
	Non-Drug dependent Female	1.61*	1.38*	.49	1
Expressiveness	Drug- dependent Male	1	-.64	1.67*	-.05
	Drug- dependent Female	.64	1	2.31*	.59
	Non-Drug dependent Male	-1.67*	-2.31*	1	-1.72*
	Non-Drug dependent Female	.05	-.59	1.72*	1
Conflict	Drug- dependent Male	1	-.59	-1.55*	-1.98*
	Drug- dependent Female	.59	1	-.96*	-1.39*
	Non-Drug dependent Male	1.55*	.96*	1	-.42
	Non-Drug dependent Female	1.98*	1.39*	.42	1
Independence	Drug- dependent Male	1	.16	-1.26*	-.64
	Drug- dependent Female	-.16	1	-1.42*	-.80
	Non-Drug dependent Male	1.26*	1.42*	1	.62
	Non-Drug dependent Female	.64	.80	-.62	1
Achievement Orientation	Drug- dependent Male	1	-1.39*	-1.79*	-2.99*
	Drug- dependent Female	1.39*	1	-.40	-1.60*
	Non-Drug dependent Male	1.79*	.40	1	-1.20*
	Non-Drug dependent Female	2.99*	1.60*	1.20*	1
Intellectual Cultural Orientation	Drug- dependent Male	1	-.07	-1.76*	-2.95*
	Drug- dependent Female	.07	1	-1.69*	-2.88*
	Non-Drug dependent Male	1.76*	1.69*	1	-1.19*
	Non-Drug dependent Female	2.95*	2.88*	1.19*	1
Active Recreational Orientation	Drug- dependent Male	1	-.26	-1.72*	-2.33*
	Drug- dependent Female	.26	1	-1.46*	-2.07*
	Non-Drug dependent Male	1.72*	1.46*	1	-.61
	Non-Drug dependent Female	2.33*	2.07*	.61	1
Moral Religious Emphasis	Drug- dependent Male	1	-.87*	-1.66*	-2.24*
	Drug- dependent Female	.87*	1	-.79*	-1.36*
	Non-Drug dependent Male	1.66*	.79*	1	-.58
	Non-Drug dependent Female	2.24*	1.36*	.58	1
Organization	Drug- dependent Male	1	-1.45*	-1.86*	-2.44*
	Drug- dependent Female	1.45*	1	-.41	-.99*
	Non-Drug dependent Male	1.86*	.41	1	-.58
	Non-Drug dependent Female	2.44*	.99*	.58	1
Control	Drug- dependent Male	1	-1.62*	-1.78*	-2.27*
	Drug- dependent Female	1.62*	1	-.15	-.65
	Non-Drug dependent Male	1.78*	.15	1	-.49
	Non-Drug dependent Female	2.27*	.65	.49	1

Post-hoc mean comparison (Scheffe) was computed to portray the significant difference between the groups under study. The results are presented in Tables – 12 & 13. The result in Table – 12 showed significant difference between groups on Health. Drug-dependent Male had a significant difference with Non drug-dependent Male (-8.61) and Non drug-dependent Female (-5.08). Drug-dependent Female had significant difference with Non drug-dependent Male (-10.27) and Non drug-dependent Female (-6.74). Non drug-dependent Male had significant difference with Non drug-dependent Female (3.53) and Non drug-dependent Female had significant difference with Drug-dependent Female (6.74). On Depression, Drug-dependent Male had significant difference with Drug-dependent Female (-4.16), Non drug-dependent Male (8.08) and Non drug-dependent Female (7.09). Drug-dependent Female had significant difference with Non drug-dependent Male (12.25) and Non drug-dependent Female (11.26).

Gender difference in depression where women has been shown to have higher level of depression has been cited by many studies (e.g., Hankin & Abramson, 2001; Kessler, 2006; Cryanowski et al., 2000; Kessler & Bromet, 2013 etc.). As women are at a disadvantaged position in the society, they are more vulnerable to different forms of abuse, they earn less respect and accumulate less power which makes them susceptible to psychiatric problems especially depression and anxiety (Gove, 1972; Besser & Shackelford, 2007; Kim, 2016). Cultural roles assigned to males and females are different where males are strongly encouraged to be independent, masterful, and assertive; females, by contrast, are expected to be more passive, sensitive to other people, and, perhaps, to rely on others more than males do (needs for affiliation) (Cryanowski, Frank, Young & Shear, 2000; Hankin & Abramson, 2001). This difference can be a crucial causal factor for the higher level of depression in women. Women tend to place higher value on intimate relationships than men, which can be protective if social networks are strong, but may also put them at risk. Disruptions, in such relationships, combined with an inability to cope with the disruptions, seem to be far more damaging to women than to men (Nolen-Hoeksema & Hilt, 2009; Rudolf & Conley, 2005). Myers, and Prescott (2005) also observed that women tend to have larger and more intimate social networks than men and that

emotionally supportive groups of friends protect against depression. Women also tend to ruminate more than men about their situation and blame themselves for being depressed. This response style predicted later development of depression when under stress (Nolen-Hoeksema, 1990, 2000; Nolen-Hoeksema, Wisco & Lyubomirsky, 2008; Abela & Hankin, 2008). Men tend to ignore their feelings, perhaps engaging in activity to take their minds off them (Addis, 2008).

Drug use and drug addiction have been traditionally considered to be a male problem; however, the gender gap has been decreasing over the past few decades. Although the prevalence of alcohol, cannabis and nicotine dependence is still overall greater among men than among women, sex/gender differences in the abuse of stimulants and opiates seem to have disappeared. Moreover, women appear to be more prone to develop drug dependence, suffer more severe physical and psychological consequences of drug abuse, and have more difficulties quitting the habit. Numerous psychological, socio-cultural and biological factors have been implicated in these changing statistics. For example, while a large proportion of men initiate drug use to induce feelings of elation, energy or focus, women frequently start taking drugs to alleviate pre-existing mental health problems, including high levels of stress, feelings of alienation, depression, anxiety, or post-traumatic stress disorder. This maladaptive self-medication strategy often results in a faster transition to a habitual drug use and eventually a more severe dependence (SAMSHA 2010, 2011). More men than women use and become dependent upon most drugs, and drug use falls more in females than males during the transition to adulthood. However, females may progress more rapidly from initiation of use to problematic use to treatment (Kahn, 2015).

Women are more likely to have psychiatric problems than men, particularly in terms of depression and anxiety (Grella & Joshi, 1999; Pelissier & Jones, 2005; Stevens, Andrade & Ruiz, 2009; Han, Veronique Lin, Fei Wu & Yih-Ing Hser, 2016). Substance-abusing women are more likely to face problems with limited income, education, job skills, and living with substance-abusing individuals (Hser et al., 2004; Hser et al., 2003; Niv & Hser, 2007). In contrast, substance-abusing men

are more likely to be involved in criminal activities and experience (Hser et al 2003; Hser et al., 2003; Pelissier & Jones, 2005). Furthermore, men and women may use substances for different purposes. Women generally pursue substance use to alter feelings about relationships, while men prefer an independently pleasurable experience (Stevens et al., 2009). Studies have indicated that women are more likely to experience mood disorder and they need more responsive psychiatric services than men (Shand, Degenhardt, Slade & Nelson, 2011; Zhang et al., 2013).

Age at initiation of heroin and cocaine use occurred later for women, compared with men, whereas age at termination of heroin and cocaine occurred earlier for women, compared with men (Hartel et al., 2006). The factors leading to gender differences in drug use are not well understood, but they may result in part from women's lack of access to drugs rather than from a greater vulnerability of men to substance abuse (Van Etten et al., 1999). There is evidence that women may be more likely than men to become dependent on anxiolytics, sedatives, hypnotics, and stimulants, such as cocaine, when access to drugs is not a barrier (Kandel et al., 1986).

In the Level of satisfaction of social support, Drug-dependent Male had significant difference with Drug-dependent Female (5.82). Studies have consistently reported that women tend to be higher when it comes to seeking and receiving higher levels of emotional support than men do (Ashton & Fuehrer, 1993; Burda, Vaux, & Schill, 1984; Hirsch, 1979; Stokes & Wilson, 1984). The reason and the means with which men and women sought social support can differ. Defares, Brandjes, Nass, and van der Ploeg (1984), for example, has found that men more frequently utilized an active cognitive coping strategy, such as assertive attitudes and leadership behaviours, where as women tend to seek out social support in order to find solutions to their problems. Although, women and men do not usually differ in reported amounts of informational or tangible support (Burda et al., 1984), however, in one study, men reported a greater number of people who provided financial aid to them than women did (Vaux, 1985). Research also reveals that women are social support providers more often than men are (Belle, 1982; Fischer, 1982). With regard

to sources of support, men report more support from their spouses than women do (Antonucci & Akiyama, 1987; Wong, 1986), whereas women report more support from friends and neighbours (Allen & Stoltenberg, 1995; Depner & Ingersoll-Dayton, 1988; Olsen & Shultz, 1994; Vaux, 1985; Wohlgemuth & Betz, 1991; Wong, 1986). It has also been revealed that women find a greater number of family members supportive than men do (Allen & Stoltenberg, 1995; Caldwell & Bloom, 1982; McFarlane, Neale, Norman, Roy, & Streiner, 1981; Stokes & Wilson, 1984). In the context of gender and locus of control, external men have been found to least use social support to aid adjustment, thereby indicating that women were found to be higher in social support (Caldwell, Pearson & Chin; 1987). Girls have also been found to report higher emotional support from both nonfamily adults and peers than boys report and family support and depression has been found to be significantly stronger for girls than for boys (Slavin & Rainer; 1990). The importance of friendship for residents' emotional well-being has also been highlighted wherein, friendship outside the social housing neighbourhood is essential for good mental health especially for women (Liu et al., 2018). Stokes and Wilson (1984) had found that females reported receiving more emotional social support than males. In addition, social network variables, such as the number of confidants, were found to be predictive of supportive behaviours in general for males but not for females. While many studies have suggested that social support is higher among women as compared to men, some studies have suggested that perceived social support is higher in males than in females. However, males perceived significantly higher social support from friends than females, whereas support from significant others was higher in females (Soman et al.; 2016). Financial loss or problems was the most commonly reported life event in both males and females. Work-related problems were more commonly reported by males, whereas family and marital conflict were more frequently reported by females. It has been contended that perceived support measures may be subjected to individual differences in perceptual, judgment, and memory processes that may result in distinctive perception of supportive events (Lakey & Drew, 1997), or may be influenced by value judgments regarding the relationship contexts in which the supportive events occur (Sarason, Sarason & Pierce, 1995).

In an attempt to examine drug abuse and social support, Rothman and friends (2006) had found that significant heroin/cocaine use by gender interactions were observed; specifically, the negative associations between current drug use and perceived caregiver and emotional support were stronger among females than males. The tendency to use social support as a significant palliative for coping with stressful circumstances appears to be reinforced through all developmental stages for females. Therefore, by the time adulthood is reached, searching for social support in one's environment is a well-learned behaviour pattern for women (Eagly & Wood, 1991).

Many researchers had attempted to find the relationship between social support and health, including mental health. They had emphasized that much or most of the beneficial health effects of social relationships are due to their buffering properties in the presence of stress (Cassel, 1976; Cobb, 1976; Caplan, 1974), although the relevance of the type of support or relationship to the problem or stress has also been found to determine the likelihood of observing a buffering effect (Cohen & Wills 1985). That is, social support may serve a stress-buffering function by reinforcing self-efficacy and problem-solving behaviour (Cohen & Wills 1985). Still others had asserted that "social supports are likely to be protective of health only in the presence of stressful circumstances" (Kaplan et al., 1977). Social support may have negative as well as positive effects on health and well-being (Cohen & Syme, 1985). Psychological well-being very much depends on how a person is valued by those around him. Considerable evidence has suggested that positive social and family relationships can moderate the effects of stress on a person and can even reduce illness and early death (Monroe & Steiner, 1986). Conversely, the lack of external support, personal or material, can make a given stressor more potent and weaken a person's capacity to cope with it.

There has been an abundance of research evidence that suggested the importance of social support in the maintenance of health and wellbeing (Berkman, Vaccarino & Seeman, 1993). In many of these same studies, women appear to benefit more than men from contact with friends. Since friends tend to be of the same sex, the hypothesis emerges that women are better at providing social support than

are men and hence that social relationships with women are more beneficial to health and well-being than relationships with men (House, 1986). A series of studies has indicated that for both sexes, time spent interacting with women is inversely related to felt loneliness, while amount of contact with men is unrelated to loneliness. Similarly, relationships with women are described as more intimate and self-disclosing (e.g., Wheeler, Reis & Nezlek, 1983).

Not all studies of social support found an inverse relationship with psychological dysfunction. Chaddha (1995) have mentioned that the relationship of social support and psychological dysfunction appears complex because certain elements of social support have a healthy relationship while others can have an unhealthy relationship. Some research studies which have examined both positive and negative aspects of social support have suggested that negative social interactions can have an adverse impact on mental health. It is important to consider the importance of the content of social relations, age of the recipient and the provider-recipient relationship as well as the context of life events in which social support is studied (Rook 1984; Abbey, Abramis & Caplan 1985; Davis & Rhodes 1994; Okun & Keith, 1998). Ingersoll-Dayton, Morgan, and Antonucci (1997) had suggested that equal effects of the two constructs, i.e., both positive and negative aspects of social support, can also occur.

Cullen and his colleagues (Colvin et al., 2002; Cullen, 1994) had stated that involvement in illegal behaviour is negatively related to social support. Based on the sources of support, social support may promote offending behaviour. Timothy Brezina and Andia M. Azimi (2018), had studied an elaborated version of “differential social support” where the results indicated that, among adolescents who associate with delinquent peers, peer social support is associated with an increase in delinquent behaviour, either directly or indirectly by fostering loyalty to delinquent peers. In a study conducted by Timothy Brezina and Andia M. Azimi (2018), an elaborated version of “differential social support” hypothesis was tested where the results indicated that, among adolescents who had associated with delinquent peers, peer social support is associated with an increased in delinquent behaviour, either

directly or indirectly by fostering loyalty to delinquent peers. In contrast, a measure of conventional social support (family emotional support) exhibited a negative indirect effect on delinquency. In addition, the results of the analyses indicate that loyalty to delinquent peers is a predictor of delinquent behaviour, even after controlling for moral beliefs, prior behaviour, and other variables. Qun Zhao and colleagues (2017) had examined social support and amphetamine-type stimulant (ATS) use among female sex workers (FSWs) in China. The results suggested that different types of social support from different sources can be either positively or negatively associated with ATS use among FSWs.

Social support is an important determinant that affects addiction and the role of perceived social support in the prevention and treatment of drug abuse and relapse has been studied comprehensively. Davis and Jason (2005) has mentioned that social support is among the factors that have a special role in maintaining the withdrawal of drug-dependent people. It has been suggested that the existence of supportive structures and networks, as well as supportive interventions such as spiritual and familial support plays a major role in the promotion of treatment goals in drug abusers and prevention of relapse (Spath & Redmond, 1994; Blume et al., 1994). It has also been shown that there was a positive relationship between drug abstinence duration and receiving social support (Davis & Jason, 2005), and that perceptions regarding social support can improve the psychosocial functioning during the treatment process in drug abuse (Chong & Lopez, 2005). Atadokht and colleagues (2015) revealed that perceived social support from family and the family expressed emotions predicted 12% of addiction relapses. Nashee and colleagues (2014) revealed a negative relationship between perceived social support and addiction relapse. MacDonald and colleagues (2004), however, had suggested that social support cannot always predict the improvement stages in the treatment of substance abuse.

It has been shown that those who have more social support are more likely to stop using drugs than those with less social support (Majer et al., 2016; Tucker et al., 2005). Galaif and friends (1999) examined risk and protective factors associated with

three qualitatively different drug use constructs describing a continuum of drug use among a sample of 1,179 homeless women. Current drug use was predicted by more negative social support (from drug-using family/friends), depression, and less positive coping. Drug Problems were predicted by more negative coping, depression, and less positive coping. Physical Drug Dependence was predicted by more negative social support and depression, and less positive social support.

Rothman and friends (2006) assessed perceived caregiver support, emotional support, tangible support, and conflict. Gender was not significantly associated with any of the four outcomes. Current drug users reported significantly higher conflict in social relationships than nonusers, but were not significantly associated with the other three outcomes. However, significant heroin/cocaine use by gender interactions were observed; specifically, the negative associations between current drug use and perceived caregiver and emotional support were stronger among females than males. It was concluded that recent heroin/cocaine use may be associated with dissatisfaction in perceived social support from most sources, with the strongest relationships amongst drug using females.

Zimet and colleagues (1988) also found that high levels of perceived social support were associated with low levels of depression and anxiety and women reported both greater social support from friends and a significant other, and more symptoms related to anxiety and depression than men. Even though, men reported less support and fewer symptoms in overall than women, depression symptoms and perceived support from friends were more highly correlated for men than for women. It has also been posited that compared to their counterparts who did not misuse drugs, women who reported drug misuse had lower levels of family and friend support (D'Orion et al., 2015). Nikmanesh, Baluchi and Motlagh (2017) had found that self-efficacy beliefs and social support were the best predictors of addiction relapse and therefore plays a significant role in preventing patients from addiction relapse.

In Psychoticism, drug-dependent male had significant difference with non drug-dependent male (1.81) and non drug-dependent female (2.15). Drug-dependent

male had significant difference with non drug-dependent female in Neuroticism (1.86). And in Extraversion, drug-dependent male had significant difference with non drug-dependent female (1.99). Personality has been considered as an important factor that plays a role in the predisposition, precipitation or perpetuation of drug abuse or dependence. A series of factors such as social and family issues, availability or fashion trends has been considered as important causal factors in drug dependence. Much attention has been given to the so-called addictive personality. People who are addicted are often found to have low self-esteem, are immature, are easily frustrated, and have difficulty solving personal problems and relating to people of the complementary sex. Addicts may try to escape reality and have been described as fearful, withdrawn, and depressed. Some have a history of frequent suicide attempts or self-inflicted injuries. Addicts have sometimes been described as having dependent personalities, grasping for support in their relationships and having difficulty taking care of themselves. Others exhibit overt and unconscious rage and uncontrolled sexual expression. Evidence has suggested that most of these traits emerged as a result of long-term addiction and are not necessarily an antecedent of drug abuse.

Many studies have revealed psychoticism - the degree to which reality is distorted, to be high among substance abusers or addicts (Gossop & Eysenck, 1983; Abu-Arab & Hashem, 1995; Gossop & Eysenck, 1980). A high correlation between Novelty Seeking and Impulsive Sensation Seeking (Zuckerman-Kuhlman Personality Questionnaire; Zuckerman, Kuhlman, Joireman, Teta & Kraft, 1993; Zuckerman and Cloninger, 1996) and Eysenck's Psychoticism factor has also been found (De Fruyt et al., 2000). Both novelty seeking and sensation seeking measures have been known to have strong relationships with antisocial behaviours and substance abuse (Masse & Tremblay, 1997; Ravaja & Keltikangas-Jarvinen, 2001; Van Ammers et al., 1997; Pomerleau et al., 1992; Vukov et al., 1995; Ball et al., 1995; Kusyszyn & Rutter, 1985; Heath et al., 1997; 2000; Patton et al., 1993; Mitchell, 1999; Revelle et al., 1980).

Addicts have been consistently found to be higher on psychoticism and neuroticism, lower on extraversion, neuroticism being higher particularly among women, and lower on the lie scale as compared to controls (Gossop & Eysenck, 1983; Abu-Arab & Hashem, 1995; Gossop, 1978; Teasdale et al., 1971). Gossop and Eysenck, (1980) also found that for both males and females high level of P (Psychoticism) was an important discriminant factor for drug addicts, with high neuroticism (N) also important, but less so for women than for men. The characteristics of psychoticism like impulsivity, inattention and character disorders as well as that of neuroticism, or 'negative emotionality', with a tendency to experience negative moral states and psychological distress has been shown to be an important feature to be seen amongst drug addicts. Extroversion and neuroticism capture the social dimension of personality and they describe individual differences in emotional response across a range of situations and may contribute to a predisposition for psychiatric disorders. The tendency to experience negative emotions such as fear, sadness, impulsivity, and vulnerability to pressure (De Fruyt et al., 2009) seems to be higher among drug addicts while the tendency to be positive, assertive, dynamic, kind, and sociable tends to be low. Harm avoidance has been found to be highly positively correlated with Neuroticism and negatively related to Extraversion. In comparison with controls, it was found lower in alcohol patients with early onset (Cloninger et al., 1988), with alcohol, tobacco and marijuana use in adolescents (Wills et al., 1994) and with the drinking frequency among adolescent psychiatric inpatients (Galen et al., 1997). In contrast, higher Shyness with Strangers (a sub-dimension of HA in the Cloninger model) has been found in moderate drinkers (de Wit & Bodker, 1994).

It has been postulated that Novelty Seeking was highly correlated with Extraversion and Conscientiousness of the NEO (De Fruyt et al., 2000). Zuckerman and Cloninger (1996) had suggested that Harm Avoidance correlates more specifically with the Zuckerman and Kuhlman's Personality Questionnaire (ZKPQ) neuroticism scale than with the Eysenck's Personality Questionnaire's (EPQ) Neuroticism (N) scale. The third temperament dimension, Reward dependence, is found to be correlated with both Extraversion and Openness (De Fruyt et al., 2000).

Harm avoidance (HA) can be defined as the "tendency toward an inhibitory response to signals of aversive stimuli leading to avoidance of punishment and nonreward". It is close to Eysenck's Neuroticism concept (1968).

Francis (1996) has summarized that psychoticism is a key personality factor in this area. Furthermore, he added that 'the majority of studies also confirm a clear relationship between neuroticism and the use of drugs and alcohol'. However, 'the relationship between extraversion and the use of drugs and alcohol is much less clear'.

Observed personality characteristics of drug addicts are not culturally determined but can be observed in other cultures as well (Svikis, et al., 1998; Abu-Arab & Hashem, 1995; Dubey et al., 2010; Madhuri, 2012; Bukhtawer et al., 2014; Wani & Singh, 2016),

Brook and colleagues (1986) found that the existence of personality risk factors in childhood (high anger, high depressive mood, and low achievement) affected the development of adolescent risk factors (high rebelliousness, high aggression, and poor emotion control), which were significantly associated with high drug use. In a longitudinal study of high school students, Shedler and Block's (1990) found that those who turned out to be frequent drug users were, as a group, interpersonally alienated, emotionally withdrawn, most unhappy, and least able to delay gratification. Bates' (1993) had revealed that common personality characteristics and/or behavioral dispositions which consistently correlate with later alcohol problems were unconventionality, low ego-control, sensation seeking, impulsivity, aggression, and inability to delay gratification.

Several studies have also successfully established a positive correlation between personality traits and the use of certain substances (Anderson et al., 2007). Individuals with high Neuroticism with negative emotions and low Agreeableness, and those who are undisciplined and disorganized (low Conscientiousness) are more likely to use substance than those who have opposite of these traits (Sutin, Evans, & Zonderman, 2013). Drug users, especially heroin and alcohol dependents have been

known to show more novelty-seeking, less self-directedness and more self-transcendence than controls. (Le Bon et al., 2004).

Blatt (2008) had explained that women's and men's experience in personality development are different. In particular, women are argued to place more emphasis on issues related to interpersonal relatedness, especially in terms of giving and receiving care, affection, and love. On the contrary, men tend to place more emphasis on self-definition, especially in terms of individualistic self-assertion. Epidemiological research has consistently demonstrated that whereas women present a higher prevalence of internalizing problems, such as affective and anxiety disorders, men have higher rates of some personality disorders, such as antisocial personality disorder and substance abuse (Simon, 2002). Gender differences in behavior problems, such as aggressive behavior and antisocial behavior, are also evident during childhood and adolescence, with boys showing higher rates of these problems than girls (Keiley et al., 2000; Lahey et al., 2000).

Many studies have revealed that neuroticism tends to be higher in women than men (Lynn et al., 1997; Weisberg et al., 2011). It has also been previously reported that neuroticism was a strong mediator of the association between gender and depression in addition to various social and psychological factors (Leach et al., 2008). Psychoticism tends to be higher among men as compared to women and extraversion tends to be higher among women as compared to men (Richard Lynn & Terence Martin, 1997; Feingold, 1994; Costa et al., 2001). In fact, women have even reported themselves to be higher in neuroticism, agreeableness, warmth, and openness to feelings, whereas men were higher in assertiveness and openness to ideas (Costa, Terracciano & McCrae, 2001). The one aspect of Neuroticism in which women do not always exhibit higher scores than men is Anger, or Angry Hostility (Costa et al., 2001). Whereas gender differences are small on the overall domain level of Extraversion (with women typically scoring higher), the small effect size could be due to the existence of gender differences in different directions at the facet level. Women tend to score higher than men on Warmth, Gregariousness, and Positive Emotions, whereas men score higher than women on Assertiveness and

Excitement Seeking (Feingold, 1994; Costa et al., 2001). Gender differences in Extraversion may depend on whether the specific traits measured fall closer or further from the dominance pole (Helgeson & Fritz, 1999).

Drug-dependent Male had significant difference with Non drug-dependent Male (1.12) and Non drug-dependent Female (1.61) in Cohesion. Family environment is an important factor affecting an individual's substance use. Disorganized family environment is considered as one of the key parameters that makes a normal individual to get inclined to the world of drug addiction (Kothari & Nair, 2010) There have been various studies that examined the relationship between family and drug dependency. Some dimensions of family environment can serve as an important protective factor against substance use, initiation and continued use (Chen et al., 2010; Hawkins et al., 1992). Studies have shown evidences that indicated familial factors such as family cohesion (Duncan, Tildesley, Duncan & Hops, 1995), parental monitoring (Clark et al., 2011), and parent–adolescent relationship (Clark, Belgrave & Abell, 2012) as protective factors that helps to prevent substance use. It has been suggested that high family cohesion tends to reduce youngster's initial levels of alcohol consumption and delay the increase in alcohol use and that these effects appear to be most pronounced among late adolescents thus suggesting that family influence may be more powerful during post-pubertal periods (Duncan, Duncan & Hops, 1994). Compared with normative families, families of youth with substance use disorders (SUDs) tend to be low on cohesion and expressiveness, less independent and socially integrated, higher on conflict and control (Andrews et al., 1991; Slesnick & Prestopnik, 2004). Communication process that occurred within a family helps to inculcate good values and norms practiced by the parents to the child or adolescent (Whitaker & Miller, 2000). As members of cohesive families have been found to enjoy spending time together, and value interdependence and the exchange of emotional and instrumental support; they are less likely to seek support from people outside the family, including peers who engage in delinquent behaviours. Family cohesion has been associated with lower levels of alcohol use (Bray, Adams, Getz & Baer, 2001; Marsiglia, Kulis, Parsai, Villar & Garcia, 2009) and illicit drug use (Gil, Vega & Biafora, 1998;

Bhatia, 2011). Spending more time at home has been considered as a protective factor, mainly because it limits the opportunities for offending and therefore decreases the chance of being exposed to risk factors (Hirschi, 1969; Fagan et al., 2007; Moffitt et al., 2001). Family atmosphere, strength of family ties, sense of family happiness, structure of authority in the family, and alcoholism has been considered as some of the main family factors of drug addiction. Drug addicts tend to come from families where there is ill will and hostility and they have weaker family ties than do those who do not take drugs (Jedrzejczak, 2005).

Clark and Nguyen (2012) found that family factors were significantly and positively associated with cultural factors and school factors but negatively associated with lifetime substance use. Tung and Dhillon (2006) reported a significant difference on cohesion dimension of family environment among girls as compared to boys. The results showed females reported more cohesive environment.

In Expressiveness, Drug-dependent Male had significant difference with Non drug-dependent Male (1.67) while Drug-dependent Female had significant difference with Non drug-dependent Male (2.31). Non drug-dependent Female had significant difference with Non drug-dependent Male (1.72). In Conflict, Drug-dependent Male had significant difference with Non drug-dependent Male (1.55) and Non drug-dependent Female (1.98). Drug-dependent Female had significant difference with Non drug-dependent Male (.96) and Non drug-dependent Female (1.39). Family environments with high levels of adversity such as violence, stress, parental drug use, ineffective communication and discipline, and poor sibling relationships, have been linked to adolescent drug use (Vakalahi, 2001). High family conflict and lack of family support, social integration, and organization have been known to be associated with more alcohol and drug use, and heavier drinking, among youth and young adults. Exposure to psychological stress and familial conflict early in life increases the risk of substance use disorders during late adolescence (Skeer et al., 2009). An increase in separation and family conflict has been found to be associated with more alcohol use for both boys and girls (Bray et al., 2000; 2001a; 2000b).

Family conflict has also been shown to modulate the relationship between peer pressure and adolescent drug use and influence the severity of substance use.

As females have more negative perceptions of family experience mainly because of the cultural roles assigned to them, they have been shown to score higher on family conflicts as compared to males (Wu et al., 2004). While males score higher than females in expressive hostility behaviour, females have significantly higher scores in suppressive hostility than males (Weng-Lin, Lue, Chen, Wu & Cheng, 2008; Weng, Lin, and Jiang, 2010). Because of the vulnerable position of women in the society, females tend to become the chief targets of conflicts and so perceived more conflicts in the family (Wu et al., 2004; Mohanraj & Latha, 2005; Sharma, Jagriti & Malhotra, 2010). The association between childhood family conflict and substance use disorders (SUDs) in adolescence also differed by gender and that family conflict was significantly associated with SUDs among females but not among males. It has been shown that females living in families with elevated levels of conflict were more likely to engage in acting out behaviours, which was associated with the development of substance use disorders (Skeer et al., 2011). Family conflict also can have indirect effects because it is associated with poorer communication with parents, more stress and separation, and less individuation, all of which have been associated with more alcohol use (Baer & Bray, 1999; Brinson, 1991; 1992; Foxcroft & Lowe, 1997; Gunthy & Jain, 1998; Hops et al., 1999).

In Independence, Drug-dependent Male had significant difference with Non drug-dependent Male (1.26) and Drug-dependent Female had significant difference with Non drug-dependent Male (1.42). In Achievement Orientation, Drug-dependent Male had significant difference with Drug-dependent Female (1.39), Non drug-dependent Male (1.79) and Non drug-dependent Female (2.99). Drug-dependent Female had significant difference with Non drug-dependent Female (1.60). Non drug-dependent Female had significant difference with Non drug-dependent Male (1.20). Males tend to perceived more independence than females (Ninaniya et al., 2019), the reason for which can be cultural factors (Verma & Ghadially, 1985) where male children received more independence and encouragement than females because

of cultural roles assigned to them. Girls are subjected to involved in heavy sex role constraints, are more vulnerable to social criticism and they have to be contended with culturally created values (Mohanraj & Latha, 2005). Youth with substance use disorders (SUDs) tend to be less independent as compared with normal youth (Andrews et al., 1991; Slesnick & Prestopnik, 2004)

In Intellectual Cultural Orientation, Drug-dependent Male had significant difference with Non drug-dependent Male (1.76) and Non drug-dependent Female (2.95). Drug-dependent Female had significant difference with Non drug-dependent Male (1.69) and Non drug-dependent Female (2.88). Non drug-dependent Male also had significant difference with Non drug-dependent Female (1.19). In Active Recreational Orientation, Drug-dependent Male had significant difference with Non drug-dependent Male (1.72) and Non drug-dependent Female (2.33). Drug-dependent Female had significant difference with Non drug-dependent Male (1.46) and Non drug-dependent Female (2.07). In terms of intellectual-cultural orientation and active recreation Non drug - dependents have better perception of their family environment as compared to drug-dependents. Engaging in extracurricular activity has been known to be an important contributor to reductions in truant behaviour in adolescents (Shorter, 2016). Boys have also been found to receive more encouragement for personal growth through acceptance and caring attitude and independence; as well as through participation in social and recreational activities as compared to their female counterparts (Shanti Balda et al., 2019).

In Moral Religious Emphasis, Drug-dependent Male had significant difference with Drug-dependent Female (.87), Non drug-dependent Male (1.66) and Non drug-dependent Female (2.24). Drug-dependent Female had significant difference with Non drug-dependent Male (.79) and Non drug-dependent Female (1.36). Females have been found to have higher moral religious emphasis in the family (e.g., Tung and Dhillon, 2006). Increased religiosity has been linked with fewer antisocial or problem behaviours, including reduced substance use and risky sexual behaviour (e.g., Bradford et al., 2008; Manlove et al., 2008; Yonker et al., 2012) hence becomes an important protective factor especially during childhood and

adolescence (Bradford et al., 2008; Eriksson et al., 2011; Hunt & Hopko, 2009) thereby promoting positive outcomes for youth (Shorter, 2016). Low family moral-religious emphasis has been found to be associated with drug use as well as alcohol use suggesting the importance of strengthening family moral-religious emphasis in the treatment of substance abuse (Madu and Matla, 2003).

In Organization, Drug-dependent Male had significant difference with Drug-dependent Female (1.45), Non drug-dependent Male (1.86) and Non drug-dependent Female (2.44). Drug-dependent Female had significant difference with Non drug-dependent Female (.99). In Control, Drug-dependent Male had significant difference with Drug-dependent Female (1.62), Non drug-dependent Male (1.78) and Non drug-dependent Female (2.27). Females have been shown to have better organization and control as compared to males (e.g., Pinki Ninaniya, Santosh Sangwan and Shanti Balda, 2019) It has also been suggested that the non-addicts' family environment is far better supportive and organized than addicts (Kothari & Nair, 2010). High family support, social integration, and organization have also been associated with less peer influence, better coping skills, less expectancy that alcohol would reduce tension, less substance abuse (Andrews & Duncan, 1997).

Studies have revealed that family environment lays an important backdrop in the treatment of substance abuse wherein the addict descriptions of their families such as family cohesion, conflict, achievement orientation, independence organization, intellectual-cultural, conflict, and control dimensions of the Family Environment Scale (FES) were found to be especially effective as predictors of treatment outcome (Friedman et al., 1991; Godley et al., 2005; Campbell et al., 2006).

(vii) **Regression – Logistic regression** (Prediction of Drug dependence from dependent variables)

Table- 14: Showing the prediction of drugs (Logistic regression) from the scale and subscales of general health, depression, family environment, social support and family environment among the samples.

Ominibus Test of model coefficients			
Chi-square	df	Sig.	Nagelkerke R Square
383.438	17	.000	.902
Hosmer and Lemeshow Test			
Step	Chi-square	df	Sig.
1	19.862	8	.011

A logistic regression was performed to ascertain the effects of depression, social support, family environment and personality on participant’s drug use. Logistic regression analysis with the scale and subscales of depression, social support, family environment and personality constant as independent variable and Drug as a dependent variable was computed. The logistic regression model was statistically significant, $\chi^2(17) = 383.438$; $p < .000$. The model explained 90.2% (Nagelkerke R^2) of the variance in drug use, which suggests that the model explains roughly 90.2% of the variation in the outcome. The Hosmer & Lemeshow test of the goodness of fit suggests the model is a good fit to the data as $p=19.862$ ($<.05$).

The findings can be supported by previous studies where depression has been found to be a predictor for drug dependency. Depression is common among persons diagnosed with substance abuse or substance dependence (Deykin et al, 1987; Miller et al., 1996). Because of it’s impairing condition, it has been found to be associated with substantial physical morbidity and disability, as well as mental suffering (Lyketsos et al., 1996). Blum and colleagues (2013) had found that heroin abusers could not easily stop using heroin as opioid use dysregulated the reward system in the brain, and activated the circuits of the stress-system and obsessive-compulsive system. Therefore, heroin-dependent people reported more severe depression than did healthy controls. Sordo and colleagues (2012) has suggested that heroin dependent patients might take higher doses to reduce the severity of depressive symptoms thus, indicating that depression might be a significant predictor of heroin use. Khantzian (1985) had postulated that substances as a form of self-medication

may be taken for pleasure and disinhibition, but also to escape stress, to cope with depression or to avoid withdrawal symptoms at a later stage. Alzahrani, Barton, and Brijnath, (2015) had found that high prevalence of depression existed among substance user and that those who had abused substances for more than 10 years were found to have double the risk for depression as compared to participants who had abused substances for less than 5 years. The likelihood of relapse is also increased when depression is present (White et al., 2004). Some studies have indicated that adolescents with comorbid substance use disorder and major depressive disorder have worse functional outcomes than adolescents with either disorder alone, including lower global functioning (Rao et al., 1999), less social support, and more peer conflict (Aseltine, Gore & Colten, 1998).

The result indicated that family environment has been found to be a predictor of drug dependency. This finding can be corroborated with other studies. Various studies have identified family as a significant source of protection against drug and alcohol abuse among adolescents (Chen et al., 2010; Hawkins et al., 1992). Familial factors such as family cohesion (Duncan, Tildesley, Duncan & Hops, 1995), parental monitoring (Clark et al., 2011), and parent–adolescent relationship (Clark, Belgrave & Abell, 2012) has been indicated as protective factors that helps to prevent substance use. Disorganized family environment on the other hand has been considered as one of the key parameter that makes a normal individual to get inclined to the world of drug addiction (Kothari & Nair, 2010). Parental monitoring and selective supervision have been found to be among the most powerful predictors of adolescent substance abuse and problem behaviours. Higher levels of monitoring and supervision predicted lower problem severity. Adolescents perceiving less monitoring were more likely to have a history of alcohol and marijuana use and more frequent use (Steinberg et al, 1994; Mulhall, 1996). Parental monitoring was also an important predictor of drinking, delinquency and problem behaviors (Barnes & Farrell, 1992). As family environment has been found to have impacts on choice of peer groups as well as attitudes towards and susceptibility to drug use (Cohen et al., 1994), perception of peer substance use, association with drug using or deviant peers, and peer pressure are associated with higher probability of drug use and increased

use (Bryant & Zimmerman, 2002; Ary et al., 1993). Peer modeling and association with drug-using friends may relate to level of severity of drug use.

Parental substance use correlates with adolescent substance use (Andrews et al., 1993; Hops et al., 1990). Bahr and colleagues (1995) found that adolescents living in families whose members have a drug problem are more likely to have friends who use drugs. Parental support and connectedness, which include emotional support and expressions of interest in the child (Anderson & Henry, 1994) is another important protective factor. Family bonding or cohesion and parent-family connectedness are also associated with less frequent substance abuse such as cigarette, alcohol, and marijuana use (Bahr et al., 1995; Broman et al., 2006; Vega et al., 1998; Ramirez et al., 2004) indicating family cohesion as a strong protective factor. Clark and colleagues (2011) had suggested that family factors such as family communication, family cohesion and quality of the parent-adolescent relationship give rise to positive outcomes found in cultural and school domains that also influence substance use thus indicating the predictability of substance abuse. Compared with normative families, families of youth with substance use disorders (SUDs) tend to be low on cohesion and expressiveness, less independent and socially integrated, higher on conflict and control (Andrews et al., 1991; Slesnick & Prestopnik, 2004).

High family conflict and lack of family support, social integration, and organization have been known to be associated with more alcohol and drug use, and heavier drinking, among youth and young adults. Exposure to adverse family environments in childhood can influence the risk course for developing substance use disorders in adolescence. Skeer and colleagues (2009) had revealed that exposure to familial conflict early in life increases the risk of substance use disorders during late adolescence and emerging adulthood. Several other studies have also found that family conflict is related to greater adolescent substance use (Baer et al., 1987; Kuperman et al., 2001; Rhodes & Jason, 1990). Drug addicts have been found to have weaker family ties than do those who do not take drugs (Jedrzejczak, 2005). Religiosity has been considered as an important factor in substance abuse (e.g.,

Yonker et al., 2012) where higher levels of family religiousness were related with lower use of illicit drugs among peers. This indicates that the more religious the family is; the less likely adolescents will use illicit drugs. Shorter (2016) stated that family cohesion and moral-religiosity were found to promote positive outcomes for youth, while family conflict emerged as a risk-inducing factor. Further, it was also suggested that moral-religiosity, family cohesion and extracurricular activity can be an important contributor to reductions in truant behaviour in adolescents.

The impact of family environment and recovery from substance abuse had shown that families of youngsters who improved in treatment showed a rise in cohesion and expressiveness, whereas families of youth who relapsed did not (Stewart & Brown, 1993) thus suggesting that more family conflict and less cohesion can adversely affect the post-treatment recovery environment (Godley et al., 2005).

Family characteristics may predict treatment outcome among youth with substance use disorders. Measures of family environment, relationship, and communication were found to be effective in predicting the treatment outcome. The subject's positive descriptions of their families at intake on the achievement orientation, independence organization, intellectual-cultural, conflict, and control dimensions of the FES were found to be especially effective as predictors of outcome (Friedman et al., 1995).

Social support as a predictor of drug dependency can be supported by other studies. As an important determinant that affects addiction, social support has been shown to have an effect on substance abuse where those who have more social support are more likely to stop using drugs than those with less social support (Majer et al., 2016; Tucker et al., 2005). Current drug use was predicted by more negative social support (from drug-using family/friends), depression, and less positive coping. Drug Problems were predicted by more negative coping, depression, and less positive coping. Physical Drug Dependence was predicted by more negative social support and depression, and less positive social support (Galaif et al., 1999). Social support has been shown to buffer the association between non-injection polydrug use and depression, suggesting that increasing social support might be a useful tool for

drug users in reducing depression and the adverse effect of non-injection polydrug use (Mizuno et al., 2003). Loyalty to delinquent peers has been shown to be a strong predictor of delinquent behaviour, even after controlling for moral beliefs, prior behaviour, and other variables (Timothy & Andia, 2018). Social support along with variables of self-efficacy beliefs has been found to be the best predictors of addiction relapse and therefore plays a significant role in preventing patients from addiction relapse (Nikmanesh, Baluchi & Motlagh, 2017). However, all types of perceived social support have been found to have no significant influence on heroin users' abstinence intentions (Liu et al., 2018).

Personality as a predictor of drug dependency can be supported by other studies. Drug-dependents had been shown to have typically high levels of psychoticism, together with elevated scores on neuroticism; and somewhat lower levels of extraversion than controls (Gossop, 1978; Teasdale et al., 1971). Alcoholics and opiate addicts has been revealed to have common personality styles where alcoholics scored higher on the personality style scales of Avoidant, Passive-Aggressive, Schizotypal, Borderline and Paranoid, while the opiate addicts scored higher on the Narcissistic personality disorder scale (Craig, Verinis & Wexler, 1985). Bates' (1993) review of the psychological alcohol literature found that many studies of youth have identified common personality characteristics and/or behavioral dispositions which consistently correlate with later alcohol problems. Among the most commonly found traits or constructs were unconventionality, low ego-control, sensation seeking, impulsivity, aggression, and inability to delay gratification. In females, neuroticism (as measured by elevations on the hypochondriasis, depression and hysteria scales) has been shown to be more important in predicting the use of licit drugs and cannabis, with psychopathic deviance and mania being more important in predicting other illicit drugs. For males, elevated psychopathic deviance and mania scale scores were strongly associated with extent of drug use (Tara Lavelle, Richard Hammersley & Alasdair Forsyth, 1993). Individuals with high Neuroticism with negative emotions and low Agreeableness, and those who are undisciplined and disorganized (low Conscientiousness) are more likely to use substance than those who have opposite of these traits (Sutin et al., 2013).

The topic of the present study was to study the social and psychological factors of drug dependency among Mizo youth. The samples had comprised of 400 Mizo youths (200 drug dependents and 200 non-dependence x 200 males and 200 females), from the age group of 18 years to 30 years to represent Mizo youth. The samples were selected by using multi-stage random sampling procedure at Aizawl, so as to have a well representation of Mizoram. The drug-dependent samples were selected from hospitals and various non-government organizations (NGOs) from Aizawl, and the non-drug dependents were collected from similar population with a well-matched of the drug dependent samples with the help of demographic profiles constructed by the researcher. The socio-demographic profile was framed for cross checking of the sample inclusion criteria. The demographic profile includes - age, sex, family size, occupation, educational qualification, marital history, area of domicile, sibling size and position, family type, crime history, and drug-taking history (first drug use, age of first use, frequency, introduced by whom, route of use, type of drug used and currently used, treatment sought, whether currently under treatment or not including OST, treatment found most useful, test of hepatitis and STIs with HIV/AIDS). All these were recorded with the objectives of obtaining a truly representative sample for the study.

The present study had used the following psychological measures: (i) ICD-10 Diagnostic Criteria for Psychoactive Substance Abuse (WHO); (ii) General Health Questionnaire (GHQ: Goldberg, 1972); (iii) Beck's Depression Inventory (BDI; Beck et al., 1961); (iv) Eysenck's Personality Questionnaire-Revised (EPQ-R; Eysenck & Eysenck, 1980); (v) Social Support Questionnaire (SSQ; Sarason, et al., 1983); (vi) Family Environment Scale (FES; Moos & Moos, 1974). The objectives of the present study had included studying the level of depression, social support, personality and family environment of drug dependency as compared to non-dependents as well as female and male samples; highlighting the relationship between dependent variables – depression, personality, social support and family environment; elucidating the independent 'drug' effect on the dependent variables; elucidating the independent 'gender' effect on the dependent variables; studying the interaction effects of 'drug and gender' on the dependent variables; and studying the predictability of drug addiction from level of depression, social support, family

environment, personality, and demographic variables over the levels of analyses. Keeping in view the objectives of the study, the hypothesis was framed.

The sample characteristic of the present study portrayed the mean distribution of age of the whole sample wherein age 22 years is shown to have the highest frequency. The mean distribution of the level of education of the whole sample showed that the highest percentage of the samples had studied till higher secondary school, followed by matriculation, graduate, high school, post-graduate, middle school, till primary school and post-graduation. The result showed that the distribution of occupation for the whole group where 65% are unemployed, 14% are employed in the organized sector, 13% are employed in the unorganized sector, and 9% are self-employed. The mean distribution of the father's occupation of the whole sample was shown where 66.5% are employed, 22.4% have been deceased, 7.4% are pensioner and 3.5% are unemployed. The result also depicted the mean distribution of the mother's occupation of the whole sample where 51.5% are unemployed, 37.4% are employed, 8.8% have been deceased and 2.4% are pensioners. The mean distribution of family background of the whole sample showed that 78.8% are from intact family and 20.9 % are from broken family. The mean distribution of family background of the drug-dependent group showed that 67.7% are from intact family and 31.8% were from broken family while that of the non-drug-dependent group showed that 90.0% were from intact family and 10.0% are from broken family. Of the whole sample 55.9% were from nuclear family and 44.1% were from joint family. From the sample studied, 59.7% were unmarried, 22.1% were married, 16.5% have been divorced and 1.8% were widow/widower. The socioeconomic status of the whole sample portrayed that 94.7% were above the poverty line and 5.3% were below poverty line. Among the drug-dependent group, 90.0% were from above poverty line and 10.0% were from below poverty line. The birth position of the whole sample showed that 37.4% were the middle child, 33.5% were the eldest, 21.5% were the youngest and 7.6% were the only child. The mean distribution of crime history of the drug-dependent group showed that 64.1% have never been arrested, 60% had altercations with the police, 43.5% had altercations with the YMA (Young Mizo Association), 15.9% had altercations with the JAC (Joint Action Committee) and 7.1% have had altercations with organizations not listed.

The mean distribution of age of first substance used of the drug-dependent group showed that age 14 years has the highest percentage closely followed by age 16 and 17 years. The youngest age was found to be 8 years old and the oldest was 30 years old. The result showed that the type of substance first used among the drug-dependent group included tobacco (70.6%), alcohol (49.4%), codeine (18.8%), tablets (17.6%), inhalants (15.3%) had used inhalants, opioids (9.4%), cannabis (8.2%) and heroin (4.7%). Of the sample studied, majority of the drug dependents were introduced to drugs by their friends. The drug – dependent samples studied were all polysubstance users. Majority of the sample studied were currently using heroin (91.8%), 56.5% were using tobacco, 47.6% were using alcohol, 36.5% were using tablets, 7.6% were using opioids, 5.3% were using codeine, and 4.7% were using cannabis. Among the sample studied, 92.9% were IDUs (Intravenous drug users). The result depicted the mean distribution of treatment sought for substance abuse where majority of the sample studied had sought religious therapy (77.6%) but they have also considered it to be not helpful of all the treatment they have sought for their drug habits. The status of diseases of the drug-dependent group had shown that 53.5% of the sample were negative, 38.8% were found to be HIV+, 7.6% have hepatitis C, and 0.6% have hepatitis B.

The raw data of the study was analysed in a stepwise manner (i) Psychometric adequacy, (ii) Descriptive statistics, (iii) Correlation, (iv) Analysis of variance, (v) Post hoc mean comparison, and (vi) Logistic regression. The overall results of the study may be summarised as follow based on the hypothesis.

Psychometric Adequacy

The reliability and predictive validity of the scales and sub-scales were determined to ensure the psychometric adequacy of the scales used for the study. The reliability test of Cronbach Alpha and Split – Half reliability showed that all the scales and subscales fall between .50 - .89 which confirmed the trustworthiness of the selected scales for the present study. Homogeneity of Variance was indicated as Levene's test was found not significant while Brown – Forsythe Tests of Equality of

Means showed significance on all the scales and subscales and so, therefore, we could proceed with the analysis of variance.

Descriptive Statistics

Parametric statistics was applied as the skewness and kurtosis indicates that none of the skew and kurtosis was greater than twice the standard error within an acceptable range. The Mean Comparisons among the dependent variables of Drug – dependents and Non-drug-dependent showed that Non-drug – dependents scored higher ($M = 20.36$) on General health than drug-dependents ($M = 12.69$); while the Drug-dependent group scored higher in Depression ($M = 25.45$) than the Non drug-dependents ($M = 15.78$). The result is in line with other studies that had shown depression to be common among persons with substance abuse (Rabkin et al., 1997; Sadock & Sadock, 2003; Hatim et al., 2015). The use of drugs could be either of curbing depression by using it as self-medication or perhaps eliciting depression (Deykin et al., 1987; Lyketsos et al., 1996), thereby increasing the frequency and severity of substance use (Riggs et al., 1995) as well as increased the likelihood of relapse (White et al., 2004).

Drug – dependents have been found to have higher Psychoticism ($M = 15.5$) than the Non-drug -dependents ($M = 13.88$). However, Non drug-dependents have been found to score higher on Neuroticism ($M = 14.21$) and Extraversion ($M = 13.51$) than the Drug – dependents ($M = 13.71$; $M = 12.33$). The psychoticism dimension has been found to be correlated with addictive behaviour (Eysenck and Eysenck, 1985). Addicts may try to escape reality and have been described as fearful, withdrawn, and depressed. Psychoticism has to be combined with stress to produce actual psychiatric symptoms (Eysenck, 1992). Non-drug-dependents have been found to score higher on Neuroticism ($M = 14.21$) than the Drug – dependents ($M = 13.71$). The result is in disparity with numerous findings, however, Bukhtawer and colleagues (2014) had found a similar result where Neuroticism trait was found to be less among drug abuse cases. Cultural variation and social desirability can be the causal factors for such a result. The result which showed that Psychoticism being high in Drug-dependents and Extraversion being low as compared to Non-drug-

dependents can be supported by other related studies (Gossop, 1978; Teasdale et al., 1971; Gossop & Eysenck, 1983; Abu-Arab & Hashem, 1995).

The Mean Comparison among the dependent variables of Male and Female have shown that Males scored higher on General health ($M = 17.82$) than Females ($M = 15.23$). Females are revealed to score higher on Depression ($M = 21.9$) as compared to Males ($M = 19.32$). Several studies have indicated that women are more twice as likely to have mood disorders as men (Kessler, 2006; Kessler & Wang, 2009).

In terms of the number of social support, no difference has been found between Male and Female as they have approximately the same score ($M = 68.68$; $M = 68.45$), and in the Level of satisfaction of social support, Female scored higher ($M = 140.55$) than Male ($M = 136.61$). Although several findings have suggested that females have greater social support from friends and family (Zimet et al., 1988; Burda, Vaux & Schill, 1984; Hirsch, 1979), others have also revealed that gender was not significantly associated with any form of social support.

Male has been found to have higher score in Psychoticism (Male $M = 14.95$; Female $M = 14.44$) while in Neuroticism and Extraversion, Female are found to have higher scores than Male (Neuroticism – Male $M = 13.28$; Female $M = 14.64$, Extraversion – Male $M = 12.52$; Female $M = 13.32$). Because of the more stress and emotional distress experienced by women in their daily lives (Hyde et al., 2008), neuroticism tends to be higher in women than men (Weisberg., 2011).

The Mean Comparison among the four comparison groups (Drug-dependent Male, Drug – dependent Female, Non-drug-dependent Male, Non-drug-dependent Female) have also been portrayed. In General health, Non-drug-dependent Male has been found to score the highest ($M = 22.13$) while Drug-dependent Female has scored the lowest ($M = 11.86$). Drug – dependent Female scored the highest in Depression ($M = 27.53$) while Non-drug-dependent Male has been found to have the lowest score ($M = 15.28$). Women are more disadvantaged in society and are therefore more likely to have more problems relating to both physical and mental health. More men than women use and become dependent upon most drugs, however, females may progress more rapidly from initiation of use to problematic use to treatment (Kuhn, 2015).

Non drug-dependent Male has the highest number of Social Support (M = 70.21) while Drug-dependent female has the lowest number of Social Support (M = 65.69) even though they have the highest score in the level of satisfaction in social support (M = 141.56) while the Drug-dependent Male has the lowest level of satisfaction in social support (M = 135.74). Studies have consistently reported that women tend to be higher when it comes to seeking and receiving higher levels of emotional support than men do (Ashton & Fuehrer, 1993; Burda, Vaux & Schill, 1984). Drug use has been found to be associated with dissatisfaction in perceived social support from most sources, with the strongest relationships amongst drug-using females. The result is consistent with other findings that had shown that women who reported drug misuse had lower levels of family and friend support (D'Orio et al., 2015).

Drug – dependent Male has the highest score in Psychoticism (M = 15.86) with Drug – dependent Female scoring the next highest (M = 15.16), Non-drug-dependent Male (14.05) and Non-drug-dependent Female has the lowest score (M = 13.71). However, Non drug-dependent Female has the highest score in both Neuroticism and Extraversion (M = 14.95; M = 13.86 respectively) while Drug-dependent Male has the lowest score (Neuroticism M = 13.09; Extraversion M = 11.8). People who are addicted are often found to have low self-esteem, immature, are easily frustrated and have difficulty solving personal problems. Gossop and Eysenck (1980) had found that for both males and females high level of psychoticism and neuroticism was an important discriminant factor for drug addicts, but less so for women than for men. Low extraversion scores were also again characteristic of drug addicts.

Mean Comparison among the dependent variables of Drug – dependents and Non drug-dependents on Family Environment showed that Non drug-dependents scored higher on Cohesion (M = 5.26), Conflict (M = 4.98), Independence (M = 5.83), Achievement Orientation (M = 6.05), Intellectual Cultural Orientation (M = 5.79), Active Recreation (M = 5.20), Moral Religious Emphasis (M = 6.22), Organization (M = 5.35) and Control (M = 5.05) as compared to Drug -dependents. Non drug-dependents scored higher on Cohesion (M = 5.26) than Drug-dependents (M = 4.02). The result is consistent with other findings (e.g., Duncan, Duncan and

Hops, 1994; Slesnick & Prestopnik, 2004). Family has been considered a significant source of protection against drug and alcohol abuse among adolescents (e.g., Chen et al., 2010; Hawkins et al., 1992). It has been found that family with high cohesion, support and communications produces a better adolescent (Loeber et al., 1998). Cohesion has also been shown to protect adolescents from substance use and engagement in deviant behaviours (Gil, Vega & Dimas, 1994; Ramirez et al., 2004).

Drug-dependents scored higher ($M = 5.76$) than Non drug-dependents in Expressiveness ($M = 4.64$). Although some findings have suggested the difficulty of expressing feelings and problems in the family, especially in collectivistic society among drug dependents (Sobia Masood & Najam Us Sahar, 2014; Bala, Balda & Kumari, 2018), the present study reveals otherwise. Non drug-dependents scored higher ($M = 4.98$) than Drug-dependents ($M = 3.51$) on Conflict. The result is in contradictory with various findings that have found conflict to be higher among drug dependents as compared to the normal population (Andrews et al., 1991; Slesnick & Prestopnik, 2004). The reason for the contradictory findings can be explained in terms of the family made up of different individuals making different settings thereby making the family environment unique. The environments can differ in many ways such as in the socio-economic level and parenting practices (Zastrow & Kirst-Ashman, 2013). The high Psychoticism level of the Drug-dependents group that makes it hard for them to be reality-oriented and that they are likely to believe that they have the opportunity to be expressive freely could be one possible factor. Cultural variations and social desirability should also be taken into account.

Non drug-dependents scored higher ($M = 5.83$) than Drug-dependents ($M = 4.80$) on Independence. The result is consistent with other findings (e.g., Andrews et al., 1991; Slesnick & Prestopnik, 2004). Non-drug-dependents feel that family members are assertive and that they can independently make their own decisions. Non drug-dependents ($M = 6.05$) scored higher than Drug-dependents ($M = 4.35$) on Achievement Orientation. The result is inconsistent with other findings (Bala, Balda & Kumari, 2018). The detrimental physical and psychological effects of drug dependency can result in being inactive and less productive.

In Intellectual cultural orientation, Non drug-dependents have scored higher ($M = 5.79$) than the drug-dependents ($M = 3.47$). The result is consistent with other

findings (e.g., Bala, Balda and Kumari, 2018). Impaired functioning is one of the distressing consequences of drug dependency, being less proactive in political, social, intellectual, and cultural activities is likely among the drug dependents.

Non-drug-dependents scored higher ($M = 5.20$) than Drug-dependents ($M = 3.31$) in Active recreational orientation, the extent to which family members emphasized participation in social and recreational activities. The result is consistent with other findings (Bala, Balda & Kumari (2018).

In Moral religious emphasis, Non drug-dependents scored higher ($M = 6.22$) than drug-dependents ($M = 4.71$). The result is consistent with other studies (Madu & Matla, 2003; Bradford et al., 2008; Manlove et al., 2008; Bala, Balda & Kumari;2018). Increased religiosity has been linked with less antisocial or problem behaviours, including reduced substance use and risky sexual behaviour (Bradford et al., 2008). The more religious the family is; the less likely adolescents will use illicit drugs (Hardesty & Kirby, 1995).

Non-drug-dependents have scored higher ($M = 5.35$) than Drug-dependents ($M = 3.92$) on Organization which entails the extent to which family endorses clear organization and structure in planning family activities and responsibilities. Similar results have been found in other studies (Kothari & Nair, 2010; Bala, Balda & Kumari; 2018). Non drug-dependents scored higher ($M = 5.05$) than Drug-dependents ($M = 3.84$) on Control. The result is inconsistent with other studies (e.g., Bala, Balda & Kumari, 2018). The extent to which rules and procedures are followed and enforced by family members have been found to be carried out easier among the non-drug-dependents.

Mean Comparison among the dependent variables of Male and Female on Family Environment has revealed that Female scored higher on Cohesion ($M = 4.82$), Expressiveness ($M = 5.79$), Conflict ($M = 4.49$), Achievement Orientation ($M = 5.85$), Intellectual Cultural Orientation ($M = 4.95$), Active Recreation ($M = 4.47$), Moral Religious Emphasis ($M = 5.82$), Organization ($M = 5.14$) and Control ($M = 4.97$) as compared to Male. Male however, scored higher on Independence ($M = 5.51$) than Female ($M = 5.12$). The result that revealed that Females scored higher ($M = 4.85$) as compared to Males ($M = 4.45$) on Cohesion has been substantiated by other studies (e.g., Tung and Dhillon, 2006; Sharma, 2014). Cohesion has been

viewed as a positive factor and it has been suggested that cohesiveness and bonding may have progressive effects in an adolescent development as cohesive families ensure better psychosocial development in adolescents (Tung & Sandhu, 2008).

In Expressiveness, Females scored higher ($M = 5.79$) than Males (4.61). Some studies have found that adolescent boys and girls did not differ significantly on any dimension of family environment (Devi & Kiran, 2014), while others have shown that adolescent boys perceived family environment as more expressive (Shanti Balda, Sheela Sangwan & Arti Kumari, 2019). The reason for this was interpreted in terms of cultural norms and expectation for gender roles where boys were encouraged to act openly and express their feelings and thoughts directly as compared to girls (Verma & Ghadially, 1985).

In Conflict, Females scored higher ($M = 4.49$) than Males (3.99). The result is corroborated by previous findings (Meyerson et al., 2002; Mohanraj & Latha, 2005; Wu et al., 2004). Women were at a more disadvantaged status in society, they are prone to various forms of abuse and hence tend to perceive more conflict in the family. Cultural roles and expectations that girls are subjected to; such as being involved in heavy sex-role constraints, makes them more vulnerable to social criticism as well as having to contend with culturally created values can also be an important factor (Mohanraj & Latha, 2005).

In Independence, Males scored higher ($M = 5.51$) than Females ($M = 5.12$). Other studies have found similar result (e.g., Verma & Ghadially, 1985; Shanti Balda, Sheela Sangwan & Arti Kumari, 2019). Cultural norms and expectation for gender roles where boys were encouraged to act openly and express their feelings and thoughts directly as compared to girls has been considered as an important aspect (Verma & Ghadially, 1985). In Achievement orientation, Females scored higher ($M = 5.85$) than Males ($M = 4.55$). Some studies have found that Males are higher in achievement orientation (Ninaniya, Sangwan & Balda, 2019). However, other studies have found that males and females did not differ significantly on any dimension of the family environment (Devi & Kavitha Kiran, 2014).

In the dimension of Personal Growth, females scored higher than males. In Intellectual cultural orientation, Females scored higher ($M = 4.95$) than Males (4.32); in Active recreational orientation, Females scored higher ($M = 4.47$) than Males

(4.04); and in Moral religious emphasis, Females scored higher (M = 5.82) than Males (5.10). The result is consistent with other findings (e.g., Tung and Dhillon, 2006). In Organization, Females scored higher (M = 5.14) than Males (4.13) and in Control, Females scored higher (M = 4.97) than Males (3.91). The result is consistent with other findings (Tung & Dhillon, 2006; Pinki Ninaniya, Santosh Sangwan & Shanti Balda, 2019).

The Mean Comparison among the four comparison groups (Drug-dependent Male, Drug – dependent Female, Non drug-dependent Male, Non drug-dependent Female) on Family Environment revealed that Non drug-dependent Female scored the highest on Cohesion (M = 5.51), Conflict (M = 5.19), Achievement Orientation (M = 6.65), Intellectual Cultural Orientation (M = 6.39), Active Recreation (M = 5.51), Moral Religious Emphasis (M = 6.51), Organization (M = 5.64) and Control (M = 5.29). Drug – dependent Female scored the highest in Expressiveness (M = 6.08) while in Independence, Non drug-dependent Male scored the highest (M = 6.14). Drug – dependent Male scored the lowest in Cohesion (M = 3.89), Conflict (M = 3.21), Achievement Orientation (M = 3.66), Intellectual Cultural Orientation (M = 3.44), Active Recreation (M = 3.18), Moral Religious Emphasis (M = 4.27), Organization (M = 3.20) and Control (M = 3.02). Non drug-dependent Male has the lowest score on Expressiveness (M = 3.78) while Drug-dependent Female has the lowest score in Independence (M = 4.72). Skeer and colleagues (2011) had suggested that the association between childhood family conflict and substance use disorders in adolescence differed by gender and that family conflict was significantly associated with substance use disorders among females.

Correlation Statistics:

The correlation matrix of the psychological variables of the scales and subscales of General Health, Depression, Number of social support, Level of satisfaction of social support, Psychoticism, Neuroticism and Extraversion, and Family Environment (Cohesion, Expressiveness, Conflict, Independence, Achievement Orientation, Intellectual Cultural Orientation, Moral Religious Emphasis, Organization, and Control) was presented. The results revealed that Health had significant positive correlation with Cohesion, Conflict, Independence,

Achievement Orientation, Intellectual Cultural Orientation, Active recreation, Moral Religious Emphasis, Organization; and negative correlation with Depression, Psychoticism, and Expressiveness.

Depression had positive correlation with Expressiveness while it has negative correlation with Conflict, Independence, Achievement Orientation, Intellectual Cultural Orientation, Active Recreation, Moral Religious Emphasis. The poor family environment in terms of parental hostility, rejection and inconsistencies have been found to contribute to psychological problems viz. anxiety, stress, neuroticism, depression and many others (Sharma, Verma & Malhotra, 2008). Individuals having families high on expressiveness, cohesion and independence have been shown to exhibit lower level of depression and that expressiveness, cohesion and independence significantly contributed to depression independently as well as conjointly (Aydin & Oztutuncu, 2001). Family and peer social support may be significant promotive factors for youth by helping them cope with difficult challenges and reducing depression risk, particularly for those living in high-risk environments (Rosenfeld, Richman, Bowen & Wynns, 2006). Kaur and Sapra (2014) had found depression to be negatively and significantly correlated with four dimensions of family environment namely cohesion, active recreational orientation, independence and organization whereas it is positively correlated with conflict in the family.

The Number of Social Support has a positive correlation with Cohesion, Active recreation, Organization and Level of satisfaction of social support has a positive correlation with Neuroticism, Extraversion, and Control. In terms of the social support, the samples studied seem to consider family as important. Family and peer social support may be significant protective factors for youth by helping them cope with difficult challenges and reducing depression risk, particularly for those living in high-risk environments (Rosenfeld, Richman, Bowen & Wynns, 2006). Despite changes in family relationships during adolescence (Steinberg, 1999), parents continue to be a vital source of support for youth (Cobb, 2007; Helsen et al., 2000). Social support has been found to moderate the effects of interpersonal conflict when conflicted networks were large (Nitz, Ketterlinus & Brandt, 1995).

Psychoticism has a positive correlation with Neuroticism while it has a negative correlation with Conflict, Achievement Orientation, Intellectual Cultural

Orientation, Active Recreation, and Control. The result can be corroborated with other findings (Sines, 1984). Chauhan (2006) had revealed that family environment contributed 85% of the variance in neuroticism which is all emotionality and anxiety disorders. Jenkins (1967, 1968, and 1969) found that anxiety runs in families and the situation worsens with a poor environment which is full of conflicts and turmoil. Neuroticism has been found to have a positive correlation with Extraversion and Extraversion has a positive correlation with Achievement Orientation, Intellectual Cultural Orientation and Moral Religious Emphasis. As Extraversion is the tendency to be positive, assertive, dynamic, kind, and sociable, people who are high in this personality dimension are likely to be more achievement-oriented i.e., to be more active at school or work, and engage in social interactions (McCrae & Costa 1991; Larsen & Ketelaar 1991), including political, cultural and religious activities.

The several sub-scales have been found to have correlation with each other. Cohesion has positive correlation with Active Recreation, Moral Religious Emphasis, Organization and Control. Expressiveness has been found to have negative correlation with Intellectual Cultural Orientation and Active Recreation. Conflict has a positive correlation with Intellectual Cultural Orientation, and Moral Religious Emphasis. Independence has a positive correlation with Intellectual Cultural Orientation and Active Recreation. Achievement Orientation has a positive correlation with Intellectual Cultural Orientation, Active Recreation, Moral Religious Emphasis, Organization and Control. Intellectual Cultural Orientation has a positive correlation with Active Recreation, Moral Religious Emphasis, Organization, and Control. Active Recreation has a positive correlation with Moral Religious Emphasis, Organization, and Control. Moral Religious Emphasis has a positive correlation with Organization and Control. Organization has a positive correlation with Control.

Analysis of Variance

Two-way ANOVA was computed to illustrate the independent effect of the independent variables (Drug dependency and Gender) on the dependent variables and also the independent interaction effects on dependent variables. The ANOVA result showed that significant independent effect of Drug dependency was found on

Health, Depression, Number of social support, Level of satisfaction of social support, Psychoticism, Neuroticism, Extraversion, and on the different sub-scales of Family Environment.

The ANOVA result also showed that significant independent effect of Gender was found on the dependent variables. The significant interaction effect of 'Drug dependency and Gender' was also found on the dependent variables.

There was significant difference between Depression and Drug dependency with 22% effect, Gender with 2 % effect, and with "Drug dependency and Gender" with 25% effect. Depression has been found to be common among persons diagnosed with substance abuse or substance dependence (Rabkin et al., 1997; Deykin, Buka & Zeena, 1992; Miller et al., 1996; Blum et al., 2013). Depression can be either the precursor or the consequences of substance abuse (Khantzian's ,1985; Curran, White & Hansell, 2000). Persons who has both disorders of drug dependency and depression has an increased risk of various negative effects such as increased severity of illness, relapse, and suicidal ideation, attempts, and completions (King et al., 1996; White et al., 2004) as well as less social support, and more peer conflict (Aseltine, Gore & Colten, 1998).

There has been a significant gender difference in many studies on depression where the prevalence of depression is higher in females (Cryanowski et al., 2000; Hankin & Abramson, 2001; Kessler, 2006; Kessler & Bromet, 2013). It may be that gender differences in the development of emotional disorders are strongly influenced by perceptions of uncontrollability (Barlow, 1988). The source of these differences can be cultural, in the sex roles assigned to men and women in our society (Cryanowski et al., 2000; Hankin & Abramson, 2001).

A significant difference was found between the number of social support and Drug dependency with a 2% effect. There was a significant difference between Level of satisfaction of social support and Gender with 1 % effect, and 'Drug dependency and Gender' with 4% effect.

There was a significant difference between Psychoticism and Drug dependency with 4% effect, and with 'Drug dependency and Gender' with 4% effect. Much attention has been given to the so-called addictive personality. People who are addicted are often found to have low self-esteem, are immature, easily frustrated, and

have difficulty solving personal problems and relating to people of the complementary sex. Addicts may try to escape reality and have been described as fearful, withdrawn, and depressed. Excessive dopamine functioning is related to the personality dimension of psychoticism, and evidence is cited to the effect that psychoticism is closely related to a large number of addictions (Eysenck & Eysenck, 1985).

There were a significant difference between Neuroticism and Gender with 2% effect, and with 'Drug dependency and Gender' with 3% effect; extraversion and Drug dependency with 3% effect, Gender with 1% effect and with 'Drug dependency and Gender' with 4% effect; Cohesion and Drug dependency with 6% effect, 'Drug dependency and Gender' with 7% effect; Expressiveness and Drug dependency with 8% effect, Gender with 9% effect, and with 'Drug dependency and Gender' with 20% effect; Conflict and Drug dependency with 10% effect, Gender with 1% effect and 'Drug dependency and Gender' with 11% effect; Independence and Drug dependency with 6% effect, and 'Drug dependency and Gender' with 7% effect; Achievement orientation and Drug dependency with 19% effect, Gender with 11% effect, and 'Drug dependency and Gender' with 30% effect; Intellectual cultural orientation and Drug dependency with 26% effect, Gender with 2% effect, and 'Drug dependency and Gender' with 29%; Active recreational orientation and Drug dependency with 18% effect, and 'Drug dependency and Gender' with 20% effect.

There was a significant difference between Moral religious emphasis and Drug dependency with 15% effect, Gender with 3% effect and with 'Drug dependency and Gender' with 19% effect; There was a significant difference between Organization and Drug dependency with 9% effect, Gender with 5% effect, and 'Drug dependency and Gender' with 15% effect; There was a significant difference between Control and Drug dependency with 7% effect, Gender with 5% effect and 'Drug dependency and Gender' with 14% effect.

Post hoc Mean comparison

Post-hoc Mean comparison (Scheffe) was computed to portray the significant difference between the groups under study. The results showed a significant difference between groups on Health. Drug-dependent Male had a significant

difference with Non-drug-dependent Male and Non-drug-dependent Female. Drug-dependent Female had a significant difference with Non-drug-dependent Male and Non-drug-dependent Female. Non-drug-dependent Male had a significant difference with Non-drug-dependent Female and Non-drug-dependent Female had significant difference with Drug-dependent Female. On Depression, Drug-dependent Male had significant difference with Drug-dependent Female, Non-drug-dependent Male and Non-drug-dependent Female. Drug-dependent Female had significant difference with Non-drug-dependent Male and Non-drug-dependent Female.

Gender difference in depression where women have been shown to have a higher level of depression has been cited by many studies (Hankin & Abramson, 2001; Kessler, 2006; Cyranowski et al., 2000; Kessler & Bromet, 2013.). Cultural roles assigned to males and females are different making the susceptibility of depression higher in females (Cryanowski, Frank, Young & Shear, 2000; Hankin & Abramson, 2001). Rumination has also been suggested as the reason for the gender difference in depression where women attend to ruminate more than men about their situation and blame themselves for being depressed (Nolen-Hoeksema, 1990, 2000; Nolen-Hoeksema, Wisco & Lyubomirsky, 2008; Abela & Hankin, 2008). More men than women use and become dependent upon most drugs, however, females may progress more rapidly from initiation of use to problematic use to treatment (Kuhn, C. 2015). Drug abusing women tend to have more psychiatric problems than men, particularly in terms of depression and anxiety (Grella & Joshi, 1999; Stevens, Andrade & Ruiz, 2009; Han et al., 2016). Such women are more likely to face problems with limited income, education, job skills, and living with substance-abusing individuals (Hser et al., 2003). In contrast, substance-abusing men are more likely to be involved in criminal activities and experience (Hser, Huang, Teruya & Anglin, 2003; Hser et al., 2003; Pelissier & Jones, 2005). Furthermore, men and women may use substances for different purposes. Women generally pursue substance use to alter feelings about relationships, while men prefer an independently pleasurable experience (Stevens et al., 2009).

In the Level of satisfaction of social support, Drug-dependent Male had a significant difference with Drug-dependent Female (5.82), women tend to be higher when it comes to seeking and receiving higher levels of emotional support than men

do (Ashton & Fuehrer, 1993; Burda, Vaux & Schill, 1984; Hirsch, 1979; Stokes & Wilson, 1984). The reason and the means with which men and women seeking social support can differ. Men report more support from their spouses than women do (Antonucci & Akiyama, 1987; Wong, 1986), whereas women report more support from friends and neighbours (Allen & Stoltenberg, 1995; Depner & Ingersoll-Dayton, 1988; Wohlgemuth & Betz, 1991; Wong, 1986), women find a greater number of family members supportive than men do (Allen & Stoltenberg, 1995; Caldwell & Bloom, 1982; McFarlane, et al., 1981; Stokes & Wilson, 1984). Males tend to perceived significantly higher social support from friends than females, whereas support from significant others was higher in females (Soman et al., 2016).

The tendency to use social support as a significant palliative for coping with stressful circumstances appears to be reinforced through all developmental stages for females. Searching for social support in one's environment is a well-learned behaviour pattern for women (Eagly & Wood, 1991), it is strongly linked to mental and physical health (House, Landis & Umberson, 1988). Not all studies of social support found an inverse relationship with psychological dysfunction. It is important to consider the importance of the content of social relations, age of the recipient and the provider-recipient relationship as well as the context of life events in which social support is studied (Rook 1984; Abbey, Abramis & Caplan 1985; Davis & Rhodes 1994; Okun & Keith, 1998).

Social support is an important determinant that affects addiction and the role of perceived social support in the prevention and treatment of drug abuse and relapse (Davis & Jason, 2005; Spoth & Redmond, 1994; Blume et al., 1994). It has also been shown that there was a positive relationship between drug abstinence duration and receiving social support (Davis and Jason, 2005) and that perceptions regarding social support can improve the psychosocial functioning during the treatment process in drug abuse (Chong & Lopez, 2005). MacDonald et al., (2004), however, had suggested that social support cannot always predict the improvement stages in the treatment of substance abuse.

It has been shown that those who have more social support are more likely to stop using drugs than those with less social support (Majer et al., 2016; Tucker et al.,

2005). Current drug users have also reported significantly higher conflict in social relationships than nonusers (Rothman et al., 2006).

In an attempt to study social support and depression mediating risky behaviours among drug injectors; Risser and colleagues (2010) had examined gender differences in social support and depression among Injection Drug Users (IDUs) and they concluded that a lack of social support from a special person or significant other was associated with depressive symptoms in both males and females.

Drug-dependent Male had significant difference with Non drug-dependent Male and Non drug-dependent Female in Cohesion. Family environment is an important factor affecting an individual's substance use. Disorganized family environment is considered as one of the key parameter that makes a normal individual to get inclined to the world of drug addiction (Kothari & Nair, 2010). Studies have shown evidences that indicated familial factors such as family cohesion (e.g., Duncan, Tildesley, Duncan, & Hops, 1995), parental monitoring (Clark et al., 2011), and parent-adolescent relationship (Clark, Belgrave & Abell, 2012) as protective factors that helps to prevent substance use. As members of cohesive families have been found to enjoy spending time together, and value interdependence and the exchange of emotional and instrumental support; they are less likely to seek support from people outside the family, including peers who engage in delinquent behaviours. Spending more time at home has been considered as a protective factor, mainly because it limits the opportunities for offending and therefore decreases the chance of being exposed to risk factors (Hirschi, 1969; Fagan et al., 2007; Moffitt et al., 2001). Family atmosphere, strength of family ties, sense of family happiness, structure of authority in the family, and alcoholism has been considered as some of the main family factors of drug addiction. Drug addicts tend to come from families where there is ill will and hostility and they have weaker family ties than do those who do not take drugs (Jedrzejczak, 2005). Tung and Dhillon (2006) reported a significant difference on cohesion dimension of family environment among girls as compared to boys. The results showed females reported more cohesive environment.

In Expressiveness, Drug-dependent Male had significant difference with Non drug-dependent Male while Drug-dependent Female had significant difference with Non drug-dependent Male. Non drug-dependent Female had significant difference

with Non drug-dependent Male. In Conflict, Drug-dependent Male had significant difference with Non drug-dependent Male and Non drug-dependent Female. Drug-dependent Female had significant difference with Non drug-dependent Male and Non drug-dependent Female. Family environments with high levels of adversity such as violence, stress, parental drug use, ineffective communication and discipline, and poor sibling relationships, have been linked to adolescent drug use (Vakalahi, 2001). High family conflict and lack of family support, social integration, and organization have been known to be associated with more alcohol and drug use, and heavier drinking, among youth and young adults. Exposure to psychological stress and familial conflict early in life increases the risk of substance use disorders during late adolescence (Skeer et al., 2009; Bray et al., 2001).

In Independence, Drug-dependent Male had significant difference with Non drug-dependent Male and Drug-dependent Female had significant difference with Non drug-dependent Male. In Achievement Orientation, Drug-dependent Male had significant difference with Drug-dependent Female, Non drug-dependent Male and Non drug-dependent Female. Drug-dependent Female had significant difference with Non drug-dependent Female. Non drug-dependent Female had significant difference with Non drug-dependent Male. Males tend to perceived more independence than females (Ninaniya, Sangwan & Balda, S., 2019), the reason for which can be cultural factors (Verma & Ghadially, 1985) where male children received more independence and encouragement than females because of cultural roles assigned to them. Girls are subjected to involved in heavy sex role constraints, are more vulnerable to social criticism and they have to be contended with culturally created values (Mohanraj & Latha, 2005). Youth with substance use disorders (SUDs) tend to be less independent as compared with normal youth (Andrews et al., 1991; Slesnick & Prestopnik, 2004)

In Intellectual Cultural Orientation, Drug-dependent Male had significant difference with Non drug-dependent Male and Non drug-dependent Female. Drug-dependent Female had significant difference with Non drug-dependent Male and Non drug-dependent Female. Non drug-dependent Male also had significant difference with Non drug-dependent Female. In Active Recreational Orientation, Drug-dependent Male had significant difference with Non drug-dependent Male and Non drug-dependent Female. Drug-dependent Female had significant difference with

Non drug-dependent Male and Non drug-dependent Female. In terms of intellectual-cultural orientation and active recreation Non drug - dependents have better perception of their family environment as compared to drug-dependents. Engaging in extracurricular activity has been known to be an important contributor to reductions in truant behaviour in adolescents (Shorter, 2016). Boys have also been found to receive more encouragement for personal growth through acceptance and caring attitude and independence; as well as through participation in social and recreational activities as compared to their female counterparts (Shanti Balda, Sheela Sangwan & Arti Kumari, 2019).

In Moral Religious Emphasis, Drug-dependent Male had significant difference with Drug-dependent Female, Non drug-dependent Male and Non drug-dependent Female. Drug-dependent Female had significant difference with Non drug-dependent Male and Non drug-dependent Female. Females have been found to have higher moral religious emphasis in the family (Tung & Dhillon, 2006). Increased religiosity has been linked with fewer antisocial or problem behaviours, including reduced substance use and risky sexual behaviour (Bradford et al., 2008; Manlove et al., 2008; Yonker et al., 2012) hence becomes an important protective factor especially during childhood and adolescence (Bradford et al., 2008; Eriksson et al., 2011) thereby promoting positive outcomes for youth (Shorter, 2016).

In Organization, Drug-dependent Male had significant difference with Drug-dependent Female, Non drug-dependent Male and Non drug-dependent Female. Drug-dependent Female had significant difference with Non drug-dependent Female. In Control, Drug-dependent Male had significant difference with Drug-dependent Female, Non drug-dependent Male and Non drug-dependent Female. Females have been shown to have better organization and control as compared to males (e.g., Pinki Ninaniya, Santosh Sangwan and Shanti Balda, 2019) It has also been suggested that the non-addicts' family environment is far better supportive and organized than addicts (Kothari. & Nair, 2010).

Studies have revealed that family environment lays an important backdrop in the treatment of substance abuse wherein the addict descriptions of their families such as family cohesion, conflict, achievement orientation, independence organization, intellectual-cultural, conflict, and control dimensions of the Family

Environment Scale (FES) were found to be especially effective as predictors of treatment outcome (Godley et al., 2005; Campbell et al., 2006).

Prediction of drugs from dependent variables:

The prediction of Drugs on the scale and subscales of depression, social support, family environment and personality constant as independent variable and Drug as a dependent variable was computed using logistic regression analysis. Logistic regression was performed to ascertain the effects of general health, depression, personality, social support and family environment on participant's drug use. The logistic regression model was statistically significant for all the variables. The findings can be supported by related studies where depression has been found to be a predictor for drug dependency. Depression is common among persons diagnosed with substance abuse or substance dependence (Deykin et al, 1987; Miller et al., 1996). Blum and colleagues (2013) had found that heroin abusers could not easily stop using heroin as opioid use dysregulated the reward system in the brain, and activated the circuits of the stress-system and obsessive-compulsive system. Therefore, heroin-dependent people reported more severe depression than did healthy controls. Sordo and colleagues (2012) has suggested that heroin dependent patients might take higher doses to reduce the severity of depressive symptoms thus, indicating that depression might be a significant predictor of heroin use. Alzahrani, Barton and Brijnath (2015) had found that high prevalence of depression existed among substance user and that those who had abused substances for more than 10 years were found to have double the risk for depression as compared to participants who had abused substances for less than 5 years.

The result indicated that family environment has been found to be a predictor of drug dependency. This finding can be corroborated with other studies. Various studies have identified family as a significant source of protection against drug and alcohol abuse among adolescents (Chen et al., 2010; Hawkins et al., 1992). Familial factors such as family cohesion (Duncan, Tildesley, Duncan & Hops, 1995), parental monitoring (Clark et al., 2011), and parent-adolescent relationship (Clark, Belgrave, & Abell, 2012) has been indicated as protective factors that helps to prevent substance use. Disorganized family environment on the other hand has been

considered as one of the key parameter that makes a normal individual to get inclined to the world of drug addiction (Kothari & Nair, 2010). Parental monitoring and selective supervision have been found to be among the most powerful predictors of adolescent substance abuse and problem behaviours (Steinberg et al., 1994; Mulhall, 1996). As family environment has been found to have impacts on choice of peer groups as well as attitudes towards and susceptibility to drug use (Cohen et al, 1994), perception of peer substance use, association with drug using or deviant peers, and peer pressure are associated with higher probability of drug use and increased use (Bryant & Zimmerman,.2002; Ary et al, 1993).

Family bonding or cohesion and parent-family connectedness are also associated with less frequent substance abuse such as cigarette, alcohol, and marijuana use (Bahr et al, 1995; Broman et al., 2006; Vega et al., 1998; Ramirez et al., 2004) indicating family cohesion as a strong protective factor. Clark and colleagues (2011) had suggested that family factors such as family communication, family cohesion and quality of the parent-adolescent relationship give rise to positive outcomes found in cultural and school domains that also influence substance use thus indicating the predictability of substance abuse.

High family conflict and lack of family support, social integration, and organization have been known to be associated with more alcohol and drug use, and heavier drinking, among youth and young adults. Exposure to adverse family environments in childhood can influence the risk course for developing substance use disorders in adolescence (Skeer et al., 2009). Religiosity has been considered as an important factor in substance abuse (Yonker et al., 2012) where higher levels of family religiousness were related with lower use of illicit drugs among peers. The more family conflict and less cohesion can adversely affect the post-treatment recovery environment (Godley et al., 2005). Family characteristics may predict treatment outcome among youth with substance use disorders. The drug addict's positive descriptions of their families on the achievement orientation, independence organization, intellectual-cultural, conflict, and control dimensions of the FES were found to be especially effective as predictors of outcome (Friedman et al., 1995).

Social support as a predictor of drug dependency can be supported by other studies. As an important determinant that affects addiction, social support has been shown to have an effect on substance abuse where those who have more social support are more likely to stop using drugs than those with less social support (Majer et al., 2016; Tucker et al., 2005). Current drug use was predicted by more negative social support (from drug-using family/friends), depression, and less positive coping. Drug Problems were predicted by more negative coping, depression, and less positive coping. Physical Drug Dependence was predicted by more negative social support and depression, and less positive social support (Galaif et al., 1999). Loyalty to delinquent peers has been shown to be a strong predictor of delinquent behaviour, even after controlling for moral beliefs, prior behaviour, and other variables (Timothy Brezina & Andia M. Azimi, 2018). Social support along with variables of self-efficacy beliefs has been found to be the best predictors of addiction relapse and therefore plays a significant role in preventing patients from addiction relapse (Nikmanesh, Baluchi & Motlagh, 2017).

Personality as a predictor of drug dependency can be supported by other studies. Drug-dependents had been shown to have typically high levels of psychoticism, together with elevated scores on neuroticism; and somewhat lower levels of extraversion than controls (Gossop, 1978; Teasdale et al., 1971). In females, neuroticism (as measured by elevations on the hypocondriasis, depression and hysteria scales) has been shown to be more important in predicting the use of licit drugs and cannabis, with psychopathic deviance and mania being more important in predicting other illicit drugs. For males, elevated psychopathic deviance and mania scale scores were strongly associated with extent of drug use (Tara Lavelle, Richard Hammersley & Alasdair Forsyth, 1993). Individuals with high Neuroticism with negative emotions and low Agreeableness, and those who are undisciplined and disorganized (low Conscientiousness) are more likely to use substance than those who have opposite of these traits (Sutin, Evans & Zonderman, 2013).

Conclusion

Overall results of the findings may be concluded as follows:

Hypothesis – 1: There will be difference in the level of depression, personality, social support, family environment among the comparison groups.

The present study incorporated the comparison groups of Drug-dependents and Non drug-dependents; Male and Female; and the interaction of ‘Drugs x Gender’. Descriptive statistics and Post hoc mean comparisons were computed to excavate any significant difference present in dependent variables in relation to drug dependency and gender. The results confirmed the hypothesis -1 by showing the significant mean difference between Drug-dependents and Non drug-dependents; Male and Female as well as the interaction of Drugs and Gender, on almost all the dependent variables as provided by the mean table, and Post hoc comparison table.

Hypothesis – 2: There will be negative or positive significant relationships between dependent variables – depression, social support, personality and family environment.

In an attempt to find the relationship between the dependent variables of depression, social support, personality and family environment, Pearson’s correlation was computed. Significant positive and negative relationships were found and hence, hypothesis – 2 has been confirmed.

Hypothesis – 3: It was expected that there will be ‘gender’ effect in depression, social support, personality, and family environment.

Two-way ANOVA was computed to find ‘gender’ effect in depression, social support, personality, and family environment. Results confirmed hypothesis – 3 in that significant independent effect of gender was found on Health with 46% effect ($F=16.34$; $\eta^2 = .46$), Depression with 2% effect ($F = 5.47$; $\eta^2 = .02$), Number of social support with 1% effect ($F = .01$; $\eta^2 = .01$), Level of satisfaction of social support with 1 % effect ($F = 11.21$; $\eta^2 = .01$), Psychoticism with 1% effect ($F = 1.34$; $\eta^2 = .01$), Neuroticism with 2% effect ($F = 10.4$; $\eta^2 = .02$), Extraversion with 1% effect ($F = 4.85$; $\eta^2 = .01$), Cohesion with 1% effect ($F = 1.82$, $\eta^2 = .01$), Expressiveness with 9% effect ($F = 34.08$, $\eta^2 = .09$), Conflict with 1 % effect ($F = 4.04$, $\eta^2 = .01$), Independence with 1% effect ($F = 3.07$, $\eta^2 = .01$), Achievement Orientation with 11 % effect ($F = 42.13$; $\eta^2 = .11$), Intellectual Cultural Orientation with 2% effect ($F =$

6.45, $\eta^2 = .02$), Active Recreation with 1% effect ($F = 3.33$, $\eta^2 = .01$), Moral Religious Emphasis with 3% effect ($F = 12.23$, $\eta^2 = .03$), Organization with 5% effect ($F = 16.52$, $\eta^2 = .05$), and Control with 5 % effect ($F = 19.21$; $\eta^2 = .05$).

Hypothesis – 4: It was expected that predictability of drug addiction will be seen from level of depression, social support, family environment, personality and demographic variables over the levels of analyses.

Logistic regression was performed to ascertain the effects of general health, depression, personality, social support and family environment on participant's drug use. Results confirmed hypothesis-4 in that the logistic regression model was statistically significant, $\chi^2(17) = 383.438$; $p < .000$. The model explained 90.2% (Nagelkerke R^2) of the variance in drug use, which suggests that the model explains roughly 90.2% of the variation in the outcome. The Hosmer & Lemeshow test of the goodness of fit suggests the model is a good fit to the data as $p=19.862$ ($<.05$).

Limitations

The present study has many limitations that must be acknowledged. First of all, it is desirable to have a larger sample size so as to have a better representation about the social and psychological factors of drug dependency. As stigma and discrimination of drug dependents is still prevalent, this makes it difficult to identify and approach the sample representatives. The disadvantaged status of women in the society which exudes even more towards female drug dependents makes it difficult to find and select them for the study. Majority of the samples were selected from NGOs. Although rapport could be established with little or no difficulty, it was difficult to sustained their attention for the whole interview to take place. This created a problem for the researcher where many of the selected samples tend to leave the interview without completing the necessary questionnaires which had to be rejected and which at times was time consuming. Follow-up of the selected samples was problematic because of the time limitation of the study. Qualitative method as

well as incorporating other psychological variables could be undertaken in the future so as to have a more exhaustive generalization of drug dependency and gender.

Suggestions:

Based on the findings of the present study, it was suggested that psychological factors like personality and psychological problem such as depression should be considered as a significant factor in drug dependency and hence should be given importance in the antecedent and treatment of drug dependency. As Mizo people live in a collectivistic society, social support is not something which is scarce as can also be noted from the present study where almost all the sample studied had reasonable number of social support. The level of satisfaction of social support, however, needs to be considered in understanding drug dependency. The quality of family environment should also be seen as an important dynamic aspect both in terms of understanding the cause as well as in the treatment of drug dependency. Gender differences should also be taken into account when it comes to designing the treatment of drug dependency. The disadvantaged status of women in society should be acknowledged so that accessibility towards prevention strategies and treatment procedures becomes easier.

Based on the limitations of the present study, it was suggested that further studies are needed to validate the findings of this study as well as to illustrate the level of neuroticism being high among female non drug-dependents as compared to drug-dependents. Other psychological variables relating to drug dependency such as personality variables of sensation-seeking, harm-avoidance, conscientiousness, novelty seeking, reward dependence and perseverance, self-directedness, cooperativeness and self-transcendence could be explored as such studies among the selected population is still minimal in Mizoram. The relations and predictability of several indices of drug dependency (such as duration of drug abuse, type of abused drugs, parental monitoring, familial substance abuse, etc.) with psychological variables could be explored in further studies.

Significant of the study:

The findings of this study indicated that there is significant difference in the level of depression, number of social support, level of satisfaction of social support, psychoticism, neuroticism and extraversion and family environment; between drug dependents and non drug dependents, as well as between male and female. The results showed that there is a relationship on the dependent variables of depression, social support, personality and family environment as well as gender effect in depression, social support, personality and family environment. The results also showed that predictability of drug addiction could be seen from the level of depression, social support, family environment and personality. Based on the findings of the study; preventive strategies, harm reduction and systematic treatment procedure of drug dependency could be designed keeping in mind the social and cultural milieu as a contributory aspect in alleviating the ongoing drug problem in the state.

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SOCIO-DEMOGRAPHIC DATA

1. Name :
2. Age :
3. Sex :
4. Education Qualification :
5. Occupation
 - a) Self :
 - b) Father :
 - c) Mother :
6. Family
 - a) Nuclear
 - b) Joint
7. Marital status : a) Unmarried
 - b) Married
 - c) Divorce
 - d) Widow
8. Have you ever remarried? : a) Never
 - b) Once
 - c) Twice
 - d) More than twice
9. Economic status :
10. Siblings : Male - Female -
 - Position among all born :
11. Area of domicile : a) Urban
 - b) Rural
12. Have you ever been arrested?:
 - a) Never
 - b) Police
 - c) JAC
 - d) YMA
 - e) Others

Drug-Taking History

I. Previous history

1. Age of first drug/substance use :
2. Type of substance first used
 - a) Tobacco/Cigarettes
 - b) Alcohol
 - c) Inhalants
 - d) Cannabis/Ganja
 - e) Tablets (Nitrosun, Diazepam etc.)
 - f) Opioids (Spasmoproxyvon)
 - g) Heroin (no.4)
 - h) Codeine (Cough syrup)
 - i) Hallucinogens (LSD)
3. Frequency of drug-use :
4. Quantity of drug-use :
5. Introduced by
 - a) Self
 - b) Siblings
 - c) Other family members
 - d) Friends

II. Present history

6. Type of drugs currently used
 - a) Tobacco/Cigarettes
 - b) Alcohol
 - c) Inhalants
 - d) Cannabis/Ganja
 - e) Tablets (Magadol, Nitrosun, Diazepam)
 - f) Opioids (Spasmoproxyvon)
 - g) Heroin (no.4)
 - h) Codeine (Cough syrup)
 - i) Hallucinogens (LSD)
7. Frequency of drug-use :
8. Quantity of drug-use :
9. Route of use :

III. Have you sought treatment? If yes, how

- a) Hospital
 - b) Psychiatric help/therapy
 - c) Group Therapy (AA, NA etc.)
 - d) Religious therapy (Gospel camp)
 - e) Rehabilitation centre
- Which one of the treatment interventions do you find most helpful?
 - a) Hospital
 - b) Psychiatric help/therapy
 - c) Group Therapy (AA, NA etc.)
 - d) Religious therapy (Gospel camp)
 - e) Rehabilitation centre

IV. Have you been tested for HIV/AIDS, Hepatitis B/C, and/or STDs? If so, what are the results?

- a) Positive
- b) Negative

V. Are you currently under treatment/rehabilitation?

- a) Yes
- b) No

General Health QuestionnaireName.....

We want to know how your health has been in general over the last few weeks. Please read the questions below and each of the four possible answers. Circle the response that best applies to you. Thank you for answering all the questions.

Have you recently:

1. been able to concentrate on what you're doing?

better than usual same as usual less than usual much less than usual

(0)

(1)

(2)

(3)

2. lost much sleep over worry?

Not at all no more than usual rather more than usual much more than usual

3. felt that you are playing a useful part in things?

more so than usual same as usual less so than usual much less than usual

4. felt capable of making decisions about things?

more so than usual same as usual less than usual much less than usual

5. felt constantly under strain?

Not at all no more than usual rather more than usual much more than usual

6. felt you couldn't overcome your difficulties?

Not at all no more than usual rather more than usual much more than usual

7. been able to enjoy your normal day to day activities?

more so than usual same as usual less so than usual much less than usual

8. been able to face up to your problems?

more so than usual same as usual less than usual much less than usual

9. been feeling unhappy or depressed?

not at all no more than usual rather more than usual much more than usual

10. been losing confidence in yourself?

not at all no more than usual rather more than usual much more than usual

11. been thinking of yourself as a worthless person?

not at all no more than usual rather more than usual much more than usual

12. been feeling reasonably happy, all things considered?

more so than usual same as usual less so than usual much less than usual

BECK DEPRESSION INVENTORY

- A. (Mood)
- 0 I do not feel sad.
 - 1 I feel blue or sad.
 - 2a I am blue or sad all the time and I can't snap out of it.
 - 2b I am so sad or unhappy that it is very painful.
 - 3 I am so sad or unhappy that I can't stand it.
- B. (Pessimism)
- 0 I am not particularly pessimistic or discouraged about the future.
 - 1 I feel discouraged about the future.
 - 2a I feel I have nothing to look forward to.
 - 2b I feel that I won't ever get over my troubles.
 - 3 I feel that the future is hopeless and that things cannot improve.
- C. (Sense of failure)
- 0 I do not feel like a failure.
 - 1 I feel I have failed more than the average person.
 - 2a I feel I have accomplished little that is worthwhile or that
means anything.
 - 2b As I look back on my life all I can see is a lot of failures.
 - 3 I feel I am a complete failure as a person (parent, husband, wife).
- D. (Lack of satisfaction)
- 0 I am not particularly dissatisfied.
 - 1a I feel bored most of the time.
 - 1b I don't enjoy things the way I used to.
 - 2 I don't get satisfaction out of anything anymore.
 - 3 I am dissatisfied with everything.
- E. (Guilty feeling)
- 0 I don't feel particularly guilty.
 - 1 I feel bad or unworthy a good part of the time
 - 2a I feel quite guilty.
 - 2b I feel bad or unworthy practically all the time now.
 - 3 I feel as though I am very bad or worthless.
- F. (Sense of punishment)
- 0 I don't feel I am being punished.
 - 1 I have a feeling that something bad may happen to me.
 - 2 I feel I am being punished or will be punished.
 - 3a I feel I deserve to be punished.

3b I want to be punished.

G. (Self hate)

0 I don't feel disappointed in myself.

1a I am disappointed in myself.

1b I don't like myself.

2 I am disgusted with myself.

3 I hate myself.

H. (Self Accusations)

0 I don't feel I am any worse than anybody else.

1 I am very critical of myself for my weaknesses or mistakes.

2a I blame myself for everything that goes wrong.

2b I feel I have many bad faults.

I. (Self-punitive ideas)

0 I don't have any thoughts of harming myself.

1 I have thoughts of harming myself but I would not carry them out.

2a I feel I could be better off dead.

2b I have definite plans about committing suicide.

2c I feel my family would be better off if I were dead.

3 I would kill myself if I could.

J. (Crying spells)

0 I don't cry anymore than usual.

1 I cry more now than I used to.

2 I cry all the time now. I can't stop it.

3 I used to be able to cry but now I can't cry at all even though I want to.

K. (Irritability)

0 I am no more irritated now than I ever am.

1 I get annoyed or irritated more easily than I used to.

2 I feel irritated all the time.

3 I don't get irritated at all at the things that used to irritate me.

L. (Social withdrawal)

0 I have not lost interest in other people.

1 I am less interested in other people now than I used to be.

2 I have lost most of my interest in other people and have little feelings for them.

3 I have lost all my interest in other people and don't care about them at all.

M. (Indecisiveness)

- 0 I make decisions about as well as ever.
- 1 I am less sure of myself now and try to put off making decisions.
- 2 I can't make decisions anymore without help.
- 3 I can't make any decisions at all anymore.

N. (Body Image)

- 0 I don't feel I look any worse than I used to.
- 1 I am worried that I am looking old or unattractive.
- 2 I feel that there are permanent changes in my appearance and they make me look unattractive.
- 3 I feel that I am ugly or repulsive looking.

O. (Work Inhibitions)

- 0 I can work about as well as before.
- 1a It takes extra effort to get started at doing something.
- 1b I don't work as well as I used to.
- 2 I have to push myself very hard to do anything.
- 3 I can't do any work at all.

P. (Sleep disturbances)

- 0 I can sleep as well as usual.
- 1 I wake up more tired in the morning than I used to.
- 2 I wake up 1-2 hours earlier than usual and find it very hard to get back to sleep.
- 3 I wake up early everyday and can't get more than 5 hours sleep.

Q. (Fatigability)

- 0 I don't get anymore tired than usual.
- 1 I get tired more easily than I used to.
- 2 I get tired from doing anything.
- 3 I get too tired to do anything.

R. (Loss of appetite)

- 0 My appetite is no worse than usual.
- 1 My appetite is not as good as it used to be.
- 2 My appetite is much worse now.
- 3 I have no appetite at all anymore.

S. (Weight loss)

- 0 I have not lost much weight, if any, lately.
- 1 I have lost more than 5 pounds.
- 2 I have lost more than 10 pounds.
- 3 I have lost more than 15 pounds.

T. (Somatic Preoccupation)

- 0 I am no more concerned about my health than usual.
- 1 I am concerned about aches and pains or upset stomach or constipation or other unpleasant feelings in my body.
- 2 I am so concerned with how I feel that it's hard to think of much else.
- 3 I am completely absorbed in what I feel.

U. (Loss of libido)

- 0 I have not noticed any recent change in my interest in sex.
- 1 I am less interested in sex than I used to be.
- 2 I am much less interested in sex now.
- 3 I have lost interest in sex completely

FAMILY ENVIRONMENT SCALE

1. Family members really help and support one another.
2. Family members often keep their feelings themselves.
3. We fight a lot in our family.
4. We don't do things on our own very often in our family.
5. We feel it is important to be the best at whatever you do.
6. We often talk about political and social problems.
7. We spend most weekends and evenings at home.
8. Family members attend church, synagogue or Sunday school fairly often.
9. Activities in our family are pretty carefully planned.
10. Family members are rarely ordered around.
11. We often seem to be killing time at home.
12. We say anything we want to around home.
13. Family members rarely become openly angry.
14. In our family, we are strongly encouraged to become independent.
15. Getting ahead in life is very important in our family.
16. We rarely go to lectures, plays or concerts.
17. Friends often come over for dinner or to visit.
18. We don't say prayers in our family.
19. We are generally very neat and tidy.
20. There are very few rules to follow in our family.
21. We put a lot of energy into what we do at home.
22. It's hard to "blow off steam" at home without upsetting someone.
23. Family members sometimes get so angry they throw things.
24. We think things out for ourselves in our family.
25. How much money a person makes is not very important to us.
26. Learning about new and different things is very important in our family.
27. Nobody in our family is active in sports, little league, bowling etc.
28. We often talk about the religious meaning of Christmas, Passover, or other holidays.
29. It's often hard to find things when you need them in our household.

30. There is one family member who makes most of the decisions.
31. There is a feeling of togetherness in our family.
32. We tell each other about our personal problems.
33. Family members hardly ever lose their temper.
34. We come and go as we want to in our family.
35. We believe in competition and 'may the best man win'.
36. We are not that interested in cultural activities.
37. We often go to 'movies, sport events, camping etc'.
38. We don't believe in heaven or hell.
39. Being on time is very important in our family.
40. There are set ways of doing things in our family.
41. We rarely volunteer when something has to be done at home.
42. If we feel like doing something on the spur of the moment we often just pick up and go.
43. Family members often criticize each other.
44. There is very little privacy in our family.
45. We often strive to do things just a little better the next time.
46. We rarely have intellectual discussions.
47. Everyone in our family has a hobby or two.
48. Family members have strict ideas about what is right and wrong.
49. People change their minds often in our family.
50. There is a strong emphasis on following rules in our family.
51. Family members really back each other up.
52. Someone usually gets upset if you complain in our family.
53. Family members sometimes hit each other.
54. Family members almost always rely on themselves when a problem comes up.
55. Family members rarely worry about job promotions, school grades etc.
56. Someone in our family plays a musical instrument.
57. Family members are not very involved in recreational activities outside work or school.
58. We believe there are some things you just have to take on faith.
59. Family members make sure their rooms are neat.
60. Everyone has an equal say in family decisions.

61. There is very little group spirit in our family.
62. Money and paying bills is openly talked about in our family.
63. If there's a disagreement in our family, we try hard to smooth things over and keep the peace.
64. Family members strongly encourage each other to stand up for their rights.
65. In our family, we don't try that hard to succeed.
66. Family members often go to the library.
67. Family members sometimes attend courses or take lessons for some hobby or interest (outside school).
68. In our family each person has different ideas about what is right and wrong.
69. Each person's duties are clearly defined in our family.
70. We can do whatever we want to in our family.
71. We really get along well with each other.
72. We are usually careful about what we say to each other.
73. Family members often try to open one-up or out-do each other.
74. It's hard to be by yourself without hurting someone's feelings in our household.
75. "Work before play" is the rule in our family.
76. Watching TV is more important than reading in our family.
77. Family members go out a lot.
78. The Bible is a very important book in our home.
79. Money is not handled very carefully in our family.
80. Rules are pretty inflexible in our household.
81. There is plenty of time and attention for everyone in our family.
82. There are a lot of spontaneous discussions in our family.
83. In our family, we believe you don't ever get anywhere by raising your voice.
84. We are not really encouraged to speak up for ourselves in our family.
85. Family members are often compared with others as to how well they are doing at work or school.
86. Family members really like music, art and literature.
87. Our main form of entertainment is watching TV or listening to the radio.
88. Family members believe that if you sin you will be punished.
89. Dishes are usually done immediately after eating.
90. You can't get away with much in our family.

FES ANSWER SHEET

T	1	2	3	4	5	6	7	8	9	10	T
F											F
T	11	12	13	14	15	16	17	18	19	20	T
F											F
T	21	22	23	24	25	26	27	28	29	30	T
F											F
T	31	32	33	34	35	36	37	38	39	40	T
F											F
T	41	42	43	44	45	46	47	48	49	50	T
F											F
T	51	52	53	54	55	56	57	58	59	60	T
F											F
T	61	62	63	64	65	66	67	68	69	70	T
F											F
T	71	72	73	74	75	76	77	78	79	80	T
F											F
T	81	82	83	84	85	86	87	88	89	90	T
F											F

Sarason, I.G., Levine, H.M., Basham, R.B., & Sarason, B.R. (1983).
 Assessing Social Support: The Social Support Questionnaire.
Journal of Personality and Social Psychology, 44, 127-139.

Social Support Questionnaire
SSQ

INSTRUCTIONS:

The following questions ask about people in your environment who provide you with help or support. Each question has two parts. For the first part, list all the people you know, excluding yourself, whom you can count on for help or support in the manner described. Give the person's initials and their relationship to you (see example). Do not list more than one person next to each of the letters beneath the question.

For the second part, circle how satisfied you are with the overall support you have.

If you have no support for a question, check the words "No one," but still rate your level of satisfaction. Do not list more than nine persons per question.

Please answer all questions as best you can. All your responses will be kept confidential.

EXAMPLE:

Who do you know whom you can trust with information that could get you in trouble?

- | | | | |
|--------|-------------------|--------------------|----|
| No one | 1) T.N. (brother) | 4) T.N. (father) | 7) |
| | 2) L.M. (friend) | 5) L.M. (employer) | 8) |
| | 3) R.S. (friend) | 6) | 9) |

How satisfied?

- | | | | | | |
|-----------------------|-------------------------|---------------------------|------------------------------|----------------------------|--------------------------|
| 6 - very
satisfied | 5 - fairly
satisfied | 4 - a little
satisfied | 3 - a little
dissatisfied | 2 - fairly
dissatisfied | 1 - very
dissatisfied |
|-----------------------|-------------------------|---------------------------|------------------------------|----------------------------|--------------------------|
-

1. Whom can you really count on to listen to you when you need to talk?

No one	1)	4)	7)
	2)	5)	8)
	3)	6)	9)

How satisfied?

6 - very satisfied	5 - fairly satisfied	4 - a little satisfied	3 - a little dissatisfied	2 - fairly dissatisfied	1 - very dissatisfied
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2. Whom could you really count on to help you if a person whom you thought was a good friend insulted you and told you that he/she didn't want to see you again?

No one	1)	4)	7)
	2)	5)	8)
	3)	6)	9)

How satisfied?

6 - very satisfied	5 - fairly satisfied	4 - a little satisfied	3 - a little dissatisfied	2 - fairly dissatisfied	1 - very dissatisfied
--------------------	----------------------	------------------------	---------------------------	-------------------------	-----------------------

3. Whose lives do you feel that you are an important part of?

No one	1)	4)	7)
	2)	5)	8)
	3)	6)	9)

How satisfied?

6 - very satisfied	5 - fairly satisfied	4 - a little satisfied	3 - a little dissatisfied	2 - fairly dissatisfied	1 - very dissatisfied
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4. Whom do you feel would help you if you were married and had just separated from your spouse?

No one	1)	4)	7)
	2)	5)	8)
	3)	6)	9)

How satisfied?

6 - very satisfied	5 - fairly satisfied	4 - a little satisfied	3 - a little dissatisfied	2 - fairly dissatisfied	1 - very dissatisfied
--------------------	----------------------	------------------------	---------------------------	-------------------------	-----------------------

5. Whom could you really count on to help you out in a crisis situation, even though they would have to go out of their way to do so?

No one	1)	4)	7)
	2)	5)	8)
	3)	6)	9)

How satisfied?

6 - very satisfied	5 - fairly satisfied	4 - a little satisfied	3 - a little dissatisfied	2 - fairly dissatisfied	1 - very dissatisfied
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6. Whom can you talk with frankly, without having to watch what you say?

No one	1)	4)	7)
	2)	5)	8)
	3)	6)	9)

How satisfied?

6 - very satisfied	5 - fairly satisfied	4 - a little satisfied	3 - a little dissatisfied	2 - fairly dissatisfied	1 - very dissatisfied
--------------------	----------------------	------------------------	---------------------------	-------------------------	-----------------------

13. Whom can you really count on to give you useful suggestions that help you to avoid making mistakes?

No one	1)	4)	7)
	2)	5)	8)
	3)	6)	9)

How satisfied?

6 - very satisfied	5 - fairly satisfied	4 - a little satisfied	3 - a little dissatisfied	2 - fairly dissatisfied	1 - very dissatisfied
--------------------	----------------------	------------------------	---------------------------	-------------------------	-----------------------

14. Whom can you count on to listen openly and uncritically to your innermost feelings?

No one	1)	4)	7)
	2)	5)	8)
	3)	6)	9)

How satisfied?

6 - very satisfied	5 - fairly satisfied	4 - a little satisfied	3 - a little dissatisfied	2 - fairly dissatisfied	1 - very dissatisfied
--------------------	----------------------	------------------------	---------------------------	-------------------------	-----------------------

15. Who will comfort you when you need it by holding you in their arms?

No one	1)	4)	7)
	2)	5)	8)
	3)	6)	9)

How satisfied?

6 - very satisfied	5 - fairly satisfied	4 - a little satisfied	3 - a little dissatisfied	2 - fairly dissatisfied	1 - very dissatisfied
--------------------	----------------------	------------------------	---------------------------	-------------------------	-----------------------

16. Whom do you feel would help if a good friend of yours had been in a car accident and was hospitalized in serious condition?

No one	1)	4)	7)
	2)	5)	8)
	3)	6)	9)

How satisfied?

6 - very satisfied	5 - fairly satisfied	4 - a little satisfied	3 - a little dissatisfied	2 - fairly dissatisfied	1 - very dissatisfied
--------------------	----------------------	------------------------	---------------------------	-------------------------	-----------------------

17. Whom can you really count on to help you feel more relaxed when you are under pressure or tense?

No one	1)	4)	7)
	2)	5)	8)
	3)	6)	9)

How satisfied?

6 - very satisfied	5 - fairly satisfied	4 - a little satisfied	3 - a little dissatisfied	2 - fairly dissatisfied	1 - very dissatisfied
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18. Whom do you feel would help if a family member very close to you died?

No one	1)	4)	7)
	2)	5)	8)
	3)	6)	9)

How satisfied?

6 - very satisfied	5 - fairly satisfied	4 - a little satisfied	3 - a little dissatisfied	2 - fairly dissatisfied	1 - very dissatisfied
--------------------	----------------------	------------------------	---------------------------	-------------------------	-----------------------

19. Who accepts you totally, including both your worst and your best points?

No one	1)	4)	7)
	2)	5)	8)
	3)	6)	9)

How satisfied?

6 - very satisfied	5 - fairly satisfied	4 - a little satisfied	3 - a little dissatisfied	2 - fairly dissatisfied	1 - very dissatisfied
--------------------	----------------------	------------------------	---------------------------	-------------------------	-----------------------

20. Whom can you really count on to care about you, regardless of what is happening to you?

No one	1)	4)	7)
	2)	5)	8)
	3)	6)	9)

How satisfied?

6 - very satisfied	5 - fairly satisfied	4 - a little satisfied	3 - a little dissatisfied	2 - fairly dissatisfied	1 - very dissatisfied
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21. Whom can you really count on to listen to you when you are very angry at someone else?

No one	1)	4)	7)
	2)	5)	8)
	3)	6)	9)

How satisfied?

6 - very satisfied	5 - fairly satisfied	4 - a little satisfied	3 - a little dissatisfied	2 - fairly dissatisfied	1 - very dissatisfied
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22. Whom can you really count on to tell you, in a thoughtful manner, when you need to improve in some way?

No one	1)	4)	7)
	2)	5)	8)
	3)	6)	9)

How satisfied?

6 - very satisfied	5 - fairly satisfied	4 - a little satisfied	3 - a little dissatisfied	2 - fairly dissatisfied	1 - very dissatisfied
--------------------	----------------------	------------------------	---------------------------	-------------------------	-----------------------

23. Whom can you really count on to help you feel better when you are feeling generally down-in-the-dumps?

No one	1)	4)	7)
	2)	5)	8)
	3)	6)	9)

How satisfied?

6 - very satisfied	5 - fairly satisfied	4 - a little satisfied	3 - a little dissatisfied	2 - fairly dissatisfied	1 - very dissatisfied
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24. Whom do you feel truly loves you deeply?

No one	1)	4)	7)
	2)	5)	8)
	3)	6)	9)

How satisfied?

6 - very satisfied	5 - fairly satisfied	4 - a little satisfied	3 - a little dissatisfied	2 - fairly dissatisfied	1 - very dissatisfied
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25. Whom can you count on to console you when you are very upset?

No one	1)	4)	7)
	2)	5)	8)
	3)	6)	9)

How satisfied?

6 - very satisfied	5 - fairly satisfied	4 - a little satisfied	3 - a little dissatisfied	2 - fairly dissatisfied	1 - very dissatisfied
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26. Whom can you really count on to support you in major decisions you make?

No one	1)	4)	7)
	2)	5)	8)
	3)	6)	9)

How satisfied?

6 - very satisfied	5 - fairly satisfied	4 - a little satisfied	3 - a little dissatisfied	2 - fairly dissatisfied	1 - very dissatisfied
--------------------	----------------------	------------------------	---------------------------	-------------------------	-----------------------

27. Whom can you really count on to help you feel better when you are very irritable, ready to get angry at almost anything?

No one	1)	4)	7)
	2)	5)	8)
	3)	6)	9)

How satisfied?

6 - very satisfied	5 - fairly satisfied	4 - a little satisfied	3 - a little dissatisfied	2 - fairly dissatisfied	1 - very dissatisfied
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TO SCORE SSQ:

1. Add total number of people for all 27 items. (Max. is 243).
Divide by 27 for per item score. This gives you SSQ Number Score, or SSQN.
2. Total Satisfaction scores for all 27 items (Max. is 162).
Divide by 27 for per item score. This gives you SSQ Satisfaction score or SSQS.
3. You can also add up total number of people that are family members and that can give the SSQ Family score.

Reference for reliability and validity of SSQ in addition to 1983 Sarason, Levine, Basham, and Sarason article:

Heitzmann, C.A. and Kaplan, R.M. (1988). Assessment of methods for measuring social support.
Health Psychology, 1(1), 75-109.

EYSENCK'S PERSONALITY QUESTIONNAIRE – REVISED (E.P.Q.-R)

Instructions : please answer each question by putting (x) mark in the box following “Yes” or “No”. There are no right or wrong answers or no trick questions. Work quickly and do not think too long about the exact meaning of the question.

PLEASE REMEMBER TO ANSWER EACH QUESTION

- | | | |
|-----|---|--|
| 1. | Do you have many different hobbies? | Yes <input type="checkbox"/> No <input type="checkbox"/> |
| 2. | Do you stop to think things over before doing anything? | Yes <input type="checkbox"/> No <input type="checkbox"/> |
| 3. | Does your mood often go up and down? | Yes <input type="checkbox"/> No <input type="checkbox"/> |
| 4. | Have you ever taken the praise for something you knew someone else had really done? | Yes <input type="checkbox"/> No <input type="checkbox"/> |
| 5. | Are you a talkative person? | Yes <input type="checkbox"/> No <input type="checkbox"/> |
| 6. | Would being in debt worry you? | Yes <input type="checkbox"/> No <input type="checkbox"/> |
| 7. | Do you ever feel “just miserable” for no reason? | Yes <input type="checkbox"/> No <input type="checkbox"/> |
| 8. | Were you ever greedy by helping yourself to more than your share of anything? | Yes <input type="checkbox"/> No <input type="checkbox"/> |
| 9. | Do you lock up your hose carefully at night? | Yes <input type="checkbox"/> No <input type="checkbox"/> |
| 10. | Are you rather lively? | Yes <input type="checkbox"/> No <input type="checkbox"/> |
| 11. | Would it upset you a lot to see a child or an animal suffer? | Yes <input type="checkbox"/> No <input type="checkbox"/> |
| 12. | Do you often worry about things you should not have done or said? | Yes <input type="checkbox"/> No <input type="checkbox"/> |
| 13. | If you say you will do something, do you always keep your promise no matter how inconvenient it might be? | Yes <input type="checkbox"/> No <input type="checkbox"/> |
| 14. | Can you usually let yourself go and enjoy yourself at a lively party? | Yes <input type="checkbox"/> No <input type="checkbox"/> |
| 15. | Are you an irritable person? | Yes <input type="checkbox"/> No <input type="checkbox"/> |
| 16. | Have you ever blamed someone for doing something you knew was really your fault? | Yes <input type="checkbox"/> No <input type="checkbox"/> |
| 17. | Do you enjoy meeting new people? | Yes <input type="checkbox"/> No <input type="checkbox"/> |
| 18. | Do you believe insurance schemes are a good idea? | Yes <input type="checkbox"/> No <input type="checkbox"/> |
| 19. | Are you feeling easily hurt? | Yes <input type="checkbox"/> No <input type="checkbox"/> |

20. Are all your habits good and desirable ones? Yes No
21. Do you tend to keep in the background on social occasions? Yes No
22. Would you take drugs which may have strange or dangerous effects?
Yes No
23. Do you often feel “fed up”? Yes No
24. Have you ever taken anything (even a pin or a button) that belonged to someone else?
Yes No
25. Do you like going out a lot? Yes No
26. Do you enjoy hurting people you love? Yes No
27. Are you often troubled about feelings of guilt? Yes No
28. Do you sometimes talk about things you know nothing about? Yes No
29. Do you prefer reading to meeting people? Yes No
30. Do you have enemies who want to harm you? Yes No
31. Would you call yourself a nervous person? Yes No
32. Do you have many friends? Yes No
33. Do you enjoy practical jokes that can sometimes really hurt people?
Yes No
34. Are you a worrier? Yes No
35. As a child did you do as you were told immediately and without grumbling?
Yes No
36. Would you call yourself happy-go-lucky? Yes No
37. Do good manners and cleanliness matter much to you? Yes No
38. Do you worry about awful things that might happen? Yes No
39. Have you ever broken or lost something belonging to someone else?
Yes No
40. Do you usually take the initiative in making new friends? Yes No
41. Would you call yourself tense or “highly-strung”? Yes No
42. Are you mostly quiet when you are with other people? Yes No
43. Do you think marriage is old-fashioned and should be done away with?
Yes No
44. Do you sometimes boast a little? Yes No
45. Can you easily get some life into a rather dull party? Yes No
46. Do people who drive carefully annoy you? Yes No
47. Do you worry about your health? Yes No

48. Have you ever said anything bad or nasty about anyone? Yes No
49. Do you like telling jokes and funny stories to your friends? Yes No
50. Do most things taste the same to you? Yes No
51. As a child were you ever cheeky to your parents? Yes No
52. Do you like mixing with people? Yes No
53. Does it worry you if you know there are mistakes in your work? Yes No
54. Do you suffer from sleeplessness? Yes No
55. Do you always wash before a meal? Yes No
56. Do you nearly always have a “ready answer” when people talk to you?
Yes No
57. Do you like to arrive at appointments in plenty of time? Yes No
58. Have you often felt listless and tired for no reason? Yes No
59. Have you ever cheated at a game? Yes No
60. Do you like doing things in which you have to act quickly? Yes No
61. Is (or was) your mother a good woman? Yes No
62. Do you often feel life is very dull? Yes No
63. Have you ever taken advantage of someone? Yes No
64. Do you often take on more activities than you have time for? Yes No
65. Are there several people who keep trying to avoid you? Yes No
66. Do you worry a lot about your looks? Yes No
67. Do you think people spend too much time safeguarding their future with savings
and insurances? Yes No
68. Have you ever wished that you were dead? Yes No
69. Would you dodge paying taxes if you were sure you could never be found out?
Yes No
70. Can you get a party going? Yes No
71. Do you try not to be rude to people? Yes No
72. Do you worry too long after an embarrassing experience? Yes No
73. Have you ever insisted on having your own way? Yes No
74. When you catch a train do you often arrive at the last minute? Yes No
75. Do you suffer from “nerves”? Yes No
76. Do your friendships breakup easily without it being your fault? Yes No

77. Do you often feel lonely? Yes No
78. Do you always practice what you preach? Yes No
79. Do you sometimes like teasing animal? Yes No
80. Are you easily hurt when people find fault with you or the work you do?
Yes No
81. Have you ever been late for an appointment or work? Yes No
82. Do you like plenty of bustle and excitement around you? Yes No
83. Would you like other people to be afraid of you? Yes No
84. Are you sometimes bubbling over with energy and sometimes very sluggish?
Yes No
85. Do you sometimes put off until tomorrow what you ought to do today?
Yes No
86. Do other people think of you as being very lively? Yes No
87. Do people tell you a lot of lies? Yes No
88. Are you touchy about something? Yes No
89. Are you always willing to admit it when you have made a mistake?
Yes No
90. Would you feel very sorry for an animal caught in a trap? Yes No

Thank You.

BRIEF BIO-DATA OF THE CANDIDATE

NAME OF THE CANDIDATE : Lalremruati

FATHER'S NAME : Saichhuana

MOTHER'S NAME : Thanchhumi

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PARTICULARS OF THE CANDIDATE

NAME OF THE CANDIDATE : Ms. Lalremruati

DEGREE : Doctor of Philosophy

DEPARTMENT : Psychology

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(ABSTRACT)

**SOCIAL AND PSYCHOLOGICAL FACTORS OF DRUG DEPENDENCY:
A STUDY OF MIZO YOUTH**

by

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INTRODUCTION

Drug Dependency

Drug dependency has become increasing public health and social concern in the past decades worldwide. The problems it causes both to individuals and to societies has been increasing - including loss of productivity, transmission of infectious diseases such as HIV/AIDS, Hepatitis; crime, family and social disorder, and excessive health care expenditures which are often termed as the secondary effects of drug use. Evidence from around the world reveals that there is an upward trend in the misuse of psychoactive drugs among the youth. According to the United Nations Office on Drugs and Crime, World Drug Report, 2014; the number of people who inject drugs globally has been estimated to be nearly 12.7 million, which corresponds to a prevalence of 0.27% (0.19%–0.48%) among those aged 15–64 years. The World Drug Report (2018) finds that drug use and the associated harm are the highest among young people compared to older people. Substance use disorders happen when there is consistent use of any type of conscious-altering drug that causes significant impairment to the point of developing health problems, disability, and/or failure to live a functional life (Harrington, 2015). Reasons for initiating drug use vary with each person's interests, background, and motivation. Some do it for excitement, some respond to peer pressure, and others do it to satisfy their curiosity or in anticipation of relief from tension. Drug abuse and dependence once thought to be the result of moral weakness, are understood to be influenced by a combination of biological and psychosocial factors.

Gender Differences

A common finding in substance abuse research is that more men than women use drugs in a lifetime rate (SAMHSA, 2011,2012). Drug use and drug addiction have been traditionally considered to be a male problem, however, the gender gap has been decreasing over the past few decades. Psychological, socio-cultural and biological factors have been implicated in these changing statistics. Although twice as many men than women suffer from drug use disorders; once women initiated substance use, they tend to increase their rate of consumption more rapidly than men (UNODC, 2017). Substance-abusing women are more likely to face problems with

limited income, education, job skills, and living with substance-abusing individuals (Hser et al., 2004). Additionally, they are more likely to suffer from serious psychological disorders, including depression and anxiety (Grella & Joshi, 1999; Han et al., 2016). Substance-abusing men are more likely to be involved in criminal activities and experience (Hser et al., 2003; Pelissier & Jones, 2005). Men and women may use substances for different purposes. Women generally pursue substance use to alter feelings about relationships, while men prefer an independently pleasurable experience (Stevens et al., 2009).

Depression

Mood disorders are characterized by prolonged and persistent positive and/or negative emotions, which are of such intensity that they can colour and interfere with all aspects of one's life (Beck, 1967). The best estimates of the worldwide prevalence of mood disorders suggest that approximately 16% of the worldwide population experience major depressive disorder over a lifetime and approximately 6% have experienced major depressive disorder in the last year (Hasin et al., 2005; Kessler et al., 2003; Kessler et al., 2005). Studies have also indicated that women are more twice as likely to have mood disorders as men (Kessler, 2006; Kessler & Wang, 2009). The source of these differences can be cultural, in the sex roles assigned to men and women in the society (Cryanowski, et al., 2000; Hankin & Abramson, 2001).

Depression has been found to be common among persons diagnosed with substance abuse or substance dependence. About one third to one half of all those with opioid abuse or opioid dependence and about 40% of those with alcohol abuse or alcohol dependence meet the criteria for major depressive disorder sometime during their lives (Sadock & Sadock, 2003). Studies have also found that among adolescents, the onset of major depressive disorder almost always preceded alcohol or substance abuse suggesting the possibility of self-medication as a factor in the development of substance abuse (Deykin et al, 1987). The co-occurrence of substance use disorder (SUD) and major depressive disorder (MDD) is a common problem with serious consequences such as increased frequency and severity of

substance use (Riggs et al., 1995) and increased the likelihood of relapse (White et al., 2004).

Family Environment

The family is the basic unit of society. To a large extent, culture, values, personality pattern, including mental health and wellbeing of a person is rooted within the family. According to Moos and Moos (1986) family environment “is the global image that people form about their family based on the experience with family members”. Family environment includes social environment which constitutes conditions, circumstances and interactions among family members. It has been reported that the family environment during childhood and adolescence can shape the psychosocial adjustment and health outcomes in adolescents and young adults, both with and without chronic illness (Repetti et al., 2002). In typically developing children, negative family environments (e.g., high in conflict) have been associated with poorer physical, health, and psychosocial functioning in adulthood (Repetti et al., 2002). As each family is made up of different individuals in a different setting, each family environment is unique. The environments can differ in many ways such as in the socio-economic level and parenting practices (Zastrow & Kirst-Ashman, 2013). Adolescents who are nurtured in a positive family environment such as warm, supportive, cohesion and expressiveness have shown more mental health (Farokhzad, 2014). It has also been found that adolescent perception of low cohesion within their families was associated with heightened feelings of depression and reduced social acceptance (Wentzel & Feldman, 1996; McKeown, et al., 1997). Family cohesion which is expressed by feelings of belonging and acceptance within the family system (McKeown et al., 1997) has been viewed as a positive factor as cohesive families ensure better psychosocial development in adolescents and that families marked by cohesion and moderate amount of control with moderate independence serve as the right combination for adolescents’ growth by reducing their stress and anxiety (Tung & Sandhu, 2008). Herman and colleagues (2007) have found that family cohesion and supportive relationships between family members are associated with adolescent psychological adaptation and lower depression.

Negative family environmental factors such as lack of family cohesion, lack

of affection, neglect, aggression negatively affect adolescence self-esteem (Vangelisti, et al., 2007). Adolescents from a families who have low conflict have been shown to have better adjustments than adolescents from families who have average and high conflict (Ramaprabou, 2014). It has also been shown that family with conflict environment is associated with adolescent's insecurity and psychological distress, as well as aggressive behaviour and conduct disorder (Wissink et al., 2006). Poor family environment in terms of parental hostility, rejection and inconsistencies can all contribute to psychological problems viz., anxiety, stress, neuroticism, depression and others (Sharma, Verma & Malhotra, 2008).

Numerous family environmental variables have been identified as important in adolescent alcohol or drug abuse/dependence (Anderson & Henry, 1994). These variables may be grouped into categories such as family structure, family process (e.g., cohesion, conflict, ambiguity in relationships), and family-related alcohol- or drug-misusing behaviours (e.g., paternal alcohol or substance abuse, maternal alcoholism, sibling substance abuse).

Social Support

Social support has been defined as a physical and psychological comfort provided by friends and family (Sarason, I.G. et al, 1986). Social support processes are strongly linked to mental and physical health (House, Landis, & Umberson, 1988). Sarason, S.B. (1974) has stated that being socially connected is an important element in one's psychological sense of community. Social support may have negative as well as positive effects on health and well-being (Cohen, S. & Syme, S.L., 1985). Psychological well-being very much depends on how a person is valued by those around him. While some studies have supported that while perceptions of support are generally associated positively with health and well-being, it has been also shown that reports of actual supportive transactions are sometimes unrelated or even negatively related to health and well-being (House, 1987). Several studies have found that social support has a positive effect on handling life predicaments and stressful life events and can help individuals recover from depression and trauma (Baek, Tanenbaum, & Gonzalez, 2014; Giesbrecht et al., 2013).

Studies repeatedly find that men benefit more than women from being married. It has been hypothesized that women are better at providing social support than are men and hence that social relationships with women are more beneficial to health and well-being than relationships with men (House, 1986). Social support has been found to reduce depressive symptoms and protect physical health (Turner & Marino, 1994). Not all studies of social support found an inverse relationship with psychological dysfunction. Some research studies have suggested that negative social interactions can have an adverse impact on mental health. It is important to consider the importance of the content of social relations, age of the recipient and the provider-recipient relationship as well as the context of life events in which social support is studied (e.g., Rook 1984; Abbey, Abramis, and Caplan 1985; Okun and Keith, 1998). Ingersoll-Dayton and others (1997) had suggested that equal effects of the two constructs, i.e., both positive and negative aspects of social support, can also occur; such as crime and another illegal behaviour (Cullen, 1994; Colvin et al. 2002).

Social support is an important determinant that affects addiction. Davis and Jason (2005) have mentioned that social support is among the factors that have a special role in maintaining the withdrawal of drug-dependent people. It has been shown that there was a positive relationship between drug abstinence duration and receiving social support (Davis and Jason, 2005) and that perceptions regarding social support can improve the psychosocial functioning during the treatment process in drug abuse (Chong and Lopez, 2005). MacDonald et al., (2004), however, had suggested that social support cannot always predict the improvement stages in the treatment of substance abuse.

Personality

Personality encompasses the behaviours that make each of us unique and that differentiate us from others. Personality characteristics are associated with distinctive patterns of thoughts, feelings, and actions that occur in response to particular situational demands (Mischel, 2004). It has been found that personality strongly correlates with life satisfaction (Boyce, Wood, & Powdthavee, 2013). Hans Eysenck (1995) described personality in terms of three major dimensions: extraversion, neuroticism, and psychoticism. The extraversion dimension relates to the degree of

sociability, whereas the neuroticism relates to emotional stability, and psychoticism refers to the degree to which reality is distorted. Costa and McCrae (1991) had defined personality relying on the Big Five factors model which includes neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness. Novelty Seeking of Cloninger's personality has been found to be correlated with Extraversion and Conscientiousness of the NEO (De Fruyt et al., 2000). The high correlation between Novelty Seeking and Impulsive Sensation Seeking (Zuckerman-Kuhlman Personality Questionnaire; Zuckerman, et al., 1993; Zuckerman and Cloninger, 1996) and Eysenck's Psychoticism factor has also been found (De Fruyt et al., 2000). Both novelty-seeking and sensation-seeking measures have been known to have strong relationships with antisocial behaviour, antisocial personality, and substance abuse, but little or no relationship to neurotic or anxious personality disorders. Harm avoidance has been found to be highly positively correlated with Neuroticism and negatively related to Extraversion. Reward dependence is found to be correlated with both Extraversion and Openness (De Fruyt et al., 2000).

Personality has been considered as an important factor that plays a role in the predisposition, precipitation or perpetuation of drug abuse or dependence. Much attention has been given to the so-called addictive personality. People who are addicted often found to have low self-esteem, are immature, are easily frustrated, and have difficulty solving personal problems and relating to people. Addicts may try to escape reality and have been described as fearful, withdrawn, and depressed. Some have a history of frequent suicide attempts or self-inflicted injuries. Addicts have sometimes been described as having dependent personalities and having difficulty taking care of themselves. Others exhibit overt and unconscious rage and uncontrolled sexual expression. These traits emerged as a result of long-term addiction and are not necessarily an antecedent of drug abuse. Eysenck's psychoticism dimension of personality has been found to be correlated with addictive behaviour (Eysenck, 1992). Studies by Gossop (1978) and Teasdale and colleagues (1971) showed that drug-dependent groups had typically high levels of psychoticism, together with elevated scores on neuroticism; they also had somewhat lower levels of

extraversion than controls, for both male and female. The personality patterns of criminals are similar to those of drug addicts, particularly in having high psychoticism and neuroticism scores (Eysenck & Gudjonsson, 1989; Gossop & Eysenck, 1983).

Statement of the problem:

In India, problems relating to substance abuse have seen an increasing rise over the past few years. Reports of drug abuse seem to be increasing, particularly among the poor and unemployed in both rural and urban areas and among affluent youth in urban areas influenced by Western drug use trends (United Nations Office on Drugs & Crime, 2005). A study carried out jointly by the UNODC and the Indian Ministry of Social Justice (United Nations Office on Drugs & Crime, 2005) has found high rates of drug use in India where the average prevalence of illicit opiate consumption is twice the global (and Asian) rate. There is substantial variation from one region to another in the prevalence and type of drug use (Murthy et al., 2010). India's production of licit and illicit opium, as well as the process of industrialization, has been accountable for contributing to greater drug availability, despite governmental controls (United Nations Office on Drugs & Crime, 2005). Benegal (2005) had postulated that the current rise in drug use is a manifestation of a breakdown of social cohesiveness and the consequential deterioration in moral values.

A 2012 survey by the Health and Family Welfare Ministry statistics of boys aged between 15-19, shows that a shocking 28.6% reported tobacco use and 15 % were addicted to alcohol and injectable drugs also seem to be popular amongst children, with 88.6% children from Mizoram, followed by Meghalaya and Rajasthan at 25%. (www.dnaindia.com). Majority of drug users are in the adolescent age group, are multiple substance users and they are mostly concentrated in the urban areas (MSD & RB, 2015). An estimated number of 177,000 adults in India are injection drug users (IDUs). The onset of IDU typically occurs in adulthood after 20 years of age, with a gradual progression from licit, gateway drugs in early adolescence to illicit substances later on in course. Around 21.5 % of people who inject drugs are women

(Des Jarlais et al., 2012). Women who use drugs are highly stigmatised and suffer from multiple risks related to drug use, unsafe sex and violence (Azim et al., 2015).

It has been found that Mizoram has an alarming rate of 89.4 % IDUs, and most IDUs were aged around 20 years of age. Apart from IDU, tobacco, alcohol, cannabis, and pharmaceutical opioids were the most common substances of abuse in order of frequency (Dhawan, A. et al, 2016). The effects of drug addiction have also given rise to other problems such as physical ill-health, psychological problems and increased vulnerability to diseases such as Hepatitis, STDs, HIV/AIDS etc. and even death. Drug abuse in Mizoram is widespread across all districts with the highest concentration in Aizawl. Majority of people who use drugs are male but females and transgender are also at risk. Youths mostly in their reproductive age are the most affected. Majority of drug users have reported initiation into various drugs below the age of 18 years (Mukherjee et al.,2017). Mizoram shares international border with Bangladesh and Myanmar and drugs flow freely in and through along with people and goods. People in Mizoram have been known traditionally to use betel nut, tobacco, cannabis and country liquor. Heroin was introduced to Mizoram in the early seventies. In the eighties use of drugs through the injecting route attained epidemic proportions. Along with injecting of drugs came the sharing of needles and syringes bringing about the dual epidemic of drug use and HIV, affecting the youths, those from the reproductive ages groups more than others. Attempts at curbing availability of heroin and its non-affordability among people who use it saw an increase in injecting prescription drugs such spasmoproxyvon/parvon-spas etc. This resulted in abscesses, non-healing ulcers and at times amputations. Recent evidence indicates an increasing trend in use of Amphetamine Type Stimulants-particularly in the bordering areas and Aizawl. In the context of Mizoram, the dependency problem on drugs has been a debatable issue both in terms of the reason for its usage, relapse and the treatment resources. Studies' relating to drug dependency problem in Mizoram is minimal at present. Therefore, the present study will try to bring out the social and psychological factors of drug dependency among Mizo youth to form basis for more in-depth and or extended studies on drug dependency.

Objectives:

Given the theoretical and methodological foundations pertaining to drug dependency as explanations, the present study has the objectives of studying the level of depression, social support, personality and pattern of family environment of drug-dependent as compared to non-dependents as well as female and male samples; highlighting the relationship between dependent variables – depression, personality, social support and family environment; to elucidate the independent ‘drug’ effect on the dependent variables; to elucidate the independent ‘gender’ effect on the dependent variables; to study the interaction effects of ‘drug and gender’ on the dependent variables and to study the predictability of drug addiction from level of depression, social support, family environment, personality, and demographic variables over the levels of analyses.

Hypothesis:

Based on the objectives of the study, hypotheses were framed for the present study. It was hypothesized that there will be different in the level of depression, personality, social support, family environment among the comparison groups; there will be a significant relationship between dependent variables – depression, personality, social support and family environment; there will be an independent effect of ‘drug’ on the dependent variables; there will be an independent effect of ‘gender’ on the dependent variables; there will be interaction effects of ‘drug and gender’ on the dependent variables and predictability of drug addiction will be seen from level of depression, social support, family environment, personality and demographic variables over the levels of analyses.

Methodology:

Sample - The sample consisted of 400 Mizo youths (200 drug dependents and 200 non-dependence x 200 males and 200 females), from the age group of 18 to 30 (NYP, 2003) to represent Mizo youth. The samples were selected by using a multi-stage random sampling procedure at Aizawl, so as to have a well representation of Mizoram. The drug-dependent subjects were selected from hospitals and various non-government organizations (NGOs) from Aizawl city. ICD-10 diagnostic criteria

for psychoactive substance use was used to diagnose the drug-dependents, and General Health Questionnaire was used to screen their health conditions. The socio-demographic profile was framed for cross-checking the sample inclusion criteria, and also to discern socio-demographic variables factor which could contribute to drug dependence as qualitative study. The demographic profile includes - age, sex, family size, occupation, educational qualification, marital history, area of domicile, sibling size and position, family type, crime history, and drug-taking history. All these were recorded with the objectives of obtaining a truly representative sample for the study.

Design of the study – The design incorporates a 2 x 2 factorial design {2 drug dependence (drug dependence and non-drug dependence youth) and 2 gender (male and female)} of Mizo Youth (who were representing different parts of Mizoram), four cells of comparison groups as it aims to elucidate the differences between the comparison groups on the selected psychological measures of depression, social support, family environment, personality. Keeping in view the objectives of the study, the methodological refinements were aimed in a step-wise manner.

Test materials used: To meet the objectives of the present study on drug dependency among Mizo youths; the following psychological measures were incorporated: (i) ICD-10 Diagnostic Criteria for Psychoactive Substance Abuse; (ii) General Health Questionnaire (GHQ; Goldberg (1972); (iii) Beck's Depression Inventory (BDI; Beck, et al .,1961); (iv) Eysenck's Personality Questionnaire-Revised (EPQ-R; Eysenck, H.J. & Eysenck, S.B.G.(1980); (v) Social Support Questionnaire (SSQ; Sarason et al., 1983); (vi) Family Environment Scale (FES;Moos, R.H.& Moos, B.S, 1974).

Procedures

The topic of the present study was to study the social and psychological factors of drug dependency among Mizo youth. The samples had comprised of 400 Mizo youths {2 drug dependence (200 drug dependence and 200 non-drug dependence youth) and 2 gender (200 male and 200 female)} of Mizo Youth, from the age group of 18 years to 30 years. The samples were selected by using a multi-

stage random sampling procedure at Aizawl, so as to have a well representation of Mizoram. The drug-dependent samples were selected from hospitals and various non-government organizations (NGOs) from Aizawl, and the non-drug dependents were collected from similar population with a well-matched of the drug-dependent samples with the help of demographic profiles constructed by the researcher. The socio-demographic profile was framed for cross-checking of the sample inclusion criteria. The demographic profile included - age, sex, family size, occupation, educational qualification, marital history, area of domicile, sibling size and position, family type, crime history, and drug-taking history. All these were recorded with the objectives of obtaining a truly representative sample for the study.

Results:

The present study had used the following psychological measures: (i) ICD-10 Diagnostic Criteria for Psychoactive Substance Abuse; (ii) General Health Questionnaire (GHQ; Goldberg (1972); (iii) Beck's Depression Inventory (BDI; Beck et al., 1961); (iv) Eysenck's Personality Questionnaire-Revised (EPQ-R; Eysenck, H.J & Eysenck, S.B.G, 1980); (v) Social Support Questionnaire (SSQ; Sarason, et al., 1983); (vi) Family Environment Scale (FES; Moos, R.H & Moos, B.S, 1974). The objectives of the present study had included studying the level of depression, social support, personality and family environment of drug dependency as compared to non-dependents as well as female and male samples; highlighting the relationship between dependent variables – depression, personality, social support and family environment; elucidating the independent 'drug' effect on the dependent variables; elucidating the independent 'gender' effect on the dependent variables; studying the interaction effects of 'drug and gender' on the dependent variables; and studying the predictability of drug addiction from level of depression, social support, family environment, personality, and demographic variables over the levels of analyses. Keeping in view the objectives of the study, the hypothesis was framed.

The sample characteristic of the present study portrayed the mean distribution of age of the whole sample wherein age 22 years is shown to have the highest frequency. The mean distribution of the level of education of the whole sample showed that the highest percentage of the samples had studied till higher secondary

school. The result showed that the distribution of occupation for the whole group where 65% are unemployed. The mean distribution of family background of the whole sample showed that 78.8% are from an intact-family and 20.9 % are from broken family. The mean distribution of family background of the drug-dependent group showed that 67.7% are from intact family and 31.8% were from broken family while that of the non-drug-dependent group showed that 90.0% were from intact family and 10.0% are from broken family. From the sample studied, 59.7% were unmarried, 22.1% were married, 16.5% have been divorced and 1.8% were widow/widower. Majority of the sample studied belonged to above the poverty line. The birth position of the whole sample showed that 37.4% was the middle child, 33.5% were the eldest, 21.5% were the youngest and 7.6% were the only child. The mean distribution of crime history of the drug-dependent group showed that 64.1% have never been arrested, 60% had altercations with the police, 43.5% had altercations with the YMA (Young Mizo Association), 15.9% had altercations with the JAC (Joint Action Committee) and 7.1% have had altercations with organizations not listed.

In terms of the age of first substance used of the drug-dependent group, 14 years has the highest percentage closely followed by age 16 and 17 years. The youngest age was found to be 8 years old. The result showed that the type of substance first used among the drug-dependent group included tobacco (70.6%), alcohol (49.4%), codeine (18.8%), tablets (17.6%), inhalants (15.3%), opioids (9.4%), cannabis (8.2%) and heroin (4.7%). Of the sample studied, the majority of the drug dependents were introduced to drugs by their friends. Majority of the sample studied were currently using heroin (91.8%), while the others were using tobacco, alcohol, tablets, opioids, codeine, and cannabis. The drug-dependent samples studied were all polysubstance users. The result depicted that majority of the drug dependents had sought religious therapy (77.6%) but they have also considered it to be not helpful. 38.8% of the sample studied were found to be HIV+.

The raw data of the study was analyzed in a stepwise manner (i) Psychometric adequacy, (ii) Descriptive statistics, (iii) Correlation, (iv) Analysis of variance, (v) Post hoc mean comparison, and (vi) Logistic regression. The overall results of the study may be summarized as follow based on the hypothesis. The

reliability test of Cronbach Alpha and Split – Half reliability showed that all the scales and subscales fall between .50 - .89 which confirmed the trustworthiness of the selected scales for the present study. Homogeneity of Variance was indicated as Levene’s test was found not significant while Brown – Forsythe Tests of Equality of Means showed significance on all the scales and subscales and so, therefore, we could proceed with the analysis of variance.

Descriptive Statistics

Parametric statistics were applied as there was no skewness and kurtosis. Non-drug – dependents had scored higher (M = 20.36) on General health than drug-dependents (M = 12.69); while the Drug-dependent group scored higher in Depression (M = 25.45) than the Non drug-dependents (M = 15.78). The result is in line with other studies that had shown depression to be common among persons with substance abuse (Rabkin et al., 1997; Hatim et al., 2015). The use of drugs could be either of curbing depression by using it as self-medication or perhaps eliciting depression (Deykin et al, 1987). This, in turn, leads to increasing the frequency and severity of substance use (Riggs et al., 1995) as well as the likelihood of relapse (White et al., 2004).

Drug – dependents have been found to have higher Psychoticism (M = 15.5) than the Non-drug -dependents (M = 13.88). However, Non drug-dependents have been found to score higher on Neuroticism (M = 14.21) and Extraversion (M = 13.51) than the Drug – dependents (M = 13.71; M = 12.33). The psychoticism dimension has been found to be correlated with addictive behaviour (Eysenck & Eysenck, 1985). Addicts may try to escape reality and have been described as fearful, withdrawn, and depressed. Psychoticism has to be combined with stress to produce actual psychiatric symptoms (Eysenck, 1992). Non-drug-dependents have been found to score higher on Neuroticism (M = 14.21) than the Drug – dependents (M = 13.71). The result is in disparity with numerous findings, however, Bukhtawer and colleagues (2014) had found a similar result where Neuroticism trait was found to be less among drug abuse cases. Cultural variation and social desirability could be the causal factors for such a result. The result which showed that Psychoticism being high in Drug-dependents and Extraversion being low as compared to Non-drug-

dependents can be supported by other related studies (Gossop, 1978; Gossop & Eysenck, 1983; Abu-Arab & Hashem, 1995).

Gender differences were found where Males scored higher on General health ($M = 17.82$) than Females ($M = 15.23$). Females had a higher score on Depression ($M = 21.9$) as compared to Males ($M = 19.32$). Women are more twice as likely to have mood disorders as men (e.g., Kessler, 2006; Kessler & Wang, 2009). In terms of the number of social support, no difference has been found between Male and Female as they have approximately the same score ($M = 68.68$; $M = 68.45$), and in the Level of satisfaction of social support, Female scored higher ($M = 140.55$) than Male ($M = 136.61$). Although several findings have suggested that females have greater social support from friends and family (Zimet et al., 1988; Burda, Vaux, & Schill, 1984), others have also revealed that gender was not significantly associated with any form of social support. Male had been found to have higher score in Psychoticism (Male $M = 14.95$; Female $M = 14.44$) while in Neuroticism and Extraversion, Female are found to have higher scores than Male (Neuroticism – Male $M = 13.28$; Female $M = 14.64$, Extraversion – Male $M = 12.52$; Female $M = 13.32$). Because of the more stress and emotional distress experienced by women in their daily lives (Hyde et al., 2008), neuroticism tends to be higher in women than men (Weisberg et al., 2011).

In General health, Non-drug-dependent Male has been found to score the highest ($M = 22.13$) while Drug-dependent Female has scored the lowest ($M = 11.86$). Drug – dependent Female scored the highest in Depression ($M = 27.53$) while Non-drug-dependent Male has been found to have the lowest score ($M = 15.28$). Women are more disadvantaged in society and are therefore likely to have more problems relating to both physical and mental health. More men than women use and become dependent upon most drugs, however, females may progress more rapidly from initiation of use to problematic use to treatment (Kuhn, 2015). Non drug-dependent Male has the highest number of Social Support ($M = 70.21$) while Drug-dependent female has the lowest number of Social Support ($M = 65.69$) even though they have the highest score in the level of satisfaction in social support ($M = 141.56$) while the Drug-dependent Male has the lowest level of satisfaction in social support ($M = 135.74$). Women tend to be higher when it comes to seeking and

receiving higher levels of emotional support than men do (Ashton & Fuehrer, 1993; Burda, Vaux, & Schill, 1984). Drug use has been found to be associated with dissatisfaction in perceived social support from most sources, with the strongest relationships amongst drug-using females. The result is consistent with other findings that had shown that women who reported drug misuse had lower levels of family and friend support (D'Orio et al., 2015).

Drug – dependent Male has the highest score in Psychoticism (M = 15.86) with Drug – dependent Female scoring the next highest (M = 15.16), Non-drug-dependent Male (14.05) and Non-drug-dependent Female has the lowest score (M = 13.71). However, Non-drug-dependent Female has the highest score in both Neuroticism and Extraversion (M = 14.95; M = 13.86 respectively) while Drug-dependent Male has the lowest score (Neuroticism M = 13.09; Extraversion M = 11.8). People who are addicted are often found to have low self-esteem, immature, are easily frustrated and have difficulty solving personal problems. Psychoticism and neuroticism have been considered as an important discriminant factor for drug addicts for both male and female (Gossop & Eysenck, 1980), but less so for women than for men. Low extraversion scores were also characteristic of drug addicts.

Non drug-dependents had scored higher on Cohesion (M = 5.26), Conflict (M = 4.98), Independence (M = 5.83), Achievement Orientation (M = 6.05), Intellectual Cultural Orientation (M = 5.79), Active Recreation (M = 5.20), Moral Religious Emphasis (M = 6.22), Organization (M = 5.35) and Control (M = 5.05) as compared to Drug -dependents. Non drug-dependents scored higher on Cohesion (M = 5.26) than Drug-dependents (M = 4.02). The result is consistent with other findings (Duncan, Duncan & Hops, 1994; Slesnick & Prestopnik, 2004). The family has been considered a significant source of protection against drug and alcohol abuse among adolescents (Chen et al., 2010; Hawkins et al., 1992). It has been found that family with high cohesion, support and communications produces a better adolescent (Loeber et al., 1998). Cohesion has also been shown to protect adolescents from substance use and engagement in deviant behaviours (Gil, Vega, & Dimas, 1994; Ramirez et al., 2004).

Drug-dependents scored higher (M = 5.76) than Non drug-dependents in Expressiveness (M = 4.64). Although some findings have suggested the difficulty of

expressing feelings and problems in the family, especially in collectivistic society among drug dependents (Bala, Balda & Kumari, 2018; Masood & Sahar, 2014), the present study reveals otherwise. Non drug-dependents scored higher ($M = 4.98$) than Drug-dependents ($M = 3.51$) on Conflict. The result is in contradictory with various findings that have found conflict to be higher among drug dependents as compared to the normal population (Andrews et al., 1991; Slesnick & Prestopnik, 2004). The reason for this could be explained in terms of the family made up of different individuals making different settings thereby making the family environment unique. The environments can differ in many ways such as in the socio-economic level and parenting practices (Zastrow & Kirst-Ashman, 2013) which could have various impact on the individual. Being low in reality orientation (high Psychoticism), the drug-dependent group they were likely to believe that they have the opportunity to be expressive freely. Cultural variations and social desirability should also be taken into account. Non drug-dependents scored higher ($M = 5.83$) than Drug-dependents ($M = 4.80$) on Independence. The result is consistent with other findings (Andrews et al., 1991; Slesnick & Prestopnik, 2004). Non-drug-dependents feel that family members are assertive and that they can independently make their own decisions. Non drug-dependents ($M = 6.05$) scored higher than Drug-dependents ($M = 4.35$) on Achievement Orientation. The result is inconsistent with other findings (Bala, Balda & Kumari, 2018). The detrimental physical and psychological effects of drug dependency can result in being inactive and less productive. In Intellectual cultural orientation, Non drug-dependents have scored higher ($M = 5.79$) than the drug-dependents ($M = 3.47$). The result is consistent with other findings (Bala, Balda & Kumari, 2018). Impaired functioning is one of the distressing consequences of drug dependency such as being less proactive in political, social, intellectual, and cultural activities. Non-drug-dependents scored higher ($M = 5.20$) than Drug-dependents ($M = 3.31$) in Active recreational orientation. The result is consistent with other findings (Bala, Balda & Kumari (2018). In Moral religious emphasis, Non drug-dependents scored higher ($M = 6.22$) than drug-dependents ($M = 4.71$). The result is consistent with other studies (Madu & Matla, 2003; Bradford et al., 2008; Manlove et al., 2008; Bala, Balda & Kumari, 2018). Increased religiosity has been linked with fewer antisocial or problem behaviours, including reduced substance use and risky sexual

behaviour (Bradford et al., 2008; Hardesty & Kirby, 1995). The extent to which family endorses clear organization and structure in planning family activities and responsibilities has been found to be higher among Non-drug-dependents ($M = 5.35$) than Drug-dependents ($M = 3.92$). Similar results have been found in other studies (Kothari & Nair, 2010). The extent to which rules and procedures are followed and enforced by family members have been found to be carried out easier among the non-drug-dependents as Non-drug-dependents scored higher ($M = 5.05$) than Drug-dependents ($M = 3.84$) on Control. The result is inconsistent with other studies (Bala, Balda & Kumari, 2018).

Gender differences was found on Family Environment where Female scored higher on Cohesion ($M = 4.82$), Expressiveness ($M = 5.79$), Conflict ($M = 4.49$), Achievement Orientation ($M = 5.85$), Intellectual Cultural Orientation ($M = 4.95$), Active Recreation ($M = 4.47$), Moral Religious Emphasis ($M = 5.82$), Organization ($M = 5.14$) and Control ($M = 4.97$) as compared to Male. Male however, scored higher on Independence ($M = 5.51$) than Female ($M = 5.12$). The result that revealed that Females scored higher ($M = 4.85$) as compared to Males ($M = 4.45$) on Cohesion has been substantiated by other studies (Tung & Dhillon, 2006; Sharma, 2014). Cohesion has been viewed as a positive factor and it has been suggested that cohesiveness and bonding may have progressive effects in adolescent development as cohesive families ensure better psychosocial development in adolescents (Tung & Sandhu, 2008). In Expressiveness, Females scored higher ($M = 5.79$) than Males (4.61). Some studies have found that adolescent boys and girls did not differ significantly on any dimension of family environment (Devi & Kavitha, 2014), while others have shown that adolescent boys perceived family environment as more expressive (Shanti Balda, Sheela Sangwan & Arti Kumari, 2019) possibly due to cultural norms and expectation for gender roles where boys were encouraged to act openly and express their feelings and thoughts directly as compared to girls (Verma & Ghadially, 1985). In Conflict, Females scored higher ($M = 4.49$) than Males (3.99). The result is corroborated by related studies (Meyerson et al., 2002; Wu et al., 2004). Women were at a more disadvantaged status in society, they are prone to various forms of abuse and hence tend to perceive more conflict in the family. Cultural roles and expectations that girls are subjected to; such as being involved in

heavy sex-role constraints, makes them more vulnerable to social criticism as well as having to contend with culturally created values can also be an important factor (Mohanraj & Latha, 2005). In Independence, Males scored higher ($M = 5.51$) than Females ($M = 5.12$). Other studies have found similar result (Verma & Ghadially, 1985; Shanti Balda, et al., 2019). Cultural norms and expectation for gender roles lays an important platform for males to be more independent (Verma & Ghadially, 1985). In Achievement orientation, Females scored higher ($M = 5.85$) than Males ($M = 4.55$). Some studies have found that Males are higher in achievement orientation (Ninaniya et al., 2019). However, other studies have found that males and females did not differ significantly on any dimension of the family environment (Devi & Kavitha, 2014). The disadvantaged status of women in society could be a motivating factor for higher achievement orientation. In the dimension of Personal Growth, females scored higher than males. In Intellectual cultural orientation, Females scored higher ($M = 4.95$) than Males (4.32); in Active recreational orientation, Females scored higher ($M = 4.47$) than Males (4.04); and in Moral religious emphasis, Females scored higher ($M = 5.82$) than Males (5.10). The result is consistent with other findings (Tung & Dhillon, 2006). In Organization, Females scored higher ($M = 5.14$) than Males (4.13) and in Control, Females scored higher ($M = 4.97$) than Males (3.91). The result is consistent with other findings (Tung & Dhillon, 2006; Pinki Ninaniya, Santosh Sangwan & Shanti Balda, 2019). Females have been found to be higher in personal growth as well as in system maintenance in the family suggesting the active role they play in keeping the family together.

The Mean Comparison among the four comparison groups (Drug-dependent Male, Drug – dependent Female, Non drug-dependent Male, Non drug-dependent Female) on Family Environment revealed that Non drug-dependent Female scored the highest on Cohesion ($M = 5.51$), Conflict ($M = 5.19$), Achievement Orientation ($M = 6.65$), Intellectual Cultural Orientation ($M = 6.39$), Active Recreation ($M = 5.51$), Moral Religious Emphasis ($M = 6.51$), Organization ($M = 5.64$) and Control ($M = 5.29$). Drug – dependent Female scored the highest in Expressiveness ($M = 6.08$) while in Independence, Non-drug-dependent Male scored the highest ($M = 6.14$). Drug – dependent Male scored the lowest in Cohesion ($M = 3.89$), Conflict ($M = 3.21$), Achievement Orientation ($M = 3.66$), Intellectual Cultural Orientation ($M =$

3.44), Active Recreation (M = 3.18), Moral Religious Emphasis (M = 4.27), Organization (M = 3.20) and Control (M = 3.02). Non-drug-dependent Male has the lowest score on Expressiveness (M = 3.78) while Drug-dependent Female has the lowest score in Independence (M = 4.72). Skeer, M. R., et al., (2011) had suggested that the association between childhood family conflict and substance use disorders in adolescence differed by gender and that family conflict was significantly associated with substance use disorders among females.

Correlation Statistics:

The correlation matrix of the psychological variables of the scales and subscales of General Health, Depression, Number of social support, Level of satisfaction of social support, Psychoticism, Neuroticism and Extraversion, and Family Environment (Cohesion, Expressiveness, Conflict, Independence, Achievement Orientation, Intellectual Cultural Orientation, Moral Religious Emphasis, Organization, and Control) was presented. The results revealed that Health had a significant positive correlation with Cohesion, Conflict, Independence, Achievement Orientation, Intellectual Cultural Orientation, Active recreation, Moral Religious Emphasis, Organization; and negative correlation with Depression, Psychoticism, and Expressiveness.

Depression had a positive correlation with Expressiveness while it has negative correlation with Conflict, Independence, Achievement Orientation, Intellectual Cultural Orientation, Active Recreation, Moral Religious Emphasis. Individuals having families high on expressiveness have been shown to exhibit lower level of depression and that expressiveness, cohesion and independence significantly contributed to depression independently as well as conjointly (Aydin & Oztutuncu, 2001). The result indicated that the absence or low level of psychological problems like depression is related to personal growth. Kaur and Sapra (2014) had found depression to be negatively and significantly correlated with four dimensions of family environment namely cohesion, active recreational orientation, independence and organization. The poor family environment in terms of parental hostility, rejection and inconsistencies have been found to contribute to psychological

problems viz. anxiety, stress, neuroticism, depression and many others (Sharma, Verma & Malhotra, 2008).

The Number of Social Support has a positive correlation with Cohesion, Active recreation, Organization and Level of satisfaction of social support has a positive correlation with Neuroticism, Extraversion, and Control. Family and peer social support has been shown to be significant protective factors for youth by helping them cope with difficult challenges and reducing depression risk, particularly for those living in high-risk environments (Rosenfeld, Richman, Bowen, & Wynns, 2006). Despite changes in family relationships during adolescence (Steinberg, 1999), parents continue to be a vital source of support for youth (Cobb, 2007; Helsen et al., 2000). Social support has been found to moderate the effects of interpersonal conflict when conflicted networks were large (Nitz, Ketterlinus & Brandt, 1995).

Psychoticism has a positive correlation with Neuroticism while it has a negative correlation with Conflict, Achievement Orientation, Intellectual Cultural Orientation, Active Recreation, and Control. The result can be corroborated with other findings (Sines, 1984).

Family environment has been revealed to contribute 85% of the variance in neuroticism (Chauhan, 2006; Jenkins, 1967, 1968, & 1969). Neuroticism has been found to have a positive correlation with Extraversion and Extraversion has a positive correlation with Achievement Orientation, Intellectual Cultural Orientation and Moral Religious Emphasis. As Extraversion is the tendency to be positive, assertive, dynamic, kind, and sociable, people who are high in this personality dimension are likely to be more achievement-oriented i.e., to be more active at school or work, and engage in social interactions (McCrae & Costa 1991; Larsen & Ketelaar 1991), including political, cultural and religious activities.

Several sub-scales have been found to have a correlation with each other. Cohesion has positive correlation with Active Recreation, Moral Religious Emphasis, Organization and Control. Expressiveness has been found to have negative correlation with Intellectual Cultural Orientation and Active Recreation. The conflict has a positive correlation with Intellectual Cultural Orientation and Moral Religious Emphasis. Independence has a positive correlation with Intellectual Cultural Orientation and Active Recreation. Achievement Orientation has a positive

correlation with Intellectual Cultural Orientation, Active Recreation, Moral Religious Emphasis, Organization and Control. Intellectual Cultural Orientation has a positive correlation with Active Recreation, Moral Religious Emphasis, Organization, and Control. Active Recreation has a positive correlation with Moral Religious Emphasis, Organization, and Control. Moral Religious Emphasis has a positive correlation with Organization and Control. The organization has a positive correlation with Control.

Analysis of Variance

Two-way ANOVA was computed to illustrate the independent effect of the independent variables (Drug dependency and Gender) on the dependent variables and also the independent interaction effects on dependent variables. The ANOVA result showed that significant independent effect of Drug dependency was found on Health, Depression, Number of social support, Level of satisfaction of social support, Psychoticism, Neuroticism, Extraversion, and on the different sub-scales of Family Environment. The ANOVA result also showed that significant independent effect of Gender was found on the dependent variables. The significant interaction effect of ‘Drug dependency and Gender’ was also found on the dependent variables. There was a significant difference between Depression and Drug dependency, Gender, and “Drug dependency and Gender’. Depression has been found to be common among persons diagnosed with substance abuse or substance dependence (Rabkin et al., 1997; Deykin, Buka, & Zeena, 1992; Blum et al., 2013). Depression can be either the precursor or the consequences of substance abuse (Khantzian ,1985; Curran, White, & Hansell, 2000). Persons who has both disorders of drug dependency and depression has an increased risk of various negative effects such as increased severity of illness, relapse, and suicidal ideation, attempts, and completions (King et al., 1996; White et al., 2004) as well as less social support, and more peer conflict (Aseltine, Gore, & Colten, 1998).

There has been a significant gender difference in many studies on depression where the prevalence of depression is higher in females (Cryanowski et al., 2000; Hankin & Abramson, 2001; Kessler, 2006). The source of these differences can be cultural, in the sex roles assigned to men and women in the society (Cryanowski et

al., 2000; Hankin & Abramson, 2001).

A significant difference was found between the number of social support and Drug dependency. There was a significant difference between Level of satisfaction of social support and Gender, and 'Drug dependency and Gender'.

There was a significant difference between Psychoticism and Drug dependency, and with 'Drug dependency and Gender'. Much attention has been given to the so-called addictive personality. People who are addicted are often found to have low self-esteem, are immature, easily frustrated, and have difficulty solving personal problems and relating to people of the complementary sex. Addicts may try to escape reality and have been described as fearful, withdrawn, and depressed. Excessive dopamine functioning is related to the personality dimension of psychoticism, and that psychoticism is closely related to a large number of addictions and that psychoticism has been found to be higher in males (Eysenck & Eysenck, 1985).

There was a significant difference between Neuroticism and Gender, and with 'Drug dependency and Gender'; extraversion and Drug dependency, Gender and with 'Drug dependency and Gender'; Cohesion and Drug dependency, 'Drug dependency and Gender'; Expressiveness and Drug dependency, Gender, and with 'Drug dependency and Gender'; Conflict and Drug dependency, Gender and 'Drug dependency and Gender'; Independence and Drug dependency, and 'Drug dependency and Gender'; Achievement orientation and Drug dependency, Gender, and 'Drug dependency and Gender'; Intellectual cultural orientation and Drug dependency, Gender, and 'Drug dependency and Gender'; Active recreational orientation and Drug dependency, and 'Drug dependency and Gender'. There was a significant difference between Moral religious emphasis and Drug dependency with, Gender and with 'Drug dependency and Gender'; There was a significant difference between Organization and Drug dependency, Gender, and 'Drug dependency and Gender'; There was a significant difference between Control and Drug dependency, Gender and 'Drug dependency and Gender'.

Post hoc Mean comparison

Post-hoc comparison (Scheffé) was computed to portray the significant difference between the groups under study. The results showed a significant difference between groups on Health. Drug-dependent Male had a significant difference with Non-drug-dependent Male and Non-drug-dependent Female. Drug-dependent Female had a significant difference with Non-drug-dependent Male and Non-drug-dependent Female. Non-drug-dependent Male had a significant difference with Non-drug-dependent Female and Non-drug-dependent Female had a significant difference with Drug-dependent Female. On Depression, Drug-dependent Male had significant difference with Drug-dependent Female, Non-drug-dependent Male and Non-drug-dependent Female. Drug-dependent Female had significant difference with Non-drug-dependent Male and Non-drug-dependent Female.

Gender difference in depression where women have been shown to have a higher level of depression has been cited by many studies (Hankin & Abramson, 2001; Kessler, 2006; Cyranowski et al., 2000). Cultural roles assigned to males and females are different making the susceptibility of depression higher in females (Cryanowski, Frank, Young, & Shear, 2000; Hankin & Abramson, 2001). Rumination has also been suggested as the reason for the gender difference in depression where women attend to ruminate more than men about their situation and blame themselves for being depressed (Nolen-Hoeksema, S., 1990, 2000; Nolen-Hoeksema, Wisco, & Lyubomirsky, 2008; Abela & Hankin, 2008). More men than women use and become dependent upon most drugs, however, females may progress more rapidly from initiation of use to problematic use to treatment (Kuhn, 2015). Drug abusing women are more likely to face problems with limited income, education, job skills, and living with substance-abusing individuals (Hser et al., 2003) leading them more vulnerable to have more psychiatric problems than men, particularly in terms of depression and anxiety (Grella & Joshi, 1999; Stevens, Andrade, & Ruiz, 2009; Han et al., 2016). Women generally pursue substance use to alter feelings about relationships, while men prefer an independently pleasurable experience (Stevens et al., 2009).

In the Level of satisfaction of social support, Drug-dependent Male had a significant difference with Drug-dependent Female (5.82), women tend to be higher

when it comes to seeking and receiving higher levels of emotional support than men do (Ashton & Fuehrer, 1993; Hirsch, 1979; Stokes & Wilson, 1984). The reason and the means with which men and women seeking social support can differ. Men report more support from their spouses than women do (Antonucci & Akiyama, 1987; Wong, 1986), whereas women report more support from friends and neighbours (Allen & Stoltenberg, 1995; Depner & Ingersoll-Dayton, 1988), women find a greater number of family members supportive than men do (Allen & Stoltenberg, 1995; Caldwell & Bloom, 1982; McFarlane, et al., 1981; Stokes & Wilson, 1984). Males tend to perceived significantly higher social support from friends than females, whereas support from significant others was higher in females (Soman et al., 2016).

Searching for social support in one's environment is a well-learned behaviour pattern for women (Eagly & Wood, 1991), it is strongly linked to mental and physical health (House, Landis, & Umberson, 1988). Not all studies of social support found an inverse relationship with psychological dysfunction. It is important to consider the importance of the content of social relations, age of the recipient and the provider-recipient relationship as well as the context of life events in which social support is studied (Rook 1984; Abbey, Abramis, & Caplan 1985).

Social support is an important determinant that affects addiction and the role of perceived social support in the prevention and treatment of drug abuse and relapse (Davis & Jason, 2005). It has also been shown that there was a positive relationship between drug abstinence duration and receiving social support (Davis & Jason, 2005) and that perceptions regarding social support can improve the psychosocial functioning during the treatment process in drug abuse (Chong and Lopez, 2005). MacDonald and colleagues (2004), however, had suggested that social support cannot always predict the improvement stages in the treatment of substance abuse. It has been shown that those who have more social support are more likely to stop using drugs than those with less social support (Majer et al., 2016; Tucker et al., 2005). Current drug users have also reported significantly higher conflict in social relationships than nonusers (Rothman et al., 2006), and lack of social support from a special person or significant other was associated with depressive symptoms in both

males and females (Risser et al., 2010).

Drug-dependent Male had a significant difference with Non-drug-dependent Male and Non-drug-dependent Female in Cohesion. The family environment is an important factor affecting an individual's substance use. The disorganized family environment is considered as one of the key parameter that makes a normal individual get inclined to the world of drug addiction (Kothari & Nair, 2010). As members of cohesive families have been found to enjoy spending time together, and value interdependence and the exchange of emotional and instrumental support; they are less likely to seek support from people outside the family, including peers who engage in delinquent behaviours. Spending more time at home has been considered as a protective factor, mainly because it limits the opportunities for offending and therefore decreases the chance of being exposed to risk factors (Hirschi, 1969; Fagan et al., 2007; Moffitt et al., 2001). Family atmosphere, strength of family ties, sense of family happiness, structure of authority in the family, and alcoholism has been considered as some of the main family factors of drug addiction. Drug addicts tend to come from families where there are ill will and hostility and they have weaker family ties than do those who do not take drugs (Jedrzejczak, 2005). Tung and Dhillon (2006) reported a significant difference in cohesion dimension of family environment among girls as compared to boys. The results showed females reported more cohesive environment.

In Expressiveness, Drug-dependent Male had a significant difference with Non-drug-dependent Male while Drug-dependent Female had significant difference with Non-drug-dependent Male. Non-drug-dependent Female had significant difference with Non-drug-dependent Male. In Conflict, Drug-dependent Male had significant difference with Non-drug-dependent Male and Non-drug-dependent Female. Drug-dependent Female had significant difference with Non-drug-dependent Male and Non-drug-dependent Female. Family environments with high levels of adversity such as violence, stress, parental drug use, ineffective communication and discipline, and poor sibling relationships, have been linked to adolescent drug use (Vakalahi, 2001). High family conflict and lack of family support, social integration, and organization have been known to be associated with more alcohol and drug use, and heavier drinking, among youth and young adults. Exposure to psychological

stress and familial conflict early in life increases the risk of substance use disorders during late adolescence (Skeer et al., 2009; Bray et al., 2001).

In Independence, Drug-dependent Male had a significant difference with Non-drug-dependent Male and Drug-dependent Female had significant difference with Non-drug-dependent Male. In Achievement Orientation, Drug-dependent Male had significant difference with Drug-dependent Female, Non-drug-dependent Male and Non-drug-dependent Female. Drug-dependent Female had significant difference with Non-drug-dependent Female. Non-drug-dependent Female had significant difference with Non-drug-dependent Male. Males tend to perceive more independence than females (Ninaniya, et al., 2019), the reason for which can be cultural factors (Verma & Ghadially, 1985) where male children received more independence and encouragement than females because of cultural roles assigned to them. Girls are subjected to involved in heavy sex-role constraints, are more vulnerable to social criticism and they have to contend with culturally created values (Mohanraj & Latha, 2005). Youth with substance use disorders (SUDs) tend to be less independent as compared with normal youth (Andrews et al., 1991; Slesnick & Prestopnik, 2004)

In Intellectual Cultural Orientation, Drug-dependent Male had a significant difference with Non-drug-dependent Male and Non-drug-dependent Female. Drug-dependent Female had significant difference with Non-drug-dependent Male and Non-drug-dependent Female. Non-drug-dependent Male also had significant difference with Non-drug-dependent Female. In Active Recreational Orientation, Drug-dependent Male had significant difference with Non-drug-dependent Male and Non-drug-dependent Female. Drug-dependent Female had significant difference with Non-drug-dependent Male and Non-drug-dependent Female. In terms of intellectual-cultural orientation and active recreation Non-drug - dependents have better perception of their family environment as compared to drug-dependents. Engaging in extracurricular activity has been known to be an important contributor to reductions in truant behaviour in adolescents (Shorter, 2016). Boys have also been found to receive more encouragement for personal growth through acceptance and caring attitude and independence; as well as through participation in social and recreational activities as compared to their female counterparts (Shanti Balda, Sheela Sangwan &

Arti Kumari, 2019).

In Moral Religious Emphasis, Drug-dependent Male had a significant difference with Drug-dependent Female, Non-drug-dependent Male and Non-drug-dependent Female. Drug-dependent Female had significant difference with Non-drug-dependent Male and Non-drug-dependent Female. Females have been found to have higher moral religious emphasis in the family (Tung & Dhillon, 2006). Increased religiosity has been linked with fewer antisocial or problem behaviours, including reduced substance use and risky sexual behaviour (Bradford et al., 2008; Manlove et al., 2008; Yonker et al., 2012) hence becomes an important protective factor especially during childhood and adolescence (Bradford et al., 2008; Eriksson et al., 2011) thereby promoting positive outcomes for youth.

In Organization, Drug-dependent Male had a significant difference with Drug-dependent Female, Non-drug-dependent Male and Non-drug-dependent Female. Drug-dependent Female had significant difference with Non-drug-dependent Female. In Control, Drug-dependent Male had significant difference with Drug-dependent Female, Non-drug-dependent Male and Non-drug-dependent Female. Females have been shown to have better organization and control as compared to males (Pinki Ninaniya, Santosh Sangwan & Shanti Balda, 2019) It has also been suggested that the non-addicts' family environment is far better to support and organized than addicts (Kothari & Nair, 2010).

Studies have revealed that family environment plays an important backdrop in the treatment of substance abuse wherein the addict descriptions of their families such as family cohesion, conflict, achievement orientation, independence organization, intellectual-cultural, conflict, and control dimensions of the Family Environment Scale (FES) were found to be especially effective as predictors of treatment outcome (Godley et al., 2005; Campbell et al., 2006).

Prediction of drugs from dependent variables:

The prediction of Drugs on the scale and subscales of depression, social support, family environment and personality constant as the independent variable and Drug as a dependent variable was computed using logistic regression analysis. Logistic regression was performed to ascertain the effects of general health,

depression, personality, social support and family environment on participant's drug use. The logistic regression model was statistically significant for all the variables. The findings can be supported by related studies where depression has been found to be a predictor for drug dependency. Depression is common among persons diagnosed with substance abuse or substance dependence (Deykin et al, 1987; Miller et al., 1996). Heroin abusers could not easily stop using heroin as opioid use dysregulated the reward system in the brain, and activated the circuits of the stress-system and obsessive-compulsive system (Blum et al., 2013). Therefore, heroin-dependent people reported more severe depression than did healthy controls. Sordo and colleagues (2012) has suggested that heroin-dependent patients might take higher doses to reduce the severity of depressive symptoms thus, indicating that depression might be a significant predictor of heroin use. Duration of drug use has been found to be an important factor wherein those who had abused substances for more than 10 years were found to have double the risk for depression as compared to participants who had abused substances for less than 5 years (Alzahrani et al., 2015).

The result indicated that the family environment has been found to be a predictor of drug dependency. Family as source of protection from drug and alcohol abuse among adolescents have been widely studied (Chen et al., 2010; Hawkins et al., 1992). Disorganized family environment has been considered as one of the key parameters that make a normal individual get inclined to the world of drug addiction (Kothari & Nair,20 10). Parental monitoring and selective supervision have been found to be among the most powerful predictors of adolescent substance abuse and problem behaviours (Steinberg et al, 1994; Mulhall, 1996). As family environment has been found to have impacts on choice of peer groups as well as attitudes towards and susceptibility to drug use (Cohen et al, 1994), perception of peer substance use, association with drug-using or deviant peers, and peer pressure are associated with higher probability of drug use and increased use (Bryant &, Zimmerman,.2002; Ary et al, 1993).

Family bonding or cohesion and parent-family connectedness are also associated with less frequent substance abuse such as cigarette, alcohol, and marijuana use (Bahr et al., 1995; Broman et al., 2006; Vega et al., 1998; Ramirez et

al., 2004) indicating family cohesion as a strong protective factor. Family factors such as family communication, family cohesion and quality of the parent-adolescent relationship give rise to positive outcomes found in cultural and school domains that also influence substance use thus indicating the predictability of substance abuse (Clark et. al., 2011).

High family conflict and lack of family support, social integration, and organization have been known to be associated with more alcohol and drug use, and heavier drinking, among youth and young adults. Exposure to adverse family environments in childhood can influence the risk course for developing substance use disorders in adolescence (Skeer et al., 2009). Religiosity has been considered as an important factor in substance abuse (Yonker et al., 2012) where higher levels of family religiousness were related to lower use of illicit drugs among peers. The more family conflict and less cohesion can adversely affect the post-treatment recovery environment (Godley et al., 2005). Family characteristics may predict treatment outcome among youth with substance use disorders. The drug addict has positive descriptions of their families on the achievement orientation, independence organization, intellectual-cultural, conflict, and control dimensions of the FES were found to be especially effective as predictors of outcome (Friedman et al., 1995).

Social support as a predictor of drug dependency can be supported by other studies. As an important determinant that affects addiction, social support has been shown to have an effect on substance abuse where those who have more social support are more likely to stop using drugs than those with less social support (Majer et al., 2016; Tucker et al., 2005). Current drug use was predicted by more negative social support (from drug-using family/friends), depression, and less positive coping. Drug Problems were predicted by more negative coping, depression, and less positive coping. Physical Drug Dependence was predicted by more negative social support and depression, and less positive social support (Galaif & friends, 1999). Loyalty to delinquent peers has been shown to be a strong predictor of delinquent behaviour, even after controlling for moral beliefs, prior behaviour, and other variables (Timothy & Andia, 2018). Social support along with variables of self-

efficacy beliefs has been found to be the best predictors of addiction relapse and therefore plays a significant role in preventing patients from addiction relapse (Nikmanesh, Baluchi & Motlagh, 2017).

Personality as a predictor of drug dependency can be supported by other studies. Drug-dependents had been shown to have typically high levels of psychoticism, together with elevated scores on neuroticism; and somewhat lower levels of extraversion than controls (Gossop, 1978; Teasdale et al., 1971). In females, neuroticism has been shown to be more important in predicting the use of licit drugs and cannabis, with psychopathic deviance and mania is more important in predicting other illicit drugs. For males, elevated psychopathic deviance and mania scale scores were strongly associated with extent of drug use (Tara Lavelle, Richard Hammersley & Alasdair Forsyth, 1993). Individuals with high Neuroticism with negative emotions and low Agreeableness, and those who are undisciplined and disorganized (low Conscientiousness) are more likely to use substance than those who have opposite of these traits (Sutin, Evans, & Zonderman, 2013).

Conclusion

Hypothesis – 1: There will be a difference in the level of depression, personality, social support, family environment among the comparison groups.

The present study incorporated the comparison groups of Drug-dependents and Non-drug-dependents; Male and Female; and the interaction of ‘Drugs x Gender’. Descriptive statistics and Post hoc mean comparisons were computed to excavate any significant difference present independent variables in relation to drug dependency and gender. The results confirmed the hypothesis -1 by showing the significant mean difference between Drug-dependents and Non-drug-dependents; Male and Female as well as the interaction of Drugs and Gender, on almost all the dependent variables as provided by the mean table, and Post hoc comparison table.

Hypothesis – 2: There will be negative or positive significant relationships between dependent variables – depression, social support, personality and family environment.

In an attempt to find the relationship between the dependent variables of depression, social support, personality and family environment, Pearson's correlation was computed. Significant positive and negative relationships were found and hence, hypothesis – 2 has been confirmed.

Hypothesis – 3: It was expected that there will be 'gender' effect in depression, social support, personality, and family environment.

Two-way ANOVA was computed to find the 'gender' effect in depression, social support, personality, and family environment. Results confirmed hypothesis – 3 in that significant independent effect of gender was found on Depression, Number of social support, Level of satisfaction of social support, Neuroticism, Extraversion, Cohesion, Expressiveness, Conflict, Independence, Achievement Orientation, Intellectual Cultural Orientation, Active Recreation, Moral Religious Emphasis, Organization and Control.

Hypothesis – 4: It was expected that predictability of drug addiction will be seen from the level of depression, social support, family environment, personality and demographic variables over the levels of analyses.

Logistic regression was performed to ascertain the effects of general health, depression, personality, social support and family environment on participant's drug use. Results confirmed hypothesis-4 in that the logistic regression model was statistically significant. The model explained 90.2% (Nagelkerke R^2) of the variance in drug use, which suggests that the model explains roughly 90.2% of the variation in the outcome indicating predictability of drug addiction from a level of depression, social support, family environment, and personality.

Limitations

The present study has many limitations that must be acknowledged. First of all, it is desirable to have a larger sample size so as to have a better representation of the social and psychological factors of drug dependency. As stigma and discrimination of drug dependents are still prevalent, this makes it difficult to identify and approach

the sample representatives. The disadvantaged status of women in the society which exudes even more towards female drug dependents makes it difficult to find and select them for the study. Majority of the samples were selected from NGOs. Although rapport could be established with little or no difficulty, it was difficult to sustain their attention for the whole interview to take place. This created a problem for the researcher where many of the selected samples tend to leave the interview without completing the necessary questionnaires which had to be rejected and which at times was time-consuming. Follow-up of the selected samples was problematic because of the unpredictable location of the samples as well as time limitation of the study. A qualitative method as well as incorporating other psychological variables could be undertaken in the future so as to have a more exhaustive generalization of drug dependency and gender.

Suggestions:

Based on the findings of the present study, it was suggested that psychological factors like personality and psychological problem such as depression should be considered as a significant factor in drug dependency and hence should be given importance in the antecedent and treatment of drug dependency. As Mizo people live in a collectivistic society, social support is not something which is scarce as can also be noted from the present study where almost all the sample studied had reasonable number of social support. The level of satisfaction of social support, however, needs to be considered in understanding drug dependency. The quality of family environment should also be seen as an important dynamic aspect both in terms of understanding the cause as well as in the treatment of drug dependency. Gender differences should also be taken into account when it comes to designing the treatment of drug dependency. The disadvantaged status of women in society should be acknowledged so that accessibility towards prevention strategies and treatment procedures becomes easier.

Based on the limitations of the present study, it was suggested that further studies are needed to validate the findings of this study as well as to illustrate the level of neuroticism being high among female non-drug-dependents as compared to

drug-dependents. Other psychological variables relating to drug dependency such as personality variables of sensation-seeking, harm-avoidance, conscientiousness, novelty seeking, reward dependence and perseverance, self-directedness, cooperativeness and self-transcendence could be explored as such studies among the selected population is still minimal in Mizoram. The relations and predictability of several indices of drug dependency (such as duration of drug abuse, type of abused drugs, parental monitoring, familial substance abuse, etc.) with psychological variables could be explored in further studies.

Significant of the study:

The findings of this study indicated that there is a significant difference in the level of depression, number of social support, level of satisfaction of social support, psychoticism, neuroticism and extraversion and family environment; between drug dependents and non-drug dependents, as well as between male and female. The results showed that there is a relationship on the dependent variables of depression, social support, personality and family environment as well as gender effect in depression, social support, personality and family environment. The results also showed that predictability of drug addiction could be seen from the level of depression, social support, family environment and personality. Based on the findings of the study; preventive strategies, harm reduction and systematic treatment procedure of drug dependency could be designed keeping in mind the social and cultural milieu as a contributory aspect in alleviating the ongoing drug problem in the state.

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