Psycho-social Predictors of Severity of Alcohol Use in Young Adult Females of East Sikkim

A **Dissertation** Submitted

To

Sikkim University

In Partial Fulfilment of the Requirement for the

Degree of Master of Philosophy

By

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सिक्किम विश्वविद्यालय
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DECLARATION

I declare that the dissertation entitled 'Psycho-social Predictors of Severity of Alcohol use in Young Adult females of East Sikkim' is my original research work and carried out at Department of Psychology under School of Human Sciences, Sikkim University. It has been submitted in partial fulfillment of the requirement for the award of M.Phil Degree of Sikkim University. The work embedded in this research has not been submitted in part or full to this university or any other university and institutions, for any degree or diploma.

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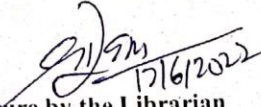## PLAGIARISM CHECK REPORT

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Submitted by **Mr. Pranaw Chhetri** under the supervision of **Dr. Sumnima Rai**, Assistant Professor, Department of PSYCHOLOGY, School of HUMAN SCIENCES, Sikkim University, Gangtok, 737102, INDIA.

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Pranaw Chhetri

CONTENTS

LIST OF ABBREVIATIONS

ACOA	Adult Children of Alcoholics
APGAR	Adaption, Partnership, Growth, Affection and Resolve
AUDIT	Alcohol Use Disorder Identification Test
BDI	Beck Depression Inventory
DERS-SF	Difficulties in Emotion Regulation
NFHS	National Family Health Survey
SPSS	Statistical Package for Social Sciences
WHO	World Health Organization

ABSTRACT

According to the previous five national census of National Family Health Survey conducted by Ministry of Health and Family Welfare, India; the percentage of use of alcohol in females of Sikkim has been reported to be higher than the national average. The use of alcohol in females is seen to be associated to family situation, the capacity to regulate one's emotions and depression in many research studies from the past. Thus, to get an explorative understanding of alcohol use in the population of Sikkim, the current study has been designed to use family functioning, difficulties in emotion regulation to predict severity of alcohol use and its domains with the mediating effect of depression. This study has been focused on young adult female population of East Sikkim who are in the age range of 18-40 years of age. The study has also sought to understand whether the used socio-demographic variables are able to predict severity of alcohol use and its domains. The results report that both family functioning and difficulties in emotion regulation are significant predictors of severity of alcohol use and its domains when depression is kept as a mediator variable on using Process Macro 4.0 for mediation analysis. The study also found that the used socio-demographic variables are able to predict the severity of alcohol use on subjecting them to categorical regression analysis via optimal scaling method. The study highlights the importance of addressing family functioning, emotion regulation problems and levels of depression when addressing the problematic alcohol use in females.

Keywords: young adults**,** alcohol use, family functioning, emotion regulation, depression, severity

Psycho-social Predictors of Severity of Alcohol Use in Young Adult Females of East Sikkim

CHAPTER I

INTRODUCTION

The term 'alcohol' is referred to 'ethyl alcohol'. It is usually consumed as a beverage in dilute concentrations of pure (100 %) ethyl alcohol. A standard alcoholic beverage would correspond to 10 gram of absolute alcohol. There are various types of alcoholic beverages that are consumed across the entire world like beer, wine, whiskey, rum, vodka, gin, brandy etc. There are also various locally brewed beverages available across various societies. Alcohol consumption becomes problematic when individuals start engaging in drinking patterns that may risk chances of developing adverse health events (WHO, 2014).

1.1 Alcohol Use

There can be various patterns of alcohol consumption. Some of them are social drinking, binge drinking, harmful drinking pattern, hazardous drinking pattern and alcohol dependence. Social drinking or moderate drinking refers to not having more than 2 drinks for men and 1 drink for women. It refers to the use of alcohol in a single and not at an average of many days (Nayak et al., 2009). Binge drinking refers to the consumption of alcohol in a single sitting within a period of 2 hours. In men it can be 5 or more and in women can be 4 or more (Sachdeva et al., 2014). Harmful drinking pattern can be defined as the pattern or quantity of alcohol consumption that may result in physical or psychological harm to the individual in his/her society (WHO, 2002). Hazardous drinking can be defined as the pattern or quantity of drinking that put individuals at risk of adverse health events (Sachdeva et al., 2014). Finally, alcohol

dependence can be defined as the cluster of behavioral, cognitive and physiological phenomena that has developed due to repeated use of alcohol use. Alcohol dependence is associated with strong desire to consume alcohol, difficulties in controlled use, persistent use despite harmful consequences, and prioritizing alcohol over other activities and obligations, increased tolerance and occasionally a physiological withdrawal state (WHO, 1993).

According to a census of WHO (World Health Organization) on 2002, it was reported at the time that approximately 2 billion people worldwide were consumers of alcohol and around one-third of that population (i.e. 76.3 million) were likely to have one or more alcohol related disorders.

Researches have suggested that around 1 in 10 deaths in the age spectrum of 15 to 49 years are related to drinking alcohol (Stockwell et al., 2016). The misuse of alcohol has been related to problems of health, disturbance in work, poor family conditions, increased instances of separation and divorce and emotional turmoil in Indian families. An estimate of nearly 3 million people who abused alcohol was reported to have died just in 2016. The consumption of alcohol has doubled from 2.4 liters in 2005 to 5.7 liters in 2016 wherein, 4.2 liters were consumed by men and 1.5 liters consumed by women (Stockwell et al., 2016). Initiation of alcohol use usually starts in adolescence for its perceived positive and arousal effects together with a need to confirm with peers (Silveri et al., 2012).

Various factors contribute as well as promote usage of alcohol like religion (Mohanan et al., 2014), culture, family history of alcoholism (Warner et al., 2007) and

even socio-economic factors (Pillai et al., 2014). These factors also facilitate initiation and also continuation of alcohol use (Morean et al., 2014). Socio- Cultural Theories of alcoholism claim that heavy alcohol use can be onset as a result of cultural attitudes. Being a form of socially accepted drink that is mostly used in social gatherings, it may influence people to indulge in it as an opportunity to participate in the community. Once alcoholism has begun, cultural factors might determine the prevalence of regular usage (Ward & Faillace, 1970). Case of downward social mobility and decreased interactions in the community can also influence alcoholism (Jones & Borland, 1975).

1.1.1 Alcohol Use in Women

Alcohol use in women over the years has been attributed to genetic predisposition, family history and environmental stress (Kauffman et al., 1997). Past researches have claimed that addictive tendency in women have prolonged effects on their well being and mental health, wherein they become prone to anxiety, depression and even suicidal ideation. Past research papers have pointed that women are more likely than men to come from families that harbor an addict. Women also experience more disruption than men in families (Nelson-Zlupko et al., 1995). Women are also more likely to have partner or spouses who are abusers themselves. They may identify relationship problems as a cause of addictive tendencies (Kauffman et al., 1997). Women are vulnerable to depression thus more likely to report negative effects of alcohol. Widowhood can also be a determinant of alcoholism (Gomberg, 1993).

Women as compared to men may seek treatment early on after the onset of alcoholism in them (Piazza et al., 1989). With regards to the developmental course of

alcoholism women tend to progress faster than men in terms of regular drinking and loss of control (Randall et al., 1999). Women as compared to men have shown great rate of co-morbidities existing together with alcoholism, like depression, social phobia, post-traumatic stress and eating disorders (Denier et al., 1991).

Women also fall prey to household violence. Previous researches have shown that relationship conflicts and interpersonal stress are major causes of relapse in women (Tjaden et al., 1998). On common grounds, a longitudinal comparative study between males and females of Brazil sought to explore the social and familial aspects and outcome of drinking alcohol. The sample of the study consisted of alcoholic men and women seeking treatment. As regards to women it was found that 55.6% of women reported having relationship problems and 61.1% reported domestic violence. Many women reported to have started drinking later in life within which many reported drinking with their husbands. Both genders of the study stood common in terms of response to treatment wherein its associated factors were alcohol dependence severity; follow up length and even religious practice (Simão et al., 2002).

The fear of stigma also persists in women who are heavy alcohol consumers. The fear of social stigma in women alcoholics might trigger them to not seek treatment for addictive behaviors (Gomberg, 1994). On common grounds, Potokuchi et al. (2010) conducted a study on rural women population of Telangana region of Andra Pradesh to assess the prevalence of problematic alcohol use. Results showed that 65% of the total population screened as alcohol consumers, out of which 4.1% of the population had alcohol dependence and problem drinking was persistent in 1% of the population. Out of all the found users of problematic alcohol use, none of them were seeking any active

treatments or ever visited a psychiatrist. There was also prevalence of pregnancy drinking found in 4.4% of the population. The patterns of drinking in these women were also identified. Most women had reported to have started at a young age. Many of them reported to indulge in solitary drinking at home. Beer and whiskey were often consumed as a social drink to honor guests. Women also reported to have reasoned drinking as a relief to aches and considered that it made them fresh, gave good sleep and prepared them for the next day. Daytime drinkers although negligible were also identified, but they showed no guilt about the same. Widowed women with substantial financial freedom were found to indulge in drinking local and non-local alcoholic beverages.

Underreporting of female alcohol use has stood common across the globe which includes even the western cultures (Finfgeld, 2002). There may be various contributors to the same inclusive of gender specific factors, sociocultural factors, economic and which can be even physician related. This stigma that is attached to alcoholism proves to be a major blockage for early screening of women drinkers, and is most probably responsible for under-diagnosis in women. Adding up the society's denial of the existence of problem, alcohol related consequences add up to the issue (Marcia, 1982). Studies from India have reported the problems in diagnosis and treatment and their subsequent failures when dealing with women alcoholism (Grover, 2005; Murthy et al., 2010).

1.2 Alcohol Use in India

The presence of the usage of alcohol in India has been facilitated since throughout its history by religious, mythological and medicinal means (Benegal, 2005). The prohibition of alcohol use has been encouraged in the Constitution of India but the legislation, excise

rates, production and sale policies are in the hands of States and are one of the sources of maximum revenue generation (Rahman, 2003). Various countries have sanctioned increased taxation on alcohol in order to reduce consumption, but this is not applicable to India where people have easy access to undocumented and illicit alcohol even in the remotest of the places where its production is done illegally and locally. Regulatory laws like hours of sale, sale to minors and even drunken driving are regularly violated (Benegal, 2005).

The prevalence rate of alcohol use has been significantly rising in the Indian setting. With the use of standardized questionnaires of Alcohol Use Disorders (AUD), studies have showed gradual increase with passing time. A 12 month prevalence of AUD as checked in 2010 was reported to be 2.6% wherein rate of alcohol dependence was found to be 2.1%. In 2012, the deaths attributed to accidents due to drunken driving were reported at a staggering 33.1% of the total accident related deaths. Moreover, the National Mental Health Survey of India done in the year 2015 to 2016 found an increased prevalence of AUD as compared to early years. The rate had increased to 9% that represented only amongst adult men. The cause of deaths throughout India as attributed to alcohol stood 5.4%. The physical ailment of liver cirrhosis through India attributed alcohol as a cause in 62.9% of the total cases (World Health Organization, 2018).

1.2.1 Alcohol Use in Sikkim

Benegal (2011) did a WHO epidemiological study that assessed the impact of alcohol misuse on health and socio-economic wellbeing of the users and their families and harms to persons in contact with users. It was found that the prevalence of alcohol

use in Sikkim was 43.2% and 39.5% in male and female respectively. It was reported in majority of the respondents, that infrequent high and frequent high as their typical drinking pattern. Moreover, substantial proportion of males (55%) and females (40.8%) had AUDIT score greater than 8 which put them in a hazardous drinking category.

The consumption of traditional alcoholic beverages has been an integral part of Sikkim's society with its staggering presence in dietary and cultural practices of its people. More than ten types of home brewed beverages like 'chang', 'raksi', 'jaar' etc which have no tested report of percentage wise alcohol present are used in Sikkim frequently. These traditional beverages have also been accepted culturally among the ethnic populations in these Himalayan regions where the use of these products is supported or even mandatory in some cases of social and traditional occasions (Tamang et al., 2007).

In a study done by Chakrabarti et al (2015) the most common local alcoholic beverage used in Sikkim was found to be 'chang' and 'hadia' which is a product of fermented rice.

1.2.2 Alcohol Use in Females of Sikkim

The use of alcohol in women has been reported as in accordance to national censuses of National Family Health Survey conducted by Ministry of Health and Family Welfare, India. It was reported in NFHS-2 (1998) that alcohol use was 17.1% in women of Sikkim in contrast to national average being 2.2%. NFHS-3 (2005–2006) reported alcohol use of 19.1% in women in contrast to the national average of 2.2%. NFHS-4 (2015-2016) reported 23% use in women when national average was reported 1.2%. The huge

difference in alcohol use in females of Sikkim in contrast to national average is abundantly clear. According to the most recent data of NFHS-5 (2019-2020) the use of alcohol stands at 16.2% in females. The total data of NFHS-5 has yet to be released, but phase 1 has finished completion with Sikkim making in the list of recorded data. The average alcohol use in India as accordance to the covered areas of phase 1 of NFHS-5 stood at 2.7%.

Figure 1.1: Bar distribution of average percentage of alcohol use in females as per the National Family Health Surveys:
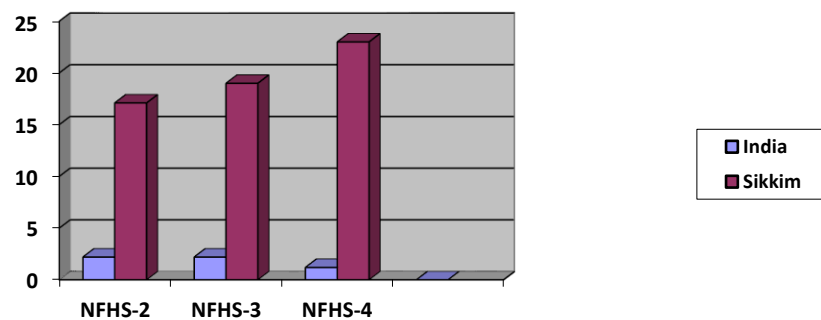
Figure 1.2: Bar distribution of average percentage of alcohol use in females as per National Family Health Survey-5.
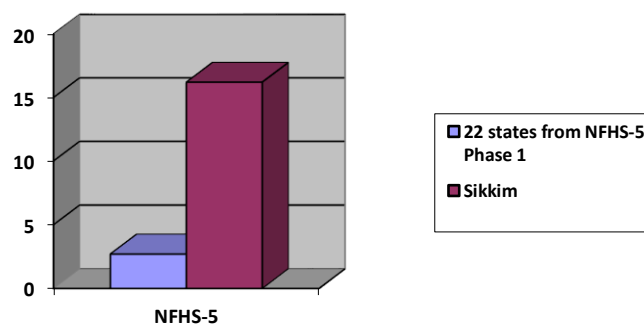
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The percentage of alcohol use in females of Sikkim has been higher as compared to national average through reports from national family health surveys as conducted by Ministry of Health and Family Welfare (NFHS-2, 1998; NFHS-3, 2005-2006; NFHS-4, 2019-20).

1.3 Family Defined

A family is a social institution where people come together to meet the emotional needs of its members and providing a sense of security and moral values (Bracik et al., 2012). It can be thought of as an institution which has a primary objective of regulating and maintaining a healthy environment for its members to nurture their overall well being which is inclusive of mental and physical health. The most important factor to affect an individual is that of their family setting. The elder members of the family have a major role in shaping the personality of the younger ones in the family. This can be facilitated by the bonds that exist between members that in turn can influence growth, freedom as well as initiative among its members (Bhatia & Chadha, 1993).

There are different family types with regard to the structure that exists within a family system. First there can be 'Two Generation families' which is mostly inclusive of nuclear family. A nuclear family is a very small family unit with only two generations of members present in the family system. It mostly includes the parent and their children. There are other forms of nuclear family as well i.e., nuclear pair (married couples without children), the broken nuclear family (a fragment of former nuclear family, e.g., widows with unmarried children living together) and supplemented nuclear family (nuclear family with one or more unmarried/separated/widowed relatives of the parents, apart

from other married children). There is also one-parent family which refers to those family units that consist of a single parent either divorced or unmarried, and their children (Sonawat, 2001).

Secondly, there can be 'Three Generation families' which is inclusive of three generations living together i.e., grandparents, parents and their children. There can also be types of other extended families like polygynous (one male who has many spouses) or polygamous (one man with many wives) setting. Mostly three generation families are referred to monogamous relationships (involving marriage to one person at a time). Joint family which comes under the envelope of Three Generation families can be inclusive of both patriarchal and matriarchal families. It usually consists of the grandparents, married sons and grandchildren. It can also sometimes include grandfather's or grandmother's siblings, nieces, grandnieces or some other kin. This is also one of the most common types of family systems in the world and is considered the most traditional form of family system across various countries. The head of such a family system is either a patriarch or matriarch who would control the finances, make decisions and take responsibility of family's welfare (Mullatti,1995).

1.3.1 Family Functioning

Family functioning can be defined as the degree of functioning of a family which would act as a unit to manage conditions, self-organize and adapt to changes, resolve conflicts and demonstrate clarity to establish norms and achieve compliance. Members of the family are expected to respect their set limits, rules, values and principles. All these factors are reported to protect the family system. Family function can also be explained

as the social and structural properties of the global family environment. A functional family is expected to meet the needs of its members. It has the ability to cope up with stress and problems of life. A poor functioning family on the other hand, occurs within families that have high levels of disorganization, conflict and poor behavioural and affective control (Azmoude et al., 2016).

Throughout literature family functioning has been classified into a healthy functional family and an unhealthy, non-functional family (Epstein, Baldwin, & Bishop, 1983; Chan, 2002). It is easier for functional families to adapt and incorporate developmental changes and also cope with stress. These families can pull themselves together in times of crisis. The members of the family function well in normal conditions and there are fewer problems in the family (Chan, 2002). The families in time of crisis rely on proximity and loyalty among the family members, use different ways to cope with problems, ensure direct communication with each other, have an order in the family and also ensure the decision making processes to be clear. All these act as a protective function against dire situations (Fisher & Weihs, 2000). Dysfunctional families on the other hand are likely to have more conflicts (Kuchmaeva et al., 2009) and their interpersonal relationships are based on fear and hatred (Horwitz, 2005).

1.3.2 Dysfunctional Family and Alcohol Use

A family is a social institution where people come together to meet the emotional needs of its members and providing a sense of security and moral values. A functional or dysfunctional family plays a huge role in rearing of children. A dysfunctional setting

might result in development of psychiatric conditions (Bracik et al., 2012). In many cases, dysfunctionality can also result into alcoholism (Mattoo et al., 2013).

Many studies have been done in the past comparing alcoholic and normal families; where families of alcoholics were found to be more troubled and dysfunctional. The interactions in such family are characterized by negativity, conflict, competitiveness, decreased levels of cohesion and expressiveness and even deficits in problem-solving capabilities. Families with alcoholic members perceived their environment as less cohesive and expressive and report higher levels of conflict as compared to normal families. Family with alcoholic parents also report poor organization as compared to normal families (Rotunda et al., 1995).

1.4 Emotion Regulation

Emotion regulation can be considered as one's effortful ability to control felt and displayed emotions through various processes. People are well equipped to control various aspects of emotional processing inclusive of how emotion directs attention (Rothermund et al., 2008), the cognitive appraisals shaping emotional experiences (Gross, 1998) and also the physiological consequences of the emotions (Porges, 2007). Berking et al (2010) devised the Adaptive Coping with Emotions Model (ACE) of emotional regulation. According to this model, emotional regulation could be conceptualized as an adaptive ability to be aware of emotions, identify and label emotions, correctly interpret emotion-related body sensations, understand the prompting of emotional display, actively modify negative emotions to feel better, accept negative emotions according to necessity, tolerate unchangeable negative emotions and confront

or avoid distressing situations as per the requirement of the situation in order to attain goals and compassionately support oneself in times of distressing emotions. Studies have shown that ACE model have been significantly associated with various indicators of mental health issues, especially in clinical population (Berking et al., 2011).

An emotion regulation process involves changes in emotional responding. The changes occur in the kind of emotions people have, how they experience those emotions and also how they express it (Gross, 1999).

1.4.1 Difficulties in Emotion Regulation

Gratz and Roemer (2004) have conceptualized the difficulties in emotion regulation as a tendency to have absence of abilities to regulate emotions across various situations. It can also be referred to as emotion dysregulation. It is inclusive of the lack of capability for awareness and understanding of emotions, acceptance of emotions, ability to control impulsive behaviors and act in accordance to desired goals when experiencing negative emotions and ability to use situation appropriate emotion regulation strategies which are flexible enough to modulate emotional responses in order to achieve individual goals and situational demands. 'Difficulties in emotion regulation' has also been associated with higher tendency of problematic alcohol use (Dvorak et al., 2014).

People may sometimes fail in the process of emotional regulation thus manifesting the very emotions they seek to avoid (Wegner et al., 1993). In some cases of failure to regulate emotions people may also end up displaying emotions that want to avoid even if they try to the best of their abilities to control them. Such instances can put a severe strain on people's psychological functioning. Moreover, chronic deficits in emotion regulation

can even lead to many forms of psychopathology (Bradley, 2000; Kring & Werner, 2004).

1.4.2 Difficulties in Emotion Regulation and Alcohol Use

A number of theories contend to emotion regulation and problematic alcohol use like affective processing model (Baker et al., 2004), the motivational model of alcohol use (Cox & Klinger, 1988; Cooper et al., 1995) and tension reduction hypothesis (Conger, 1956).

A relapse prevention model by Marlatt &Witkiewitz (2005) suggests that relapse is likely to occur in high risk situations where emotion regulation falters, thus making it difficult for individuals to cope up. Some evidence suggests that alcohol in some cases may reduce negative affect in individuals which might act as reinforcement for regular usage (Armeli et al, 2003). Maladaptive use often causes people to enter a vicious cycle of addiction thus leading to chronic alcohol use (Witkiewitz & Villarroel, 2009).

1.5 Depression Defined

Clinical depression or major depressive disorder commonly known as depression is a serious mood disorder which is relatively common among the population of the world. The severity of the symptoms of depression impacts how people feel, think, handle their day to day activities like sleeping, eating or even work. To be diagnosed one has to have the symptoms for at least two weeks (National Institute of Mental Health, 2014).

The signs and symptoms of depression can vary in a spectrum of mild to severe. It can be inclusive of feeling sad or having depressed mood, loss of interest or pleasure in

activities, changes in appetite which can either be weight loss or gain, loss of sleep or too much sleeping, increased fatigue, feeling worthless or guilt, difficulty in thinking or concentrating, slowed movements and speech and lastly thoughts of death or suicide. For a person to get diagnosed with depression the symptoms must be lasting at least two weeks and must bring change in one's previous level of functioning (American Psychiatric Association; 2013).

Various medical conditions like thyroid, brain tumors, vitamin deficiency etc can bring out similar symptoms like depression. So it is essential to differentiate with other medical conditions. Depression is also to be differentiated from sadness, grief or bereavement. Being sad has to be efficiently differentiated from depression. Grief is usually triggered by life events like death of a loved one, loss of job or ending of relationships. In grief, painful feelings may be intermixed with positive memories with the deceased whereas, in depression there may be intense sadness and withdrawal from activities for more than two weeks. In grief, self esteem is usually maintained but in case of depression there is a constant feeling of worthlessness and self-loathing. In the case of 'grief' thoughts of death may arise when fantasizing of joining the deceased loved one. In depression on the other hand, thoughts of death or suicide are solely focused on ending one's life due to feeling of worthlessness, or feeling undeserved of living or simply to escape the coping with depression (American Psychiatric Association; 2020).

1.5.1 Depression and Alcohol Use

In alcohol dependent people, depression has been reported to lower the resolve to resist alcohol use. It has also been seen that, alcohol has been used so as to relieve the

depressive symptoms. Alcohol use is perceived to reduce the symptoms of depression of the user for a brief amount of time. This may trigger the person to frequently seek an intoxicated state so as to not feel depressed in the process. The tendency of such people to use alcohol so to cope up with depressive symptoms puts a great importance of understanding the significance of depression and alcohol use disorder existing together, since this has the potential to explain many cases of relapse even after treatment (Hasin et al, 2002).

Studies have also found evidence that alcohol use disorders have been significantly associated with major depression even when controlling for confounding factors (Kendler et al; 1993). Studies have also shown alcohol use disorders and major depression to have moderate association and there exists a double risk of having either or both the problems (Angold et al., 1999).

1.5.2. Depression and Family Functioning

Depression has also been found to be correlated to family functioning in many studies in the past. Extensive research has reported a strong relationship between poor family functioning and the prevalence of depression among the general population (Beach, Sandeen, & O'Leary, 1990; Keitner & Miller, 1990; Keitner, Ryan, & Miller, 1995).

Sarmiento et al (2009) has also found a strong correlation of family functioning and depression in women where acculturative stress has seen to moderate this relationship in a study done in Latino couples. Shao et al (2020) did a study on Chinese medical students to find the prevalence of anxiety and depression symptoms with association to family

function, social support and coping styles. It was found in the study that depression and anxiety symptoms had highly significant correlations with family functioning, social support and coping style.

1.5.3 Depression and Difficulties in Emotion Regulation

Many studies in the past have reported that ineffective emotion regulation strategies are a critical component in the development and maintenance of depression and anxiety (Barlow et al, 2004; Campbell- Sills et al, 2006; Kashdan et al, 2006).

Sumida (2010) did a study to investigate the relationship between emotion regulation problem and clinical depression. It was found in the study that irrespective of person's gender, emotion regulation problems have been significantly correlated to severity of depression and its symptoms. Compare (2014) did a study to explore the relationship between emotion regulation and depression. It was found that dysfunctional emotional regulation strategies have a significant role in the initiation of depression and other physical illness.

CHAPTER II

REVIEW OF RELATED LITERATURE

2.1 Researches on Family Functioning and Severity of Alcohol Use

In cases where women have alcoholic partners, it may be difficult for them to stay abstinent and have chances of relapsing. Such women also fear abstinence could hamper their relationship with their alcoholic partners (Gomberg, 1993). Family can play a significant role in cases of women who would want to seek treatment for problems with alcohol use. In these cases, alcohol abuse by the husband or other family members and apart from that even social support towards seeking treatment can play a huge role. Studies have shown that women receive less family support and encouragement to seek treatment or even remain in treatment (Hennicke & Fox, 1988).

Researches about finding gender differences in adult alcohol use have been done in the past wherein family situations and past experiences have shown to have a major role. Galaif et al. (2001) sought to find the difference in gender in relation to the prediction of problem alcohol use in adulthood by exploring the influence of family factors and childhood maltreatment. Data was gathered in three waves across long time gaps in points of time 1 where participants were 18-20 years during adolescence, time 2 where participants were 24-26 years during young adulthood, and time 3 where participants were 32-34 years during adulthood. Complete data could be gathered from a total of 426 participants where 305 of them were women. The measures used in this study were concerning firstly family support/bonding; secondly, alcohol use; third, parental divorce; fourth, parent-drug use problems; fifth, childhood maltreatment and sexual abuse and

lastly; problem alcohol use. The results indicated that sexual abuse in childhood increased the risk of alcohol use in both men and women. Alcohol use during adolescence also increased the risk for problem alcohol use in adulthood. Greater family support/boding during adolescence acted as a protective factor from problem alcohol use during adulthood. Family support/bonding was also negatively associated with childhood maltreatment and parental divorce. For women, adult alcohol use was negatively related to family support/bonding and was positively associated with alcohol use in adolescence and sexual abuse in childhood. Family support/bonding predicted fewer alcohol related problems in both men and women.

It has been seen in many research papers that disturbance in family functioning have associated with alcohol use by family members. A study by Johnson (2002) sought to assess the effects of dimensions of family functioning with regard to alcoholic families. The participants included a total of 173 college students who belonged to alcoholic families. They were made to fill the measure of family functioning in terms of *The Self-Report Family Inventory Version II*); demographic questions and questions related to experiences in their families of origin. The results indicated that verbal, physical, and sexual abuse of children and verbal and physical violence among parents had a deleterious impact on ACOAs' (Adult Children of Alcoholics) perception of functioning in their families of origin. It was seen that child abuse in alcoholic families lowered overall family health/competence, cohesion, and expressiveness, and also an increase in conflicts. Similarly, reported spousal violence also reduces overall family health/competence and also increases conflicts. Dimensions of functioning which are

already more problematic in alcoholics as compared to non-alcoholics were degraded more with instances of child and spousal abuse.

Studies have also shown that family functioning can be severely impacted when having alcoholic parents whose effect can carry over to their children. On similar grounds, a study by Johnson et al (2009) sought to investigate the impact of parental alcoholism and various indices of family functioning on differentiation level of young adults. The participants included a total of 831 college students who completed measures of Differentiation of Self Inventory (DSI), the Self-Report Family Inventory Version II (SFI), and questions related to experiences in their families of origin. It was found that parental alcoholism affected differentiation levels across all subscales of DSI i.e., Emotional Reactivity, I Position, Emotional Cutoff, and Fusion with others. Adult Children of Alcoholics (ACOAs) were found to be more emotionally reactive and had a lower level of I-Position than non-ACOAs. ACOAs also were more emotionally cutoff and experienced lower levels of fusion than non-ACOAs. Family conflict was found to have an adverse effect on levels of differentiation levels of ACOAs prediction lower levels of I Position and increased levels of emotional cutoff.

Schäfer (2011) did a qualitative study to understand the connection between disrupted family relationships and alcohol and other drug addiction. In-depth interviews were undertaken with 12 participants, among which 3 were females; who were residents and ex-residents of a rehabilitation facility. It was found that disruption in family functioning was a major problem in instances of alcohol use in the family. The majority of the participants have reported traumatic events in their families of origin which have contributed to a developing course of alcoholism and other addictive behaviors. Family

disruptions like loss of custody of children, loss of employment, marital breakdowns, physical and psychological abuse, depression, and degrading health have been reported as very common. In many extreme cases, accidents and even instances of crimes have been reported due to alcohol and other addictive tendencies.

Researches in adolescents inclusive of both males and females have also shown the impact of dysfunctional family on alcohol usage. A study by Zurita et al (2015) confirmed the same which aimed to analyze the level of alcohol and snuff usage in adolescents in a relationship with family and academic parameters. A total of 2,134 adolescents were subjected to filling: Snuff Consumption variables using Fagerstrom Test for Nicotine Dependence (FTND); Drinking using Alcohol Use Disorders Identification Test (AUDIT); and other measures using Family function Scale (APGAR), Academic Level of Students and Parents. The study's main finding was that adolescents with severe family disorders showed values of higher dependence on patent snuff usage and also heavy drinking and having higher rates of repetition. Similarly, Ohannessian et al (2016) conducted a longitudinal study to examine the relationship between family functioning and adolescent alcohol use and also to examine whether depressed mood acted as a mediator. They also sought to explore the role of gender in this moderation of relations. The samples included a total of 1,031 high school students from the Mid-Atlantic United States. The participants were made to fill measures across three years with a significant time gap; data were collected during the spring of 2007, 2008, and 2009. The measures used were: The Parent-Adolescent Communication Scale Center for Epidemiological Studies Depression Scale for Children (CES-DC) and for Alcohol Use participants were simply asked to report how much "on the average day" they drank in last six months. On

subjecting data to path analysis it was found that family functioning predicted alcohol use for girls wherein depressed mood was found to mediate the relationship. For boys, no paths were found to be significant between family functioning and adolescent alcohol use but similar to girls, depressed mood predicted alcohol use. The study suggests that intervention programs designed to target adolescents should be made considering gender-specific directions.

Researchers have also shown how the onset of alcohol use can be brought forth due to disturbance in family functioning. Molero et al (2019) conducted a study to explore the relationship between emotional intelligence, resilience, and family functioning in adolescent use of alcohol and tobacco. Focused on also finding emotional profiles concerning self-concept, a sample made of 317 high school students aged 13 to 18, were made to fill out the APGAR Scale, Brief Emotional Intelligence Inventory, the Resilience Scale for Adolescents, the Alcohol Expectancy Questionnaire–Adolescents, and the Five-Factor Self-Concept Questionnaire. The results of the study established that family cohesion and stress management were found to be significant in the group of non-users, the alcohol/tobacco non-users had significantly higher scores in both stress management and family cohesion. Family functioning was also found to act as a predictor for the onset of use of tobacco wherein higher scores of family functioning were observed in tobacco non users to tobacco users. It was also found that positive expectancies about drinking alcohol could be a risk factor and the intrapersonal factors as a protective one. The study in a nutshell proved that the use of alcohol and tobacco depends on emotional intelligence, resilience, and family functioning, each of which acts as either a protective or risk factor, depending on the circumstances.

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McCrady and Flanagan (2021) have highlighted in their paper the importance of family functioning when dealing with Alcohol Use Disorders. It has been reported that family members can help the alcoholic members of their family in the recovery process by providing active support. Several couple and family-involved treatments have been justified in the paper which can support the alcoholic member of the family in the recovery process. Treatments have been based on Family Systems theory and cognitive-behavioral approaches which can be directed at either the concerned family member alone or can involve couples or even family as a unit of treatment. Family Systems theory can back the idea of how family functioning would impact the use of alcohol and other addictive substances and vice versa. Family systems theory assumes actions of individual family members affect all other members of the family, and that families have typical and repetitive ways of interacting that maintain such dysfunctional behavior patterns of the family as a whole and also of individuals within the family. In using the theory as a base for intervening therapy against alcohol or drug use, the focus is kept on changing the structure and functioning of the family, in order to change dysfunctional behaviors. Brief strategic family therapy (BSFT), Multidimensional family therapy (MDFT), and Multisystemic therapy (MST) are a few therapies that incorporate the family systems theory. Cognitive behaviourial approaches include Psychoeducation, Alcohol Behavioral Couple Therapy (ABCT), Behavioral Couples Therapy (BCT), etc.

2.2 Researches on Difficulties in Emotion Regulation and Severity of Alcohol Use

Fischer et al (2006) did a study to test the association between problems in parent-youth relationships and problems with alcohol use among college students. The study sought to find the relationship between parental drinking and parenting factors like

parental intrusive control and lack of support with college student drinking behaviour that would be mediated by developmental tasks of managing difficult emotions and establishing a mature psychosocial identity. The study was done on 1592 college students among which 66% were women. The measures used were Children's Alcohol Screening Test CAST-6, Parental Psychological Control scale, Inventory of Parent and Peer Attachment (IPPA) , Iowa Managing Emotions Inventory, Ego Identity Process Questionnaire, Psychosocial Inventory of Ego Strengths–Short Form, for alcohol use questions related to binge drinking, frequency of usage, alcohol consumption per week and alcohol-related problems were asked along with Alcohol Use Problems scale. It was found in the study that utilizing partial mediation that both alcohol-related and non-alcohol-related specific factors were associated with alcohol problems in young women. Psychosocial maturity was found to play a central role in the prediction of alcohol use problems in women who had not gained a strong sense of psychosocial maturity and sought comfort in the use of alcohol. It was seen in young women that the failure to regulate emotions leads to drinking in order to self-medicate and postponement of psychosocial maturity.

Berking et al (2011) conducted a study to investigate whether emotion regulation skills were associated with alcohol dependence (AD) and also, whether these emotion regulation skills predicted alcohol use during and after treatment. The sample included a total of 116 participants treated for AD with cognitive behavioural therapy. The measures used for data collection were: German version of Emotion-Regulation Skills Questionnaire (ESRQ), Severity of AD was assessed using Severity Scales of Alcohol Dependence (SESA), and alcohol use during treatment was assessed using a breath-

analyzer machine, and urine toxicology screens. There were various confounding variables measured by the researcher as well using the measures: Raven's Standard Progressive Matrices (SPM), Verbaler Lern- and Merkfähigkeitstest (VLMT), MehrfachWortschatz-Intelligenztest (MWT) and the Positive and Negative Affect Schedules (PANAS-NA). The findings of the study stated that pre-treatment emotion regulation skills were predictive of alcohol use during treatment. Post-treatment emotion regulation skills have been seen to predict alcohol use at follow-up, on controlling other predictors that could impact emotion regulation. It was found that ability to tolerate negative emotions negatively predicted subsequent alcohol consumption when controlling for other skills in emotion regulation. It was also found that people in the alcohol-dependent sample had significantly more deficits in emotion regulation skills than the non-clinical control sample, but at the same time, they were less than people who fulfilled the criteria for Major Depressive Disorder. The study established that impairment in emotion regulation would have poor results in recovery among patients with problematic alcohol use.

Dvorak et al (2014) conducted a study to examine the association between six facets of emotion regulation difficulties and problematic alcohol use. The participants were all college students with a combined strength of 1758, who were made to fill online questionnaires assessing demographics, alcohol use problems, and difficulties in emotion regulation. The measures used were Modified Daily Drinking Questionnaire (DDQ-M), Young Adult Alcohol Consequences Questionnaire (YAACQ), and Difficulties in Emotion Regulation Scale (DERS). It was found that emotion-regulation difficulties were broadly associated with alcohol-related consequences. Impulse control difficulties were

found to have a positive relationship with the number of drinks consumed per week among those who were active drinkers. Non-acceptance of emotional responses, lack of emotional clarity, and difficulties engaging in goal-directed behavior were all positively associated with the number of consequences endorsed. Difficulties in goal-directed behavior were also positively associated with the likelihood of experiencing alcohol-related consequences.

Messman et al (2014) did a study to examine the nature of emotion dysregulation as a predictor of coping drinking motives, alcohol consumption, and alcohol-related problems in college women. The sample consisted of a total of 424 college women who were subjected to measures of The Difficulties in Emotion Regulation Scale (DERS), Drinking Motives Questionnaire-Revised (DMQ-R) and for alcohol use, participants were asked age of the first onset of drinking, the highest number of drinks consumed in last 30 days, number of times they consumed 4 or more number of drinks in the last month, together with 3 items taken from Alcohol Use Disorders Identification Test (AUDIT). It was found that coping drinking motives predicted heavy drinking and also negative alcohol-related consequences. It was also found that emotion dysregulation predicted coping drinking motives and had an indirect association with heavy alcohol use and negative alcohol-related consequences via the impact of coping drinking motives. Difficulties in attaining goals and impulse control difficulties were found to have a direct association with alcohol-related problems at a bivariate level. These associations were accounted for by coping drinking motives.

Petit et al (2016) conducted a qualitative study to investigate using Gross' 5 emotion regulation strategies: Situation selection, Situation modification, Attentional Deployment,

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Cognitive change, and Response modulation. The study also sought to examine the influence of protracted abstinence and detoxification on emotion dysregulation; and also the association between the level of craving and the types of regulation strategies. The participants of the study consisted of 44 treatment-seeking Alcohol Dependent (AD) patients with varying time lengths spent at rehabilitation centres; and 26 healthy controls. Data was collected using Emotion Regulation interview adapted for alcohol dependence. It was found that in comparison to controls, AD patients reported greater use of response modulation and attentional deployment, but lesser use of cognitive change. In patients, the duration of rehabilitation was positively correlated with the use of cognitive change. Also, the use of response modulation is positively associated with the level of craving. Abstinence was found to be associated with adaptive emotion regulation patterns. The deficit in regulation strategies would lead to craving and maintenance of alcohol use. The study stated that impairment in emotion regulation has been a major motive for alcohol consumption together with emotional disturbance in patients with problematic alcohol use.

Estévez et al (2017) conducted a study to examine the relationship of emotion regulation and attachment with substance (alcohol and drug use) and non-substance-related addictions (gambling disorder, video game addiction, and problematic Internet Use) in adolescents and emerging adults. The study also sought to find gender differences for such predictors. The sample included a total of 472 students with ages between 13 and 21 years recruited from vocational education centers and schools. The measures used in the study comprised Spanish translated versions of The Difficulties in Emotion Regulation Scale (DERS) for Emotional Regulation; The Inventory of Parent and Peer

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Attachment (IIPA) for Attachment; The Multicage (CAD-4) for Substance addiction; The Internet-related Experience Questionnaire for Problematic Internet use; The Video Game-related Experience Questionnaire for Video game addiction; and The South Oaks Gambling Screen for Adolescents (SOGR-RA) for Gambling disorders. It was found in the study that emotion regulation was predictive of all addictive behaviours of the study i.e., alcohol and drug abuse, gambling disorder, video game addiction, and problematic Internet use. Attachment was also found to be predictive of non-substance-related addictions i.e., gambling disorder, video game addiction, and problematic Internet use. Gender differences were reported to be significant. Females scored significantly higher in maternal and peer attachment whereas males on the other hand scored higher in gambling disorder and video game addiction.

Jakubczyk et al (2018) conducted a study to assess the association between emotion regulation and different facets of impulsivity. The sample included a total of 273 participants wherein 180 of them had alcohol use disorder undergoing inpatient alcohol treatment and the rest 93 of them were healthy controls. The measures used in the study were: Schutte Self-Report Emotional Intelligence Test subscale for emotion regulation and Barratt's Impulsiveness Scale (BIS-11) for Impulsivity. Statistical models assessed the Impulsivity scores with three secondary factors i.e., non-planning, attentional, and motor impulsivity. It was found in the study that people with alcohol use disorder symptoms were characterized by poor levels of emotion regulation and higher levels of impulsivity in the studied domains. The model of path analysis further indicated that on accounting for demographic factors of biological sex, age, and education that there was an indirect effect of alcohol use disorder on non-planning and attentional impulsivity via

emotion regulation. The study established that emotion regulation has been effectively related to high impulsivity and problematic alcohol use.

Hitch (2019) did a study to examine the association between history of abuse, emotion dysregulation, and negative alcohol-related outcome among young women of African American ethnicity. The study had a total of 560 participants aged between 18 to 24 years. History of abuse was assessed by using a measure of emotional, physical, and sexual abuse; problematic alcohol use was assessed using Alcohol Use Disorder Identification Test (AUDIT); heavy alcohol consumption was assessed using Alcohol Use Disorder Identification Test-Concise (AUDIT-C); emotion dysregulation was assessed using the Shedler-Westen Assessment Procedure (SWAP-200) and Emotional Dysregulation scale. The results of the study showed that history of abuse was positively related to the severity of problematic alcohol use, heavy alcohol consumption, and emotional dysregulation severity. Emotion dysregulation was found to have a positive association with the severity of greater problematic alcohol use and heavy alcohol consumption. Emotion dysregulation was also found to mediate the relation between a history of abuse and also in case of problematic alcohol use and heavy alcohol consumption. Emotion dysregulation was also found to have positively associated with frequency of alcohol use, amount of alcohol consumed, and binge drinking.

2.3 Researches on Depression and Severity of Alcohol Use

Weiss et al (1992) have also provided support for the same where he found in their study that 63% of participants (whether diagnosed as depressed or not) claimed to use a drug of their choice to reduce depressive symptoms. 73% of the women participants had

reported motivation towards using the drug of their choice for self-medication to counter depressed mood.

Self-medication thus conceptualizes alcohol abuse (and the abuse of other substances) as a responsive reaction to negative personal states which can be inclusive of unpleasant or painful physical or psychological states. Individuals suffering from diagnosable negative affect states like anxiety or depression are likely to indulge in drinking to mentally escape, even though for a limited time to dull the pain (Robinson, 2007). It has also been seen in studies that individuals who drink alcohol have a motive of self-medicating themselves to reduce emotional stress (Grant et al., 2009).

Boden and Fergussion (2011) on evaluating the literature to associate alcohol use disorder and major depression have found that the presence of either of the disorder doubled the risk of having the other. On establishing a causal linkage, they reported that increased involvement with alcohol use increased the risk of developing depression. Moreover, both alcohol use disorder and depression had a causal impact on one another and their course of development.

Kuria et al (2011) in their study sought to explore how the presence of depression influenced the treatment process and outcomes. Using pre-/post test design CIDI (Composite International Diagnostic Interview) and WHO-ASSIST (Alcohol Smoking Substance Use Identification Screening Test) were used as measures. It was found that the prevalence of depression among alcohol-dependent participants was 63.8% with a significant association between depression and alcohol use. In the case of post-test, participants with depression had a significant craving for alcohol.

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Schnetzer et al (2013) examined the association between alcohol use, depression, and perceived life meaning amongst college students inclusive of both males and females. The sample included a total of 267 students wherein 75.7% of them were females. The measures used for this study included Purpose in Life Test – Short Form (PIL-SF), Center for Epidemiological Studies – Depression (CES-D) scale, and Alcohol Use Disorders Identification Test (AUDIT). The results of the study found that there was a significant inverse relationship between perceived meaning and alcohol use. Although there was no significant association found between depression and alcohol use; regression models on the same found that both perceived meaning and depression were significant in the prediction of alcohol use.

Depression has also been found to play mediating role in case of alcohol dependence. Lechner et al (2014) sought to find the mediating role of depression and problematic coping in the relationship between Anxiety Sensitivity and Alcohol Dependence. The measures used were Structured Clinical Interview for the Diagnostic and Statistical Manual of Mental Disorders-IV (SCID-IV), The Anxiety Sensitivity Index (ASI), Center for Epidemiological Studies Depression Scale (CES-D), and The Ways of Coping Checklist (WCCL). Upon mediation analysis using bootstrapping, it was found that the effect of anxiety sensitivity on alcohol dependence was mediated by symptoms of depression. A dual mediator model also reported that both depression and problematic coping uniquely mediated the relationship between anxiety sensitivity and alcohol dependence.

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2.4 Gap in literature

On review of the current state of literature, it was found that there is a relationship between alcohol use, family functioning, emotion dysregulation, and depression. Although fewer studies were found where depression has acted as a mediator between alcohol use and other independent variables, many studies showed the predicting power of depression in cases of heavier alcohol use. The reviewed studies have found a significant relationship between the family functioning of an individual to their respective alcohol use. Mixed studies were found on reviewing related topics but specific studies related to young adult women have been still a rarity. Most studies done on women have been done on treatment-seeking individuals. Fewer studies have been done on normal individuals who haven't been into mental health issues or are at least undiagnosed to date.

Specific studies on women's alcohol use as related to family functioning, emotion regulation, and depression have also not been done to date on Sikkim's generic population. The studies already published have not focused on undiagnosed female drinkers who consist of the majority of the general population. Although previous data gathered through various surveys have shown a higher number of women drinkers, isolated studies that examine the psychosocial factors of women drinkers have not been studied to date.

CHAPTER III

THE PRESENT STUDY

3.1 Rationale of the study

Research has reported that dysfunctionality in the family can result in alcoholism (Mattoo et al, 2013). Many studies have been done in the past comparing alcoholic and normal families where families of alcoholics were found to be more troubled and dysfunctional (Rotunda et al., 1995). Several theories contend to emotion regulation and problematic alcohol use including the motivational model of alcohol use (Cooper et al., 1995) and the tension reduction hypothesis (Conger, 1956). Some pieces of evidence suggest that alcohol in some cases may reduce negative affect in individuals which might act as reinforcement for regular usage (Armeli et al., 2003). Self-medication theory conceptualizes alcohol abuse (and the abuse of other substances) as a responsive reaction to negative physical or psychological states (Robinson, 2007). Thus, the current study with its incorporation of Family functioning, Difficulty in emotion regulation, and Depression with Severity of alcohol use can provide explorative understanding. National surveys done in the past have shown that the population of women in Sikkim who use alcohol has stood higher than the national average of alcohol consumption (NFHS-2, NFHS-3, NFHS-4). A recent National Family Health Survey has also shown that in contrast to the average of 22 states covered in Phase 1 of the survey, the percentage of alcohol use in women is higher (NFHS-5). WHO Epidemiological study conducted in Sikkim has also reported the high rate of alcohol use prevalence in the female population of Sikkim (Benegal, 2011). The absence of literature based on female alcohol use

demands an urgent need to explore this issue in Sikkim, This study can thus provide valuable literature for the same.

The importance of studying family functioning in relation to alcohol use can also be justified due to its role in recovery and relapse prevention (Gomberg, 1993; McCrady & Flanagan, 2021). Studies have shown the significant predictive capability of Difficulties in Emotion regulation towards alcohol use (Dvorak et al., 2014; Shirazi et al., 2015). Impairment in emotion regulation has also been found to be a major motive for alcohol consumption together accompanied by emotional disturbance in individuals with problematic alcohol use (Petit et al., 2016). Difficulties in emotion regulation thus can be an important predictor of alcohol use. Depression has also been found to play mediating role in case of alcohol dependence (Lechner et al., 2014). Alcohol use disorder and major depression have been found to have doubled the risk of having the other, where there is a causal impact on one another and their courses of development (Boden and Fergussion; 2011). The study will provide a predictive model to understand female alcohol use employing psychological factors (difficulties in emotion regulation) and social factors (family functioning) with a mediating effect of depression.

3.2 Objectives of the study

1. To explore if there is any relationship between the different domains of severity of alcohol use (i.e., hazardous alcohol use, dependence symptoms, and harmful alcohol use), family functioning, difficulties in emotion regulation, and depression in young adult females.

2. To determine whether family functioning and difficulties in emotion regulation with mediating effects of depression are predictors of different domains of severity of alcohol use (i.e., hazardous alcohol use, dependence symptoms, and harmful alcohol use) in young adult females.

3. To evaluate the main effect of selected demographic variables on different domains of severity of alcohol use (i.e., hazardous alcohol use, dependence symptoms, and harmful alcohol use) in young adult females.

3.3 Hypotheses of the study

❖ Hypothesis 1: A significant negative correlation would exist between family functioning and different domains of severity of alcohol use (i.e., hazardous alcohol use, dependence symptoms, and harmful alcohol use) in young adult females.

❖ Hypothesis 2: A significant positive correlation would exist between difficulties in emotion regulation and different domains of severity of alcohol use (i.e., hazardous alcohol use, dependence symptoms, and harmful alcohol use) in young adult females.

❖ Hypothesis 3: A significant positive correlation would exist between depression and different domains of severity of alcohol use (i.e., hazardous alcohol use, dependence symptoms, and harmful alcohol use) in young adult females.

❖ Hypothesis 4: A significant negative correlation would exist between depression and family functioning in young adult females.

❖ Hypothesis 5: A significant positive correlation would exist between depression and difficulties in emotion regulation in young adult females.

❖ Hypothesis 6: Family functioning and difficulties in emotion regulation would contribute significantly in predicting the different domains of severity of alcohol use (i.e., hazardous alcohol use, dependence symptoms, and harmful alcohol use) with depression acting as a mediator in young adult females.

❖ Hypothesis 7: Selected socio-demographic variable would contribute significantly in predicting the different domains of severity of alcohol use (i.e., hazardous alcohol use, dependence symptoms, and harmful alcohol use) in young adult females.

3.4 Operational Definitions

- *Young Adult female:* In accordance with the current study, young adult females are those that fall under Erikson's 6th stage of psychosocial development i.e., Intimacy v/s Isolation that incorporates the age group of 18-40 years of age (McLeod, 2018).

- *Severity of alcohol use:* It can be defined as the level of risk related to alcohol use that can vary amongst individuals which can be represented as in accordance to AUDIT and its domains of Hazardous Alcohol Drinking, Harmful Alcohol Use, and Alcohol Dependence (Babor et al., 2001).

- *Hazardous Alcohol Drinking:* It is a pattern of consuming alcohol that risks harmful consequences for the user and also other associated people. These kinds of drinking patterns are problematic socially and health-wise even though they might not be grabbed under pathological Alcohol Use Disorder (Babor et al., 1994).

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- *Harmful Use of Alcohol:* It refers to the consumption of alcohol that leads to the degradation of physical and mental health. It is also inclusive of the social consequences of drinking (Babor et al., 1994; WHO, 1993).

- *Alcohol Dependence*: It can be defined as a cluster of behavioral, psychological, and cognitive phenomena that is developed over time due to excessive alcohol use. This is inclusive of a strong desire to consume alcohol, impaired control over its use, persistent drinking regardless of harmful consequences, prioritizing drinking over other activities, increased alcohol tolerance, and physical withdrawal on discontinuing alcohol use (WHO, 1993).

- *Family Functioning:* It can be defined as the process of nurturance of members in a family setting which promotes emotional and physical growth and maturation of all members. It demonstrates the integrity of the components of Adaptability, Partnership, Growth, Affection, and Resolve (Smilkstein, 1978).

- *Difficulties in Emotion Regulation:* Difficulties in emotion regulation which is also known as emotion dysregulation is defined as patterns of emotional experience or expression that interfere with goal-directed activity (Thompson, 2019).

- *Depression:* Depression can be defined as being depressed and irritable mood most of the day and nearly every day with symptoms of significant weight loss or gain, insomnia or hypersomnia, fatigue, feelings of excessive inappropriate guilt and worthlessness, and diminished ability to concentrate (National institute of mental health, 2016).

CHAPTER IV

METHODOLOGY

This chapter puts forth the method of research adopted and the procedure followed in doing the current study. It discusses the sampling design incorporated, the sample collected, measures used in the study, and the statistical design employed for analysis and interpretation of data.

4.1 Method adopted

The study was based on a quantitative design with the use of one dependent variable i.e. severity of alcohol use with its domains of hazardous alcohol use, dependence symptoms, and harmful alcohol use; and two independent variables i.e., family functioning and difficulties in emotion regulation. Lastly, a mediator variable i.e., depression was taken which is to mediate the relationship between the dependent and independent variables. For data collection, a survey method has been used wherein standardized questionnaires with good reliability and validity were taken. Data was collected through means of Google forms.

Table 4.1: Variables used in the study

Independent variable		Mediator Variable	Dependent Variable
Family functioning	Difficulties in emotion regulation	Depression	Severity of Alcohol use 1. Hazardous Alcohol Use 2. Dependence symptoms 3. Harmful alcohol use

4.2 Geographical Area

Data was collected from the East district of Sikkim, India before the new 'Pakyong district' was announced to become a new district in 2022. The East district of Sikkim occupied the southeast corner of the state which was spread across an area of 964 km². Gangtok was the district headquarters of the East district and also the capital of the state. It had an approximate population of 2.83 lakh (Government of Sikkim, 2021).

Data was collected from a variety of towns and villages located in the previous East district of Sikkim. Villages that were visited included Central Pendam, Kopchey, Mulukey, Pacheykhani, and Tarpin. The towns that were visited for data collection included Gangtok, Majitar, Rongli, Rorathang, Singtam, and Rangpo.

Fig 4.1: Location of the surveyed villages and towns in East Sikkim district
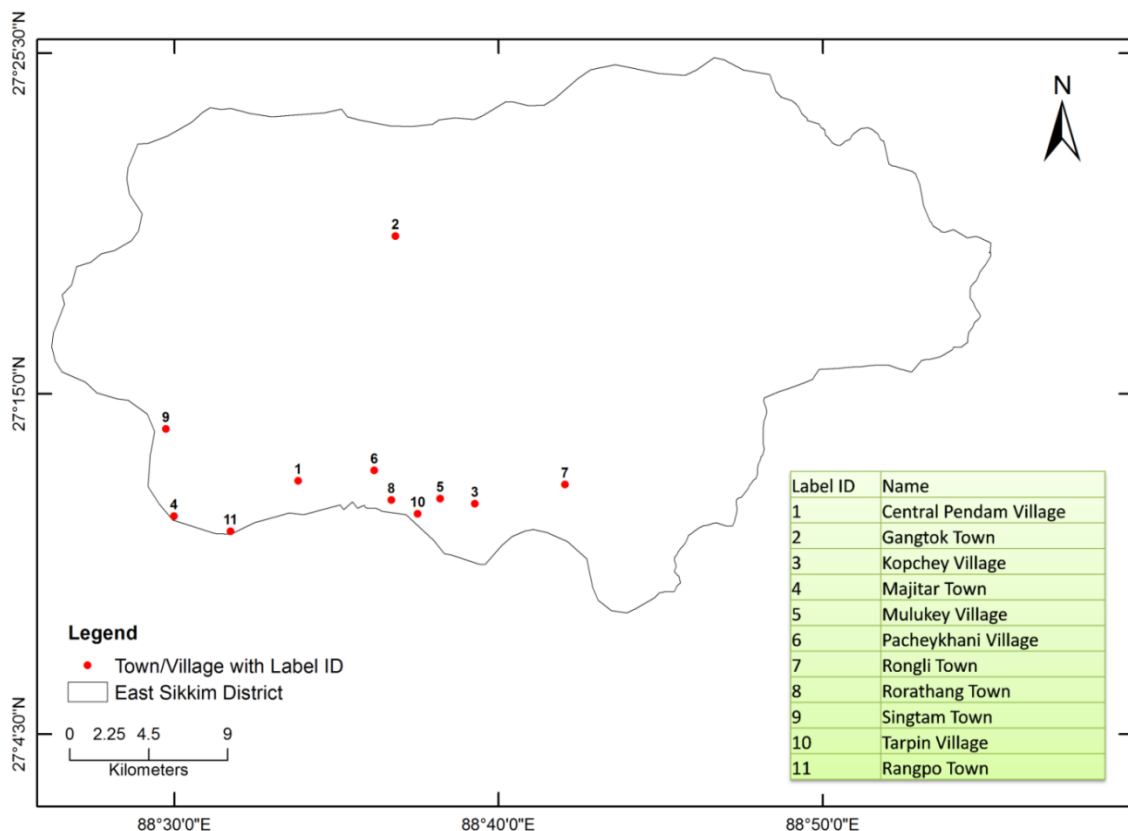
Label ID	Name
1	Central Pendam Village
2	Gangtok Town
3	Kopchey Village
4	Majitar Town
5	Mulukey Village
6	Pacheykhani Village
7	Rongli Town
8	Rorathang Town
9	Singtam Town
10	Tarpin Village
11	Rangpo Town

Legend
- Town/Village with Label ID
- East Sikkim District

4.3 Design used in the study

For the present study, descriptive survey method was used to find out the predicting relationship of family functioning and difficulties in emotion regulation towards severity of alcohol use and its domains with depression acting as a mediator variable.

4.4 Sample

The study consisted of 100 females who were 18-40 years of age who fall under Erikson's sixth stage of psychosocial development who are considered 'young adults' (McLeod, 2018). The mean age of the sample was 27.68 with a SD of 6.64. The participants were reached using convenience and snow-ball sampling and adequate care was taken to ensure that the respondents were willing to participate in the project and articulate enough to generate adequate data.

Sample Inclusion Criteria

1. Females who fall in the age range of 18-40 years.
2. Females who have indulged in use of alcohol multiple times, at least over the past year.
3. Females who are located within East Sikkim.
4. Females from urban and rural areas.
5. Females living with at least one family member.
6. Females possessing basic English reading ability.

Sample Exclusion Criteria

1. Females who are clinically diagnosed alcoholics.
2. Female who have previous case of diagnosed mental illness.

3. Females who have previous case of major physical illness.

4. Females under the influence of lifelong medication.

5. Females who are recovered alcoholics.

6. Females who are dependent on drugs like opiates, inhalants etc.

4.5 Distribution of the current sample

The different frequencies have been reported as in accordance to the socio demographic characteristics of Sample.

❖ *Age wise distribution*

Figure 4.2: Bar Chart distribution of Age of the sample
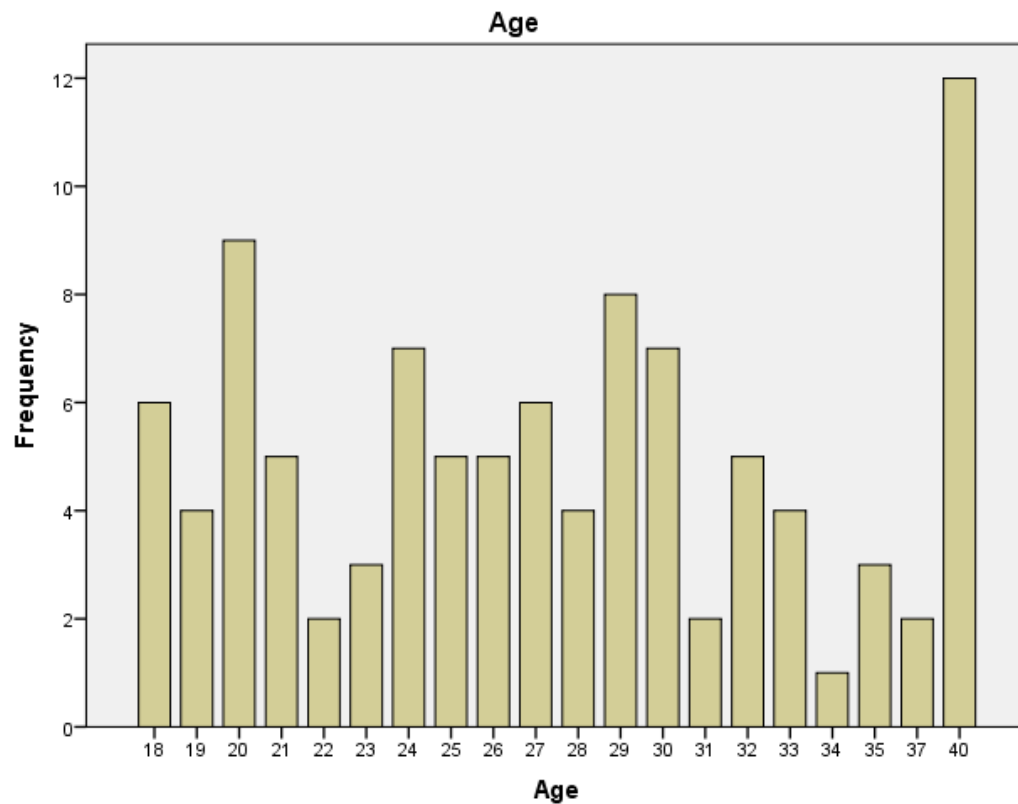
Psycho-social Predictors of Severity of Alcohol Use in Young Adult Females of East Sikkim

Table 4.2 Age wise distribution of young adult female (N = 100)

Age	*Number of respondents*
18	6
19	4
20	9
21	5
22	2
23	3
24	7
25	5
26	5
27	6
28	4
29	8
30	7
31	2
32	5
33	4
34	1
35	3
37	2
40	12

.

The sample of data collected had been restricted to the category of 'young adult' females residing in East Sikkim for study purposes. Young adult is the age distribution between 18-40 years of age (McLeod, 2018). The mean of age of the respondents is 27.68 with standard deviation of 6.64. The maximum recorded age is 40 and the minimum is 18.

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❖ *Education qualification wise distribution*

Table 4.3: Education qualification wise distribution of young adult females (N = 100)

Education	Number of respondents
10/12th Pass	24
Graduate	29
Post graduate and above	31
Uneducated	16

Figure 4.3 Pie chart distribution of sample educational qualification wise
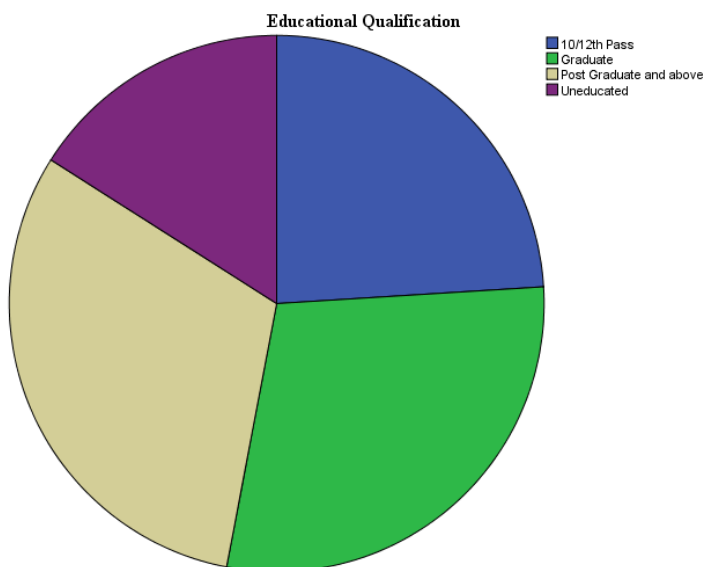
The sample consisted of difference between educational qualification in terms of four different subgroups- 10/12th pass, graduate, postgraduate and uneducated. The category of 'post graduate and above' has been recorded among maximum number of respondents with 31% followed by graduate (29%), 10/12th pass (24%) and uneducated (16%).

❖ *Relationship wise distribution*

Table 4.4: Relationship status wise distribution of young adult females (N = 100)

Relationship status	Number of respondents
Divorced	1
In a relationship	22
Married	36
Single	41

Figure 4.4 Pie chart distribution of sample relationship status wise
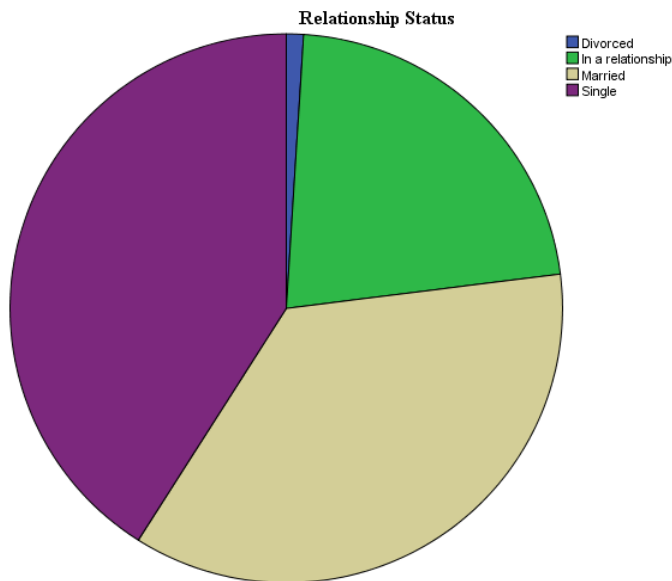
The sample has also been classified in terms of the current relationship status of the respondents. The categories included divorced, in a relationship, married and single. The 'single' category was chosen by majority of the respondents (41%) followed by married (36%), in a relationship (22%) and divorced (1%).

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❖ *Style of family wise distribution*

Table 4.5: Style of family wise distribution of young adult females (N = 100)

Style of family	*Number of respondents*
Extended	7
Joint	18
Nuclear	75

Figure 4.5: Pie chart distribution of sample style of family wise
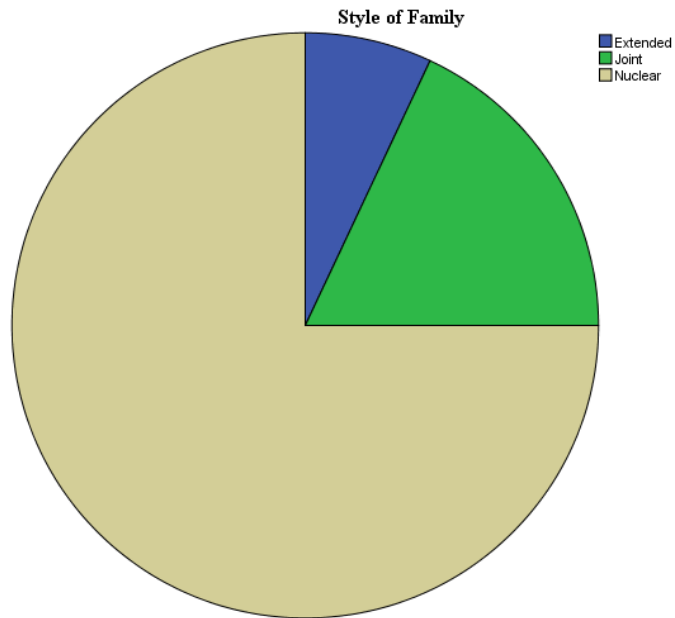
The samples of respondents are also classified into various categories in terms of the style of their family system. It included extended, joint and nuclear options for the family system. The maximum number of responses received indicates majority of respondents with a nuclear family (75%) followed by joint (18%) and extended (7%).

❖ *History of mental health sickness*

Table 4.6: History of mental health sickness wise distribution of young adult females

(N = 100)

Mental health sickness history	Number of respondents
Yes	0
No	100

There were no respondents found that had a history of mental health sickness which is in accordance to the sample exclusion criteria. Thus, this option is also kept excluded in the analysis and results.

❖ *Community drinking*

Table 4.7 Community drinking wise distribution of young adult females (N = 100)

Community Drinking	Number of respondents
Yes	32
No	68

Figure 4.6 Pie chart distribution of sample community drinking wise

Community Drinking

■ No
■ Yes
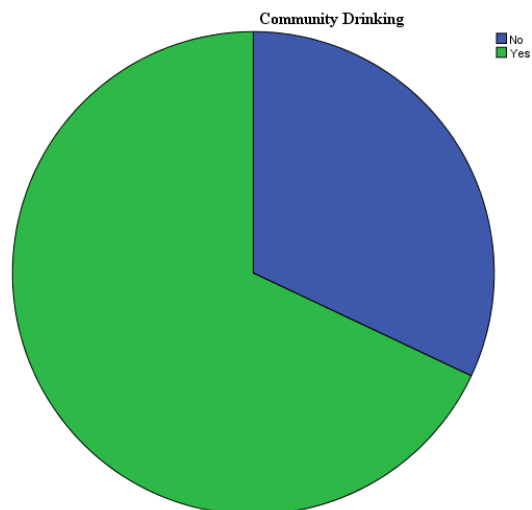
The respondents had to also report whether drinking was prevalent in their immediate local community. The response to this question is dichotomous in nature that could be either answered in a yes or no. There were more respondents who reported of not being acquainted to drinking in their community i.e. no (68%) in contrast to a number of yes (32%).

❖ *Employment Status*

Table 4.8: Employment Status wise distribution of young adult females (N=100)

Employment Status	*Number of respondents*
Employed	27
Not-employed	59
Self-employed	14

Figure 4.7 Pie chart distribution of sample by means of 'self employment status'
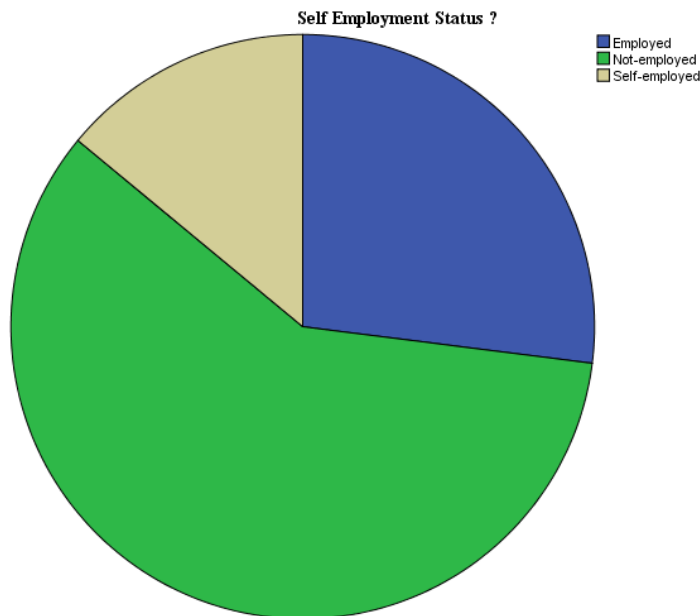
The respondents have also reported their employment status in one of the three categories i.e. employed, not-employed and self-employed. Majority of the participants in the study have reported to be not employed (59%) followed by employed (27%) and self-employed (14%).

❖ *Family's employment status*

Table 4.9: Family employment wise distribution of young adult females (N=100)

Family employment status	Number of respondents
No	12
Yes	88

Figure 4.8 Pie chart distribution of sample by means of 'family's employment status'
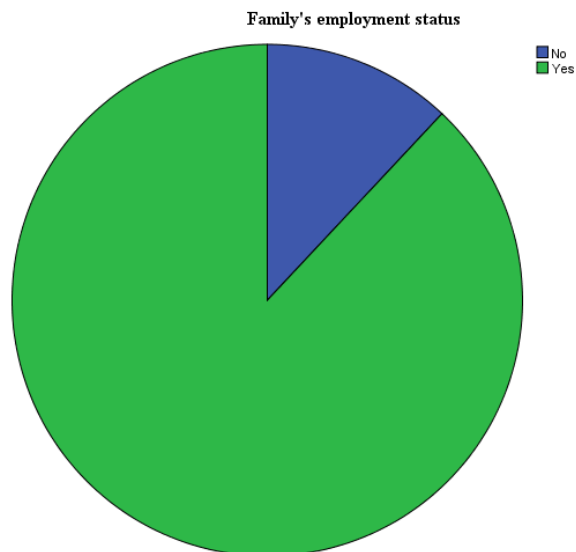
The respondents have also reported their family's employment status. This question has to be reported in a dichotomous manner of either 'yes' or 'no'. Majority of the respondents have had reported their family's employment status as yes (88%) as opposed to no (12%).

❖ *Geographical Area*

Table 4.10 Geographic area wise distribution of young adult females (N=100)

Geographic Area	*Number of respondents*
Rural	74
Urban	26

Figure 4.9 Pie chart distribution of sample by means of 'geographical location'
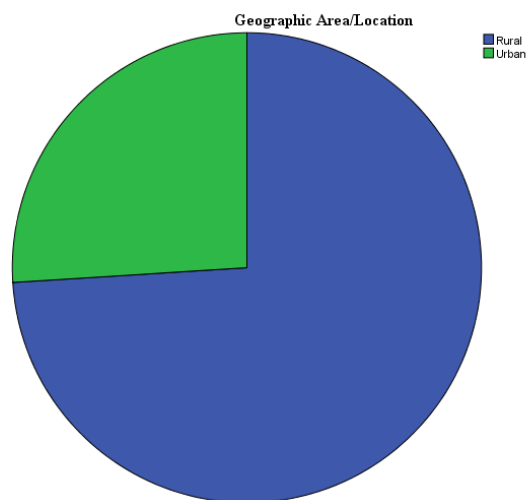
The respondents have also reported their geographical location in terms of either belonging to a rural or urban community. Majority of the responses have belonged from rural community (74%) in contrast to urban community (26%).

❖ *Preferred choice of drink*

Table 4.11: Distribution of preference towards various drinks by young adult females in total sample (N=100)

Type of Drink	% of total sample
Wine	64
Breezer	43
Beer	44
Vodka	20
Whiskey	13
Brandy	4
Rum	22
Other local alcoholic beverages	29

Figure 4.10: Bar chart distribution of the preference of drink from the total sample
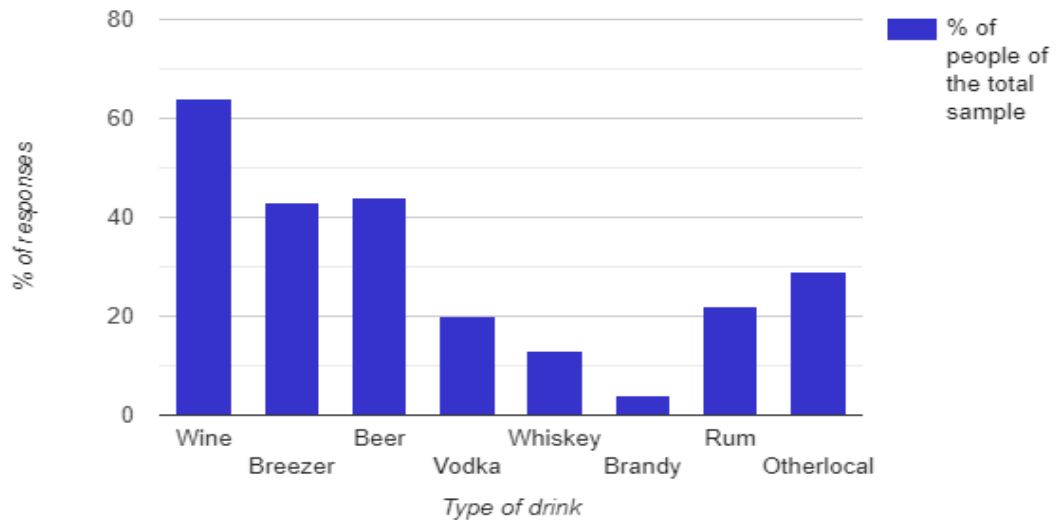
The respondents were also given to select their choice of alcoholic beverage in terms of usual preference. Each respondent could have more than one item of choosing. The choices provided were wine, breezer, beer, vodka, whiskey, brandy, rum and other local alcoholic beverages. The responses indicated that 'wine' has the maximum number of responses (64%) followed by beer (44%), breezer (43%), beer (44%), other local alcoholic beverages (29%), rum (22%), vodka (20%), whiskey (13%) and brandy (4%),.

4.6 Measures

Table 4.12: Measures used in the study

Aspect studied	Name of Questionnaire/Scale	Developed by
Demographic characteristics	Socio-demographic datasheet	Self (2021)
Severity of alcohol use	Alcohol Use Disorders Identification Test (AUDIT)	Babor et al., 2001
Family functioning	Family APGAR	Smilkstein et al., 1982
Difficulties in emotion regulation	Difficulties in Emotion Regulation Scale – Short Form (DERS-SF)	Kaufman et al., 2015
Depression	Beck Depression Inventory-II (BDI-II)	Beck, Steer & Brown; 1996

As in concordance to the research interests, the samples were assessed with means of the following measures:

1. *Socio-demographic Data* **(Self, 2021)**

   This data sheet will ask for information about age, educational qualification (uneducated/10 or 12 pass/graduation/masters and above), alcohol use in family (yes/no), relationship status(single/married/in a relationship), style of family (Joint /nuclear/extended), mental health medical history (yes/no), community

drinking(yes/no), self employment status (self employed/employed/not employed), family employment status (yes/no), geographic area (urban/rural), and kind of preferred drink (rum, brandy, beer, whisky, breezer, vodka, wine, other local alcoholic beverages)

2. *AUDIT* **(Babor et al., 2001)**

Alcohol Use Disorders Identification Test had been developed by WHO (World Health Organization) as a means for screening and testing for excessive drinking behavior. It includes a total of 10 items where each response has a score range from 0 to 4. The questionnaire has 3 domains of 'Hazardous Alcohol Use', 'Dependence Symptoms', and 'Harmful Alcohol Use'. Hazardous alcohol use (Item 1, 2, 3) is a pattern of consuming alcohol that risks harmful consequences for the user and also other associated people. These kind of drinking patterns are problematic social and health wise even though it might not be grabbed under pathologic Alcohol Use Disorder (Babor et al., 1994). Harmful alcohol use (Item 7, 8, 9, and10) refers to the consumption of alcohol that leads to degradation of physical and mental health. It is also inclusive of the social consequences of drinking (Babor et al., 1994; WHO, 1993). Dependence symptoms (Item 4,5,6) can be defined as a cluster of behavioral, psychological and cognitive phenomena that is developed over time due to excessive alcohol use. This is inclusive of strong desire to consume alcohol, impaired control over its use, persistent drinking regardless of harmful consequences, prioritizing drinking over other activities, increased alcohol tolerance and physical withdrawal on discontinuing alcohol use (WHO, 1993).

The reliability of AUDIT is reported to be significant (r=.86) on basis of test-retest method. AUDIT as a questionnaire has a cross national standardization wherein it was validated on primary health care patients in sex countries (Saunders et al., 1993). A strong correlation also exists between the AUDIT and the MAST i.e., The Michigan Alcohol Screening Test questionnaire (r=.88) which is a standardized alcohol use screening questionnaire. As for both males and females, the correlations of .47 and .46 for males and females, respectively, on an alcoholism screening test were found (Bohn et al., 1995). AUDIT also correlates highly with CAGE questionnaire (.78), which is another standardized alcohol use screening questionnaire (Hays et al., 1995).

In regard to the interpretation of scores, a total score of 8 or more is considered as hazardous and harmful alcohol use. A score of 1 or more on Question 2 or Question 3 indicates consumption at a hazardous level. Points scored above 0 on questions 4-6 (especially weekly or daily symptoms) indicate the presence or incipience of alcohol dependence. Points scored on questions 7-10 can indicate that alcohol-related harm is already being experienced.

3. *Family APGAR* **(Smilkstein et al., 1982)**

   The Family APGAR scale was developed by Gabriel Smilkstein (1984). It is a quantitative measure of family function which was originally meant to be used for clinicians to explore the family function of their patients. It has proved its usage in research setting via validation studies (Smilkstein et al., 1982).

   Adaption, Partnership, Growth, Affection and Resolve is abbreviated to APGAR. These components each have been individually defined. Adaptation is defined as

the utilization of intra and extra-familial resources for problem solving when family equilibrium is stressed during a crisis. Partnership has been defined to be the sharing of decision making and responsibilities of nurturing by family members. Growth can be defined as the physical and emotional maturation along with the self-fulfillment achieved by family members through support and guidance. Affection is defined to be the caring and loving relationship that exists among the family members. Resolve has been defined as the commitment to devote time to other members of the family for physical and emotional nurturing, also usually involving decisions to share wealth and space (Smilkstein, 1978).

Family APGAR is a quantitative measure of family function with five close-ended questions. Items are to be answered in a range of 0-2. Items are to be answered as one of following: 0 which stands for "hardly ever" or 1"some of the time" or 2 "most of the time". The scores can be evaluated to be one of the following: severe dysfunction (0-3), moderate dysfunction (4-6_ and family functioning (6 or more). The Family APGAR also has been reported to have good internal consistency reliability with a Cronbach's alpha value of 0.80. The questionnaire has also been validated in concordance to Pless-Satterwhite family function index with a correlation of 0.80 (Smilkstein et al., 1982).

4. ***Difficulties in Emotion Regulation Scale – Short Form* (Kaufman et al., 2015)**

DERS –SF is a widely used self-report measure for assessing emotional regulation problems in adults with a total of 18 items whose individual item scores can range from 1 to 5. The DERS-SF is the short version of the original

Difficulties in Emotion Regulation Scale originally developed by Gratz and Roemer in 2004. Scale can be scored by using sum of the items. Higher score indicate greater difficulties in emotion regulation. The scale also has 6 subscales divided among various questions namely: Strategies (10, 15, and 18); Non-acceptance (7, 12, and 16); Impulse (9, 14, and 17); Goals (8, 11, and 13); Awareness (1, 4, and 6) and finally, Clarity (2, 3, and 5). For the current study, the subscales will not be taken and only the total scores will be utilised.

The scale has reported to have strong internal consistency reliability with Chronbach's alpha coefficient for DERS-SF total scale and six subscales exceeding 0.70 and ranging from 0.78 to 0.91. DERS-SF has also had significant correlation with relative to the full measure (i.e. The Difficulties in Emotion Regulation scale), that ranged from .90 to .98 and also reflected 81–96 % shared variance (Kaufman et al., 2015).

5. *Beck Depression Inventory-II* **(Beck, Steer & Brown; 1996)**

BDI-II is used to measure depression in ages 13 years and older. It has 21 items. Each item can be rated on a 4 point scale, ranging from 0-3. As in regards to scoring, a total score of 1-16 is considered to be 'low' wherein 1-10 is considered 'normal ups and downs' and 11-16 is considered to have 'mild mood disturbance. A score 17-30 is considered 'moderate', wherein score of 17-20 is considered to be 'borderline clinical depression' and 21-30 to have 'moderate depression'. A score of 31-40 is considered to have 'significant' depression level, wherein score of 31-40 is considered 'severe depression' and score over 40 to have 'extreme depression'.

The items use in BDI-II incorporate sadness, pessimism, past failures, loss of pleasure, guilty feelings, punishment feelings, self-dislike, self-criticalness, suicidal thoughts or wishes, crying, agitation, concentration difficulty, loss of interest, indecisiveness, worthlessness, loss of energy, changes in sleeping pattern, changes in appetite, irritability, tiredness or fatigue and loss of interest in sex. The BDI-II has been reported to have positively correlated with the Hamilton Depression Rating Scale, $r = 0.71$. BDI-II also has been reported to have a one week test–retest reliability of $r = 0.93$. Construct validity are reported to be high when compared to the original Beck Depression Inventory and stands at $r=.93$ (Beck, Steer & Brown; 1996).

4.7 Procedure

In order to collect the data through Google forms, the consent form had to be provided with a detailed description of the current study, In order to establish rapport and trust with participants, all relative information about the current study inclusive of purpose of the study, the procedure of the study and data collection, the risks involved in participating at such a study, the benefits and the confidentiality of the provided data have been clarified. This is then followed by the contact information of the researcher who can assist either through call or mail in case of any unfortunate troubles during the data collection process. Finally the terms of voluntary participation has been explained followed by consent. All the data collected has been very carefully screened for willingness before taking any data for analysis.

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The primary section of the form first consists of the sociodemographic datasheet. It is inclusive of age, educational qualification, relationship status, style of family, mental health medical history, community drinking, self employment status, family employment status, geographic area and preferred choice of drink. Following the datasheet, (Alcohol use disorders identification test AUDIT), family APGAR scale, difficulties in emotion regulation scale – short form (DERS-SF) and Beck depression inventory – II (BDI-II) are provided.

All the collected data have been gathered through means of snowball and convenience sampling. Thus many data had to filter for using sample inclusion/exclusion criteria before considering it for evaluation in the current study.

Table 4.13: Statistical Techniques Used

Sl. No.	Statistical Tools	Assessing Items
1.	Pearson r	To find the correlation between severity of alcohol use and its domains (hazardous alcohol use, harmful alcohol use and dependence symptoms); family functioning; difficulties in emotion regulation and depression.
2.	Mediation Analysis	To find the predictive capacity of family functioning and difficulties in emotion regulation towards severity of alcohol use and its domains where depression acts as a mediator.
3.	Regression	To find the predictive capacity of socio-demographic variables towards severity of alcohol use.

4.8 Analysis of Data

The scores obtained from various questionnaires used in the study were computed and calculated by means of various statistical tools and techniques. The data was analyzed to find out relationships between the sociodemographic, independent, dependent and mediating variables. The commonly used levels of significance towards checking the results are 0.05 and 0.01.

Correlation analysis was done using 'Pearson r' to find the relationship between independent variables, mediating variable and the dependent variable. Regression analysis was then used to find the predictive relationship of socio-demographic variables, family functioning, difficulties in emotion regulation and depression towards different domains of severity of alcohol use (i.e., hazardous alcohol use, dependence symptoms and harmful alcohol use). Lastly, Process macro 4.0 (Hayes; 2013) for mediation analysis was used to devise a model to predict the different domains of severity of alcohol use (i.e., hazardous alcohol use, dependence symptoms and harmful alcohol use) with family functioning and difficulties in emotion regulation keeping depression as a mediating variable. The statistical analysis had been computed by using SPSS statistical package version 23.

4.9 Ethical Considerations

- All the detailed information regarding the objectives of the paper and voluntary participation were clearly provided to the participants of this research.

- Confidentiality of the provided data had been assured in the consent form. The contact details of the researcher were provided if in case of any troubles or any clearance regarding the data collection process.

- The participant of the study had full authority to withdraw from the study anytime he/she wished to.

- There were no time bound restrictions or any obligations towards taking the study and all the recorded data were voluntarily provided.

4.10 Overview

The current study was done to explore the psycho-social predictors of severity of alcohol use in young adult females of East Sikkim. For this purpose, the study has used family functioning and difficulties in emotional regulation towards predicting severity of alcohol use and its domains when depression was kept as a mediator. The measures used were Alcohol Use Disorders Identification Test (Babor et al., 2001) for severity of alcohol use, Family APGAR (Smilkstein et al., 1982) for family functioning , Difficulties in Emotion Regulation Scale – Short Form (Kaufman et al., 2015) for difficulties in emotion regulation, and Beck Depression Inventory-II (Beck, Steer & Brown; 1996) for depression.

The study also incorporated various sociodemographic variables like age, educational qualification, family style, community drinking, relationship status, self employment status, family employment status, and geographical area. These

sociodemographic variables were hypothesized to predict severity of alcohol use in young adult females of East Sikkim.

The sample consisted of 100 females located within the geographical location of East Sikkim. The collected data have been subjected to various statistical analyses as per the research interests and hypothesis of the study. Bivariate correlation analysis has been conducted on family functioning, difficulties in emotion regulation, depression, and severity of alcohol use and its domains. For the purpose of mediation analysis, Process Macro 4.0 as been used in SPSS 23 keeping family functioning and difficulties in emotion regulation separately towards predicting severity of alcohol use and its domains when depression was kept as a mediator. For finding the predictive capacity of used sociodemographic variables towards severity of alcohol use and its domains, CATREG was used in SPSS 23.

CHAPTER V

RESULTS AND DISCUSSION

After the collection of data, it is mandatory to run statistical analysis on the same in order to check many hypothesis of the study. This chapter has been divided into subsections so as to make it easier to present the gathered findings of the study. It consists a total of 4 sections, presenting socio demographic characteristics and supporting various hypothesis.

5.1 Section I: *Correlation coefficients among the different variables used.*

Table 5.1: Correlations coefficients among the variables

Variables used in study	Mean	SD	1	2	3	4	5	6	7
1. Severity of Alcohol Use	9.27	12.68	1						
2. Hazardous alcohol use domain	3.33	3.39		1					
3. Dependence symptoms domain	2.63	4.49			1				
4. Harmful alcohol use domain	3.31	5.36				1			
5. Family functioning	6.40	3.25	-.672**	-.660**	-.662**	-.617**	1		
6. Difficulties in emotion regulation	46.33	13.26	.267**	.196	.249*	.298**	-.297**	1	
7. Depression	17.52	12.68	.602**	.556**	.605**	.559**	-.655**	.548**	1

**Correlation is significant at the 0.01 level
*Correlation is significant at the 0.05 level.

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❖ *Hypothesis 1: A significant negative correlation would exist between family functioning and different domains of severity of alcohol use (i.e., hazardous alcohol use, dependence symptoms and harmful alcohol use) in young adult females.*

The correlations of family functioning to severity of alcohol use were reported at r = -672, p<0.01, which indicates a negative significant relationship. The correlation of the domain of 'hazardous alcohol use' with family functioning has derived negative values, r = -.660, p<0.01; which indicates a significant negative relationship. Its correlations to the domain of 'dependence symptoms' was derived at r = -662, p<0.01, which indicates a significant negative relationship. Finally, the correlations of the domain of 'harmful alcohol use' to family functioning were derived at r = -617, p<0.01, which indicates a significant negative relationship. Thus Hypothesis 1 is accepted.

Studies in the past have shown that in cases of women, greater family support has been negatively associated with alcohol use and predicts fewer problems related to alcohol use (Galaif et al., 2001). Disruptions in the functioning of the family, like loss of custody of children, loss of employment, marital breakdowns, physical and psychological abuse, depression and degrading health, etc have been significantly associated with alcohol use and other addictive tendencies (Schäfer; 2011).

❖ *Hypothesis 2: A significant positive correlation would exist between difficulties in emotion regulation and different domains of severity of alcohol use (i.e., hazardous alcohol use, dependence symptoms and harmful alcohol use) in young adult females.*

Difficulties in emotion regulation were correlated to 'severity of alcohol use' at r = .267, p<0.01 which indicates a positive significant relationship. Similarly, the correlation

of difficulties in emotion regulation to the 'hazardous alcohol use' domain stood at r = .196, p>0.05 which indicates there is no significant relationship between the two. Its correlation with the 'dependence symptoms' domain was derived at r = .249, p<0.05, which indicates a significant positive relationship. Finally, its correlation with the 'harmful alcohol use' domain was derived at r = .298, p<0.01, which indicates a significant positive relationship. Thus Hypothesis 2 is partially accepted.

Early studies have shown that people with tendencies of greater alcohol use are significantly associated with lower levels of emotion regulation (Berking et al., 2011). Studies have also reported that difficulties in emotion regulation have been significantly associated with alcohol use related consequences (Dvorak et al., 2014). There has also been a report of a correlation of difficulties in emotion regulation with heavy alcohol use and harmful alcohol-related consequences (Messman et al., 2014).

❖ *Hypothesis 3: A significant positive correlation would exist between depression and different domains of severity of alcohol use (i.e., hazardous alcohol use, dependence symptoms and harmful alcohol use) in young adult females.*

Severity of alcohol use was correlated to depression at r = .602, p<0.01, which indicates a positive significant relationship. The correlation of depression with the 'hazardous alcohol use' domain was derived at r = .556, p<0.01, which indicates a significant positive relationship. Similarly, the correlation of depression to the 'dependence symptoms' domain was reported to be r = .605, p<0.01, which indicates a positive significant relationship. Finally, the correlation of depression to 'harmful alcohol

use' was reported to be r = .559, p<0.01, which indicates a positive significant relationship. Thus, hypothesis 3 is accepted.

It has been seen in past studies that severity of alcohol use and depression have a significant effect on each other (Boden and Fergussion; 2011). Studies have also reported a significant relationship between depression and craving for alcohol (Kuria et al., 2011).

❖ *Hypothesis 4: A significant negative correlation would exist between depression and family functioning in young adult females.*

The correlations between depression and family functioning were derived at r = -.655, p<0.01 which indicates a significant negative relationship. Thus, hypothesis 4 is accepted.

Many researchers have shown depression to have a strong relationship with poor family functioning in the general population (Beach, Sandeen, & O'Leary, 1990; Keitner & Miller, 1990; Keitner, Ryan, & Miller, 1995). A strong correlation has also been found between family functioning and depression in case of women (Sarmiento et al., 2009). Poor family support and low levels of family functioning are also found in early studies to be associated with depression and anxiety (Shao et al., 2020).

❖ *Hypothesis 5: A significant positive correlation would exist between depression and difficulties in emotion regulation in young adult females.*

The correlations between depression and difficulties in emotions regulation were derived at r = .548, p<0.01 which indicates a significant positive relationship. Thus, hypothesis 5 is accepted.

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Studies in the past have assorted that ineffective emotion regulation strategies play a crucial role in the development and maintenance of depression and anxiety (Barlow et al., 2004; Campbell- Sills et al., 2006; Kashdan et al., 2006). Significant relationships have been reported between emotion regulation problems and clinical depression (Sumida; 2010). Dysfunctional emotion regulation strategies have also been reported to have a significant relationship with depression (Compare; 2014).

5.2 Section II *Models of mediation analysis taking predictors family functioning and difficulties in emotion regulation with depression as a mediator; and the dependent variable to be severity of alcohol use and its domains.*

❖ *Hypothesis 6: Family functioning and difficulties in emotion regulation would contribute significantly in predicting the different domains of severity of alcohol use (i.e., hazardous alcohol use, dependence symptoms and harmful alcohol use) with depression acting as a mediator in young adult females.*

There are separate models provided in cases of both family functioning and difficulties in emotion regulation. Firstly Model 1, 1A, 1B, and 1C are discussed providing support for family functioning to predict severity of alcohol use and its domains of hazardous alcohol use, dependence symptoms and harmful alcohol use. Secondly Model 2, 2A, 2B, and 2C are discussed providing support for difficulties in emotion regulation to predict severity of alcohol use and its domains of hazardous alcohol use, dependence symptoms and harmful alcohol use.

In the following figures 'a' is the direct effect from independent variable to mediator, 'b' is the direct effect from mediator variable to dependent variable, 'c'' is the direct

effect from independent to dependent variable. Finally, 'c' is the total indirect effect of the model and 'CI' is its respective class interval.

MODEL 1

Figure 5.1: Mediation model using Family functioning as independent and Severity of Alcohol Use as dependent variable with Depression acting as a mediator
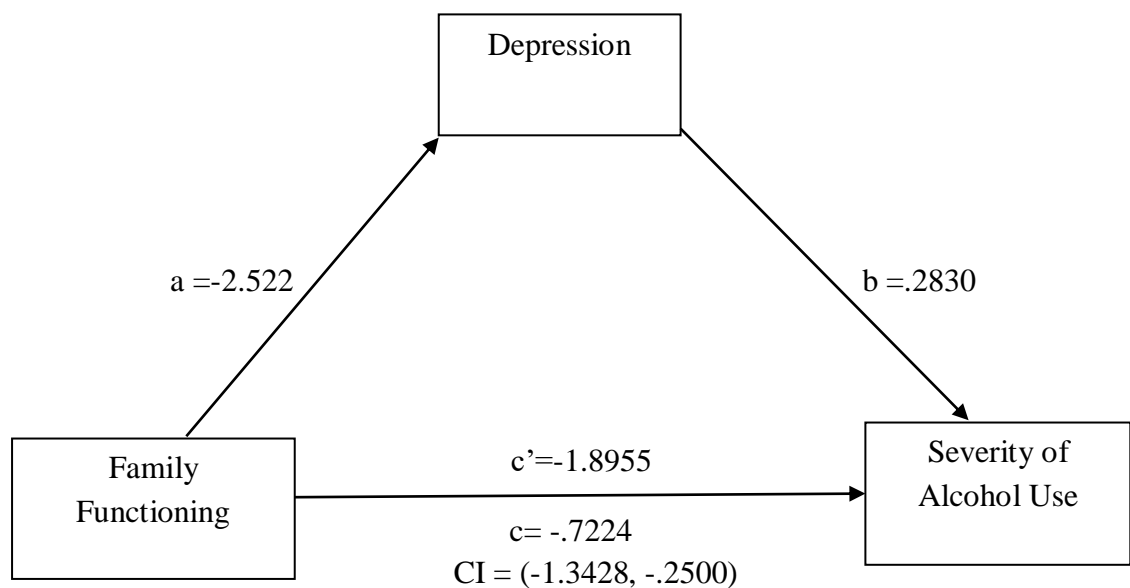
The path (direct effect) from family functioning to depression was negative and statistically significant. (b=-2.5522, s.e.=.2974,p<0.01). The path (direct effect) from family functioning to severity of alcohol use is negative and statistically significant (b=-1.8955, s.e.=.3708,p<0.01) indicating that a person with a higher score on family functioning will have a lower score in alcohol use. The direct effect of depression on severity of alcohol use is positive and significant (b=0.2830, s.e.=0.0952, p<0.05). This indicates that people with higher depression will have greater levels of alcohol use. Thus, the indirect effect is tested using non-parametric bootstrapping. Since 0 falls outside the

confidence interval, therefore the indirect effect in non-zero. In this case the indirect

effect (IE=-.7224) is statistically significant: 95% CI = (-1.3428, -.2500).

<u>*MODEL 1A*</u>

Figure 5.2: Mediation model using Family functioning as independent and 'Hazardous Alcohol Use' domain as dependent variable with Depression acting as a mediator

The path (direct effect) from family functioning to depression was negative and

statistically significant. (b=-2.5522, s.e.=.2974,p<0.01). The path (direct effect) from

Family functioning to 'hazardous alcohol use' is negative and statistically significant (b=-

.5278, s.e.=.0262,p<0.01) indicating that person with a higher score on family

functioning will have a lower score in 'hazardous alcohol use.

The direct effect of depression on 'hazardous alcohol use' is positive and significant

(b=0.0627, s.e.=.0262, p=0.188). This indicates that people with higher depression will

have greater levels of 'hazardous alcohol use. The indirect effect is tested using non-

parametric bootstrapping. Since 0 falls outside the confidence interval, therefore the indirect effect is non-zero. In this case the indirect effect (IE=-.1601) is statistically significant: 95% CI = (-.3093, -.0424).

MODEL 1B

Figure 5.3:   Mediation model using Family functioning as independent and 'Dependence Symptoms' domain as dependent variable with Depression acting as a mediator

The path (direct effect) from family functioning to depression was negative and statistically significant. (b=-2.5522, s.e.=.2974,p<0.01). The path (direct effect) from Family functioning to 'dependence symptoms' is negative and statistically significant (b=-.6428, s.e.=.1325,p<0.01) indicating that a person with a higher score on family functioning will have a lower score in 'dependence symptoms'.

The direct effect of depression on 'dependence symptoms' is positive and significant (b=.1061, s.e.=.0340, p=0.0024). This indicates that people with higher depression will

have greater levels of 'dependence symptoms'. The indirect effect is tested using non-parametric bootstrapping. Since 0 falls outside the confidence interval, therefore the indirect effect in non-zero. In this case the indirect effect (IE=-.2707) is statistically significant: 95% CI = (-.9058,-.3799).

MODEL 1C

Figure 5.4: Mediation model using Family functioning as independent and 'Harmful Alcohol Use' domain as dependent variable with Depression acting as a mediator
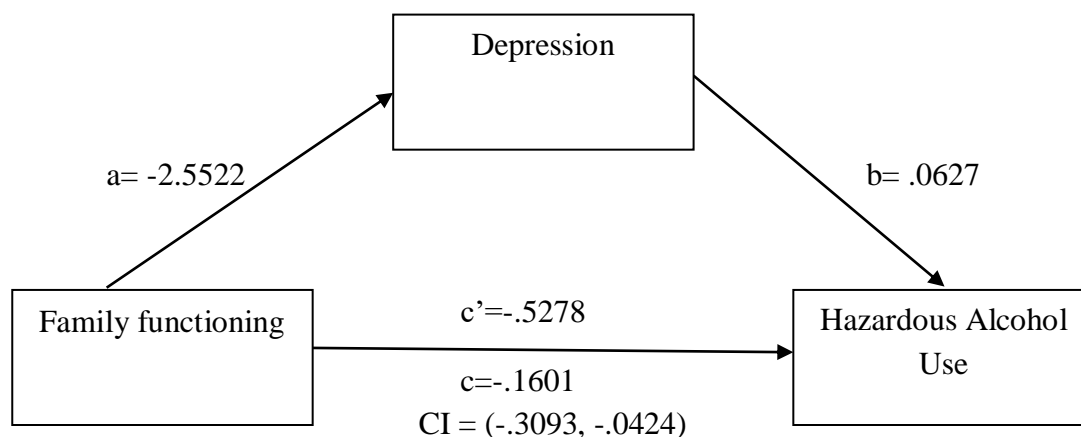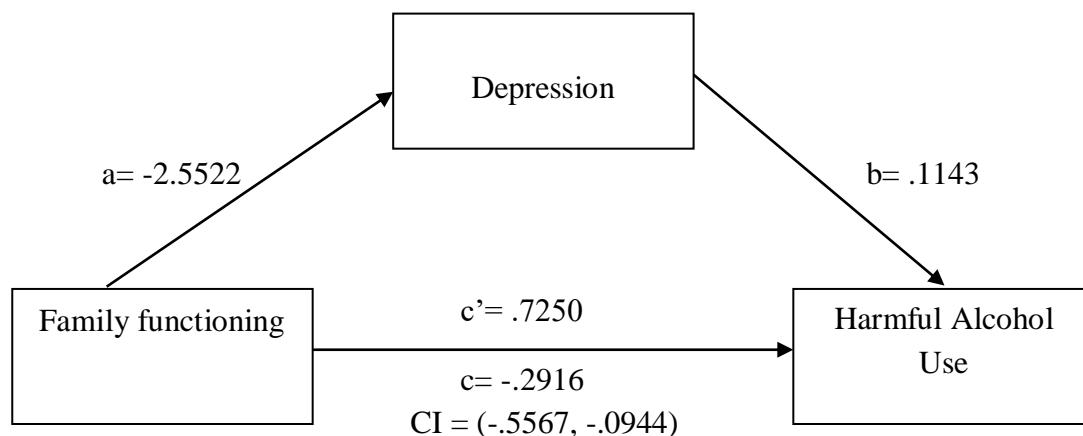

The path (direct effect) from family functioning to depression was negative and statistically significant. (b=-2.5522, s.e.=.2974,p<0.01). The path (direct effect) from Family functioning to 'harmful alcohol use' is negative and statistically significant (b=-.7250, s.e.=.1682,p<0.01) indicating that person with a higher score on family functioning will have a lower score in 'harmful alcohol use'.
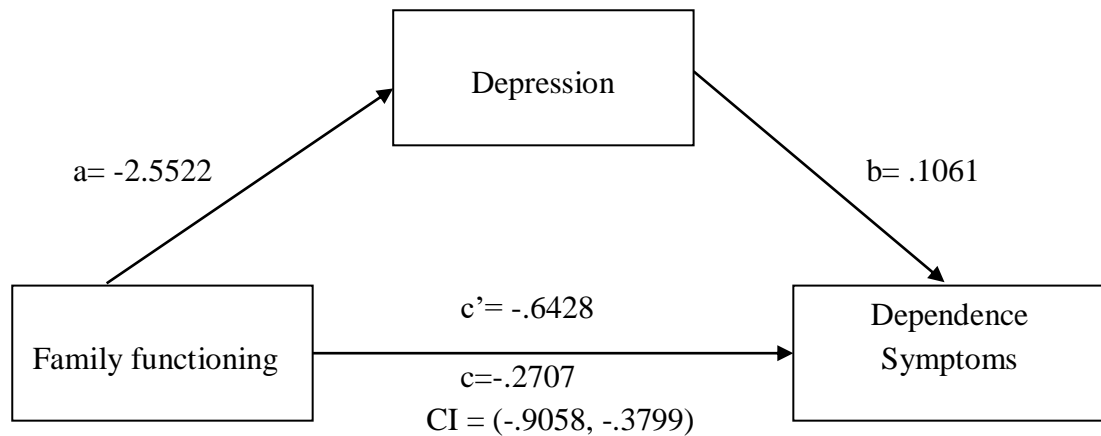
The direct effect of depression on 'harmful alcohol use' is positive and significant (b=.1143, s.e.=.0432, p=0.0095). This indicates that people with higher depression will

have greater levels of 'harmful alcohol use'. The indirect effect is tested using non-parametric bootstrapping. Since 0 falls outside the confidence interval, therefore the indirect effect is non-zero. In this case the indirect effect is negative (IE=-.2916) is statistically significant: 95% CI = (-.5567, -.0944).

Thus, it can be seen that Model 1, 1A, 1B and 1C are directed towards using family functioning as predictor variable towards severity of alcohol use and its domains when depression is kept as a mediator. After the derivation of significant values it can be said that Models 1, 1A, 1B, and 1C provide support for Hypothesis 6.

Past studies have reported that dysfunctionality in a family can result in alcoholism (Mattoo et al., 2013). Studies have also assorted that families of alcoholics were found to be more troubled and dysfunctional than families of non-alcoholics (Rotunda et al., 1995). A study by Zurita et al (2015) found in his study that in the case of females, family functioning could be used to predict alcohol use when a depressed mood was put to act as a mediator.

Studies have also put forth that family functioning is greatly predictive of alcohol use, which could act as either a protective or a risk factor depending on circumstances (Molero et al., 2019). It can be seen in past studies that family functioning act as a protective function against alcohol use wherein family members can help the alcoholic members of their family in the recovery process by providing active support.

Dealing with the second part of the same hypothesis, wherein using difficulties in emotion regulation act as an independent variable and severity of alcohol use and its domains as a dependent variable with depression acting as a mediator variable, the following results were obtained.

MODEL 2

Figure 5.5: Mediation model using Difficulties in Emotion Regulation as independent and Severity of Alcohol Use as dependent variable with Depression acting as a mediator
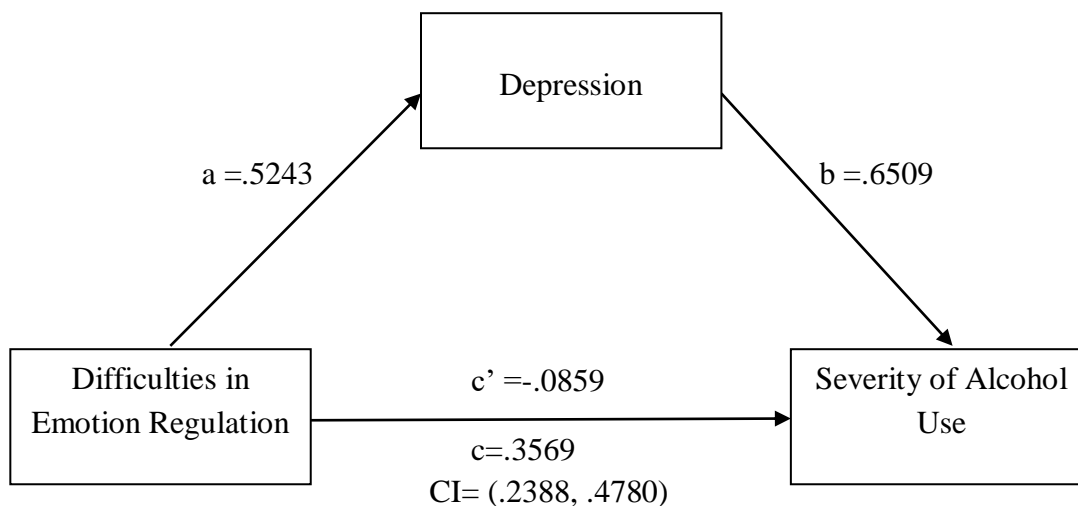
The path (direct effect) from difficulties in emotion regulation to depression is positive and significant (b=.5243, s.e.=.0808, p<0.01). The path (direct effect) from difficulty in emotion regulation to severity of alcohol use is negative and not statistically significant (b=-.0859, s.e.=.0923,p>0.05).

The path (direct effect) from depression to severity of alcohol use is positive and statistically significant (b=0.6509, s.e.=.0964, p<0.01). The indirect effect is analyzed using non-parametric bootstrapping. Since 0 falls outside the derived confidence interval, therefore there is an indirect effect of difficulties in emotion regulation to severity of alcohol use with depression acting as mediator (IE=.3569) and is statistically significant at 95% CI= (.2388, .4780).

MODEL 2A

Figure 5.6: Mediation model using Difficulties in Emotion Regulation as independent and 'Hazardous Alcohol Use' as dependent variable with Depression acting as a mediator

The path (direct effect) from difficulties in emotion regulation to depression is positive and significant (b=.5243, s.e.=.0808, p<0.01). The path (direct effect) from difficulties in emotion regulation to 'hazardous alcohol use' is negative but statistically not significant (b=-.0417, s.e.=.0252,p=1014) indicating no relationship between the two.

The direct effect of depression on 'hazardous alcohol use' is positive and significant (b=.1754, s.e.=.0264, p<0.01). This indicates that people with higher depression will have greater levels of 'hazardous alcohol use'. The indirect effect is tested using non-parametric bootstrapping. Since 0 falls outside the confidence interval, therefore the indirect effect in non-zero. In this case, the indirect effect (IE=.0919) is statistically significant: 95% CI = (.0566, .1310) indicating that difficulties in emotion regulation can be an efficient predictor if hazardous alcohol use, when depression acts as a mediator.

MODEL 2B

Figure 5.7: Mediation model using Difficulties in Emotion Regulation as independent and 'Dependence Symptoms' as dependent variable with Depression acting as a mediator

The path (direct effect) from difficulties in emotion regulation to depression is positive and significant (b=.5243, s.e.=.0808, p<0.01). The path (direct effect) from

difficulties in emotion regulation to 'dependence symptoms' is negative but statistically not significant (b=-.0397, s.e.=.0325,p=2246) indicating no relationship between the two. The direct effect of depression on 'dependence symptoms' is positive and significant (b=.2369, s.e.=.0340, p<0.01). This indicates that people with higher depression will have greater levels of 'dependence symptoms'. The indirect effect is tested using non-parametric bootstrapping. Since 0 falls outside the confidence interval, therefore the indirect effect is non-zero. In this case, the indirect effect is positive (IE=.1242) and statistically significant: 95% CI = (.0768, .1740) indicating that difficulties in emotion regulation can be an efficient predictor of 'dependence symptoms', when depression acts as a mediator.

MODEL 2C

Figure 5.8: Mediation model using Difficulties in Emotion Regulation as independent and 'Harmful Alcohol Use' as dependent variable with Depression acting as a mediator

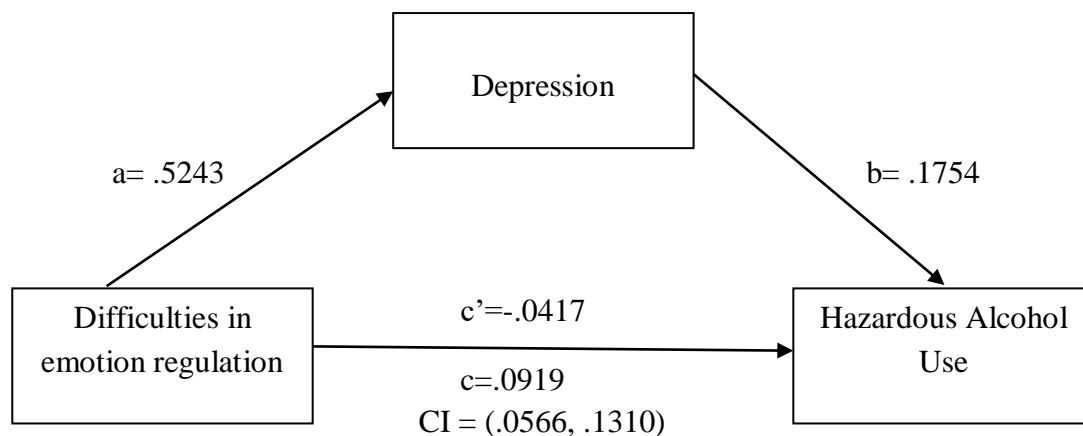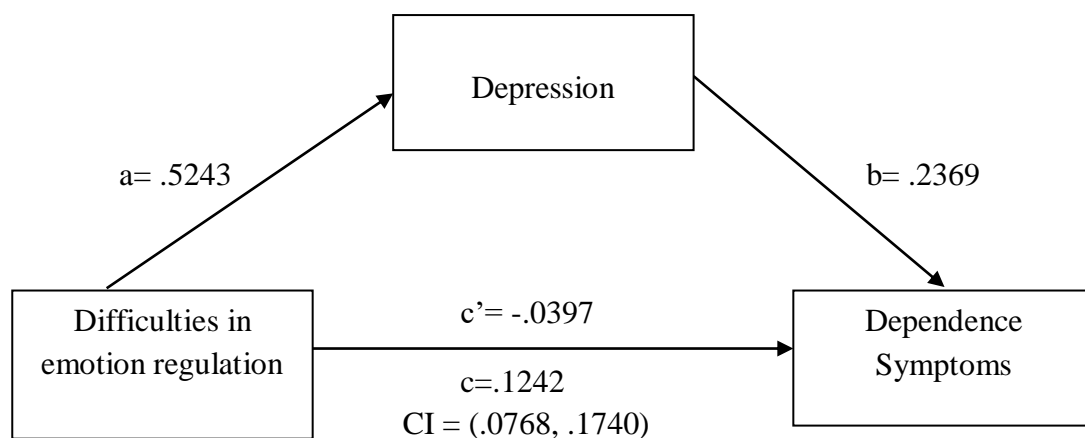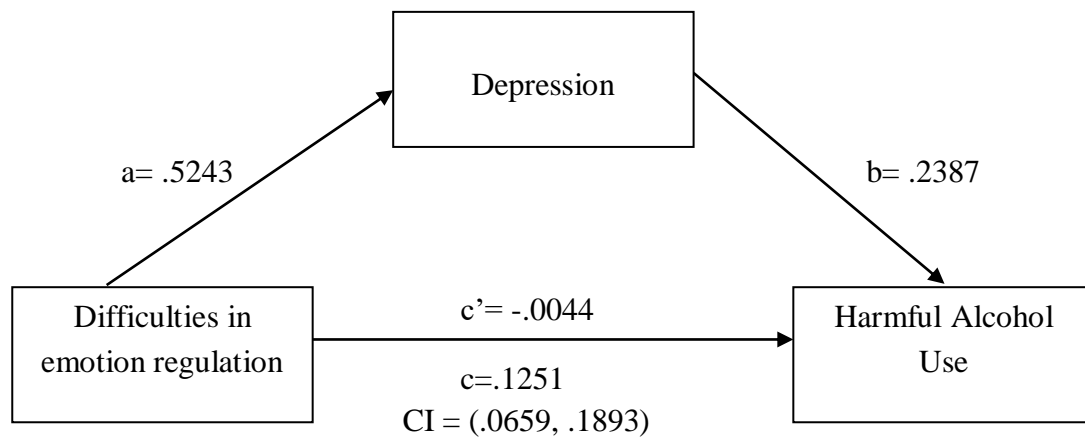# Psycho-social Predictors of Severity of Alcohol Use in Young Adult Females of East Sikkim

The path (direct effect) from difficulties in emotion regulation to depression is positive and significant (b=.5243, s.e.=.0808, p<0.01). The path (direct effect) from difficulties in emotion regulation to 'harmful alcohol use' is negative but statistically not significant (b=-.0044, s.e.=.0407,p=9145) indicating no relationship between the two.

The direct effect of depression on 'harmful alcohol use' is positive and significant (b=.2387, s.e.=.0426, p<0.01). This indicates that people with higher depression will have greater levels of 'dependence symptoms'. The indirect effect is tested using non-parametric bootstrapping. Since 0 falls outside the confidence interval, therefore the indirect effect is non-zero. In this case, the indirect effect is positive (IE=.1251) and statistically significant: 95% CI = (.0659, .1893) indicating that difficulties in emotion regulation can be an efficient predictor if harmful alcohol use, when depression acts as a mediator.

Thus, it can be seen that Model 2, 2A, 2B and 2C are directed towards using difficulties in emotion regulation as predictor variable towards severity of alcohol use and its domains when depression is kept as a mediator. After the derivation of significant values it can be said that Models 2, 2A, 2B, and 2C provide support for hypothesis 6.

This can be supported by a number of theories put forth the foundation of linkage between emotion regulation and problematic alcohol use like affective processing model (Baker et al., 2004), the motivational model of alcohol use (Cox & Klinger, 1988; Cooper et al., 1995), and tension reduction hypothesis (Conger, 1956). A relapse prevention model put forth in early studies suggests that relapse in alcohol abstinence is likely to occur in high-risk situations where emotion regulation falters thus making it difficult for

individuals to cope (Marlatt &Witkiewitz; 2005). Evidence suggests that alcohol may reduce negative affect in individuals which might act as reinforcement for regular usage (Armeli et al., 2003). It has been seen in studies that individuals who drink alcohol have a motive of self-medicating themselves to reduce emotional stress (Grant et al., 2009).

Alcohol use has been perceived to reduce the symptoms of depression of the user for a brief amount of time. This can usually trigger the person to frequently seek an intoxicated state to not feel depressed in the process. This has the potential to explain many cases of relapse in recovered heavy alcohol users even after treatment (Hasin et al., 2002). Individuals suffering from diagnosable negative affect states like anxiety or depression are reported to likely indulge in drinking to mentally escape, even though for a limited time to dull the pain (Robinson, 2007).

Young women have been found in early studies to seek comfort in using alcohol in times of difficulty in regulating their emotions. The failure to regulate emotions leads to drinking to self-medicate themselves (Fischer et al., 2006). Ability to tolerate negative emotions has been found to negatively predicted subsequent alcohol consumption. Impairment in emotion regulation would have poor results in recovery among people with problematic alcoholic use (Berking et al., 2011). Difficulties in regulating emotions have also been positively associated with the likelihood of experiencing alcohol-related consequences (Dvorak et al., 2014).

Studies have also reported that emotion dysregulation predicted coping drinking motives and had an indirect association with heavy alcohol use and negative alcohol-related consequences (Messman et al., 2014). Abstinence from alcohol use has been

associated with adaptive emotion regulation patterns. Difficulty in regulation strategies would lead to craving and maintenance of alcohol use. Thus, impairment in emotion regulation has been a major motive for alcohol consumption together with emotional disturbance in people with problematic alcohol use (Petit et al., 2016). Difficulties in regulating emotions have been found to have a positive association with the severity of greater problematic alcohol use and heavy alcohol consumption (Hitch; 2019). Depression has also been found in early studies to play a mediating role. Early studies have reported that the effect of anxiety sensitivity on alcohol dependence has been mediated by symptoms of depression (Lechner et al., 2014).

By the support of Models 1, 1A, 1B, 1C, 2, 2A, 2B, and 2C it can be said that the used variables in the study i.e. family functioning and difficulties in emotion regulation are efficient predictors of severity of alcohol use when depression is kept as a mediator. Thus hypothesis 6 is accepted.

Section III *Regression towards dependent variable i.e. severity of alcohol use and its domains in terms of independent variables family functioning, difficulties in emotion regulation, depression and socio-demographic variables.*

❖ *Hypothesis 7: Selected socio-demographic variable would contribute significantly in predicting the different domains of severity of alcohol use (i.e., hazardous alcohol use, dependence symptoms and harmful alcohol use) in young adult females.*

Stepwise regression analysis using optimal scaling method (CATREG) was used to predict severity of alcohol use based on various socio-demographic variables which are

also categorical variables. Many significant results have been derived as per the data collected. Thus hypothesis 7 is accepted and can be supported from the following results.

Table 5.2: Model summary of stepwise linear regression using Socio-demographic variables

Source	R	R Square	Adjusted R Square	Significance
Severity of alcohol use	.794	.631	.570	.000**
Hazardous alcohol use	.803	.645	.587	.000**
Dependence symptoms	.903	.816	.704	.000**
Harmful alcohol use	.880	.774	.675	.000**

**Correlation is significant at the 0.01 level

Table 5.3: Coefficients of CATREG model for 'Severity of Alcohol Use'

Model	Unstandardized Coefficients	Significance
Age	.215	.105
Educational Qualification	.458	.000**
Relationship status	.115	.099
Style of family	.290	.000**
Community drinking	.206	.004*
Employment status	.110	.059
Family's employment status	.157	.079
Geographical location	.067	.150

**Correlation is significant at the 0.01 level
*Correlation is significant at the 0.05 level.

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Table 5.4: Coefficients of CATREG model for 'Hazardous Alcohol Use'

Model	Unstandardized Coefficients	Significance
Age	.304	.033*
Educational Qualification	.452	.000**
Relationship status	.060	.620
Style of family	.191	.003*
Community drinking	.272	.000**
Employment status	.168	.007*
Family's employment status	.103	.169
Geographical location	.030	.446

**Correlation is significant at the 0.01 level
*Correlation is significant at the 0.05 level.

Table 5.5 Coefficients of CATREG model for 'Dependence Symptoms'

Model	Unstandardized Coefficients	Significance
Age	.332	.305
Educational Qualification	.311	.269
Relationship status	.196	.670
Style of family	.477	.017*
Community drinking	.051	.756
Employment status	.422	.068
Family's employment status	.056	.653
Geographical location	.262	.105

*Correlation is significant at the 0.05 level.

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Table 5.6 Coefficients of CATREG model for 'Harmful Alcohol Use'

Model	Unstandardized Coefficients	Significance
Age	.155	.540
Educational Qualification	.404	.037*
Relationship status	.483	.060
Style of family	.474	.001**
Community drinking	.226	.135
Employment status	.067	.700
Family's employment status	.277	.115
Geographical location	.125	.179

**Correlation is significant at the 0.01 level
*Correlation is significant at the 0.05 level.

An overall model derived has shown that demographic variables can together predict the severity of alcohol use at and R-value of .794 which is significant at p<0.01 level. As for the domains, the R-value for the domain of hazardous symptoms is .803 which is significant at p<0.01 level. The domain of dependence symptoms reported an R-value of .903 which is also significant at p<0.01 level. Finally, the domain of harmful alcohol use has also been found to be significant with R-value of .880 where p<0.01.

Early studies have shown that socio-economic factors play a significant role in the determination of alcohol use in the general population (Pillai et al., 2014). Socio-cultural theories of alcoholism claim that heavy alcohol use can be onset as a result of cultural

attitudes. Due to its social acceptance, alcohol is mostly used in social gatherings. It can thus influence people to indulge in frequent use just to reflect an opportunity to participate in the community. Once alcoholism starts, cultural factors might determine the prevalence of regular usage (Ward & Faillace, 1970). It can be seen in the results that regression values have come out significant when predicting severity of alcohol use and its domains in terms of various socio-demographic variables use in the study. The socio-demographic datasheet has included age, educational qualification, style of family, relationship status, community drinking, employment status, family's employment status, and even geographical location.

On evaluating the coefficients it was seen that relationship status, family employment status, and geographical location has no predictive capacity in terms of the current sample in the study. Other variables have come out to be efficient in predicting severity of alcohol use and its domains. Age was found to not have any significant predictive value in the case of severity of alcohol use. In the case of domains it has been found to have significant values for hazardous alcohol use (b=.304, p<0.05). There were no significant values derived for dependence symptoms and harmful alcohol use. Studies claim that young adults have a higher prevalence of alcohol consumption and binge drinking than any other age group. They also drink more heavily and experience more negative consequences of drinking (Quingly and Marlatt, 1996).

Education qualification has been reported to be an efficient predictor in terms of predicting 'severity of alcohol use' (b=.458, p<0.01). In the case of domains, significant values have been derived for hazardous alcohol use (b=.452, p<0.01) and harmful alcohol use (b=.404, p<0.05). No significant values have been derived for dependence symptoms.

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No study on women with similar findings could be found. Although, a study was done by Kalludi et al (2014) on older adult males in India stated that the severity of alcohol consumption was lesser in subjects who were educated. Education was concluded to be a means of awareness about the harmful effects of alcohol consumption..

Style of family has proven to be efficient predictor in terms of severity of alcohol use (b=.290, p<0.01) and its domains i.e., hazardous alcohol use (b=.191, p<0.05), dependence symptoms (b=.477, p<0.05) and harmful alcohol use (b=.474, p=0.01). The support for the family as a means to indulge in alcohol use can be supported by past research which shows that women experience more disruption than men in families (Nelson-Zlupko et al., 1995). Women have been found to be more likely to have partners or spouses who are alcohol users. Women may also identify relationship problems as a cause of addictive tendencies relating to severe alcohol use (SE et al., 1997). Women have also been found to be vulnerable to depression and thus more likely to report negative effects of alcohol. Widowhood can also be a determinant of alcoholism (Gomberg et al., 1993). According to family systems theory and cognitive behavioral approaches, counseling and intervention programs towards countering alcohol use are directed at either the concerned family member alone or can involved couples or even family as unit of treatment. Family systems theory assumes actions of individual family members affect all other members of the family (Mc Rady and Flanagan, 2021).

Community drinking has been found to have a predictive value in the case of severity of alcohol use (b=.206, p<0.05). In the case of domains, significant predictive capacity was only found in hazardous alcohol use (b=.272, p<0.01). There were no significant values derived in the case of dependence symptoms and harmful alcohol use. This finding

can be supported by utilizing a study by Ward & Faillace (1970) wherein he states that alcohol being a form of socially accepted drink that is mostly used in social gatherings; it may influence people to indulge in it, as an opportunity to participate in the community. Once alcoholism has begun, cultural factors might determine the prevalence of regular usage. The consumption of traditional alcoholic beverages has been an integral part of Sikkim's society with its staggering presence in the dietary as well as cultural practices of its people. These traditional beverages have been accepted culturally among the local ethnic populations where the use of these products is supported or even mandatory in some cases of social and traditional occasions (Tamang et al., 2007).

In cases of employment status, no significant value was derived when relating to the severity of alcohol use but a significant value was derived in the domain of hazardous alcohol use (b=.168, p<0.05). No significant values have been derived in terms of domains of dependence symptoms and harmful alcohol use. This can be supported by a study done by De sio et al (2020) which found that office workers had a lower level of alcohol consumption than unemployed people. The study claimed that work was an important determinant in reducing the risk of alcohol consumption.

CHAPTER VI
SUMMERY, CONCLUSION AND SUGGESTIONS FOR FURTHER RESEARCH

6.1 Introduction

Alcohol use can be defined as the level of risk related to alcohol use that can vary amongst individuals which can vary in categories of hazardous alcohol use, harmful alcohol use, and alcohol dependence (Babor et al., 2001). National surveys done in the past have shown that the population of women in Sikkim who use alcohol has stood higher than the national average of alcohol consumption of India (NFHS-2, NFHS-3, NFHS-4). A recent National Family Health Survey has also reported in contrast to the average of 22 states covered in Phase 1 of the survey, the percentage of alcohol use in women of Sikkim was higher (NFHS-5). WHO Epidemiological study conducted in Sikkim has also found to report a high rate of alcohol use prevalence in the female population of Sikkim (Benegal, 2011). The absence of literature based on female alcohol use demanded a need to explore this issue. The importance of studying family functioning in relation to alcohol use can be justified due to its role in recovery and relapse prevention (Gomberg, 1993; McCrady & Flanagan, 2021). Studies have reported the significant predictive capability of Difficulties in Emotion regulation towards alcohol use (Dvorak et al., 2014; Shirazi et al., 2015). Depression has also been found to play mediating role in case of alcohol dependence (Lechner et al., 2014).

6.2 Rationale

Research has reported that dysfunctionality in the family can lead to alcoholism (Mattoo et al., 2013). Studies comparing alcoholic and normal families; have found that

families of alcoholics were reported to be more troubled and dysfunctional (Rotunda et al., 1995). Several theories support the association between emotion regulation and problematic alcohol use like the motivational model of alcohol use (Cooper et al., 1995) and the tension reduction hypothesis (Conger, 1956). Studies report that alcohol in some cases is perceived to reduce negative affect in individuals which then acts as reinforcement for regular usage (Armeli et al., 2003). Self-medication theory conceptualizes that alcohol abuse acts as a responsive reaction to negative psychological states like depression (Robinson, 2007). Depression can fulfil a mediator role in relation to alcohol dependence (Lechner et al., 2014). Boden and Fergussion (2011) have reported that severe alcohol use and depression have a causal impact on one another and their course of development.

Thus, the current study with its incorporation of Family functioning, Difficulty in emotion regulation and depression has provided explorative understanding towards understanding severity of alcohol use in young adult females of East Sikkim.

6.3 Statement of the problem

The study was carried out to explore the psycho-social predictors of severity of alcohol use in young adult female population of East Sikkim. Family functioning, difficulties in emotion regulation, depression and severity of alcohol use have been subjected to various statistical analyses to gain an explorative understanding towards severity of alcohol use. Combination of various socio-demographic variables are also subjected to various statistical analyses to find their predictive power towards determining severity of alcohol use in targeted population,

6.4 Objective of the study

❖ The first objective of the study was to explore the relationship between family functioning, difficulties in emotion regulation, depression and severity of alcohol use in young adult females of East Sikkim.

❖ The second objective of the study was to explore whether family functioning and difficulties in emotion regulation could significantly predict severity of alcohol use and its domains (hazardous alcohol use, dependence symptoms and harmful alcohol use).

❖ The study also sought to explore the predictive capability of the used sociodemographic variables in determining severity of alcohol use and its domains.

6.5 Hypotheses of the study

❖ Hypothesis 1: A significant negative correlation would exist between family functioning and different domains of severity of alcohol use (i.e., hazardous alcohol use, dependence symptoms, and harmful alcohol use) in young adult females.

❖ Hypothesis 2: A significant positive correlation would exist between difficulties in emotion regulation and different domains of severity of alcohol use (i.e., hazardous alcohol use, dependence symptoms, and harmful alcohol use) in young adult females.

- ❖ Hypothesis 3: A significant positive correlation would exist between depression and different domains of severity of alcohol use (i.e., hazardous alcohol use, dependence symptoms, and harmful alcohol use) in young adult females.

- ❖ Hypothesis 4: A significant negative correlation would exist between depression and family functioning in young adult females.

- ❖ Hypothesis 5: A significant positive correlation would exist between depression and difficulties in emotion regulation in young adult females.

- ❖ Hypothesis 6: Family functioning and difficulties in emotion regulation would contribute significantly in predicting the different domains of severity of alcohol use (i.e., hazardous alcohol use, dependence symptoms, and harmful alcohol use) with depression acting as a mediator in young adult females

- ❖ Hypothesis 7: Selected socio-demographic variable would contribute significantly in predicting the different domains of severity of alcohol use (i.e., hazardous alcohol use, dependence symptoms, and harmful alcohol use) in young adult females.

6.6 Sample

The study consisted of 100 females who were 18-40 years of age who fall under Erikson's sixth stage of psychosocial development who are considered 'young adults' (McLeod, 2018). The mean age of the sample was 27.68 with a SD of 6.64. All the participants of the study have fulfilled the inclusion/exclusion criteria. The participants were reached using convenience and snow-ball sampling. All the data have been collected within the geographical location of East Sikkim.

6.7 Tools

1. Socio-demographic datasheet (Self developed).

2. Alcohol use disorder identification test (Babor et al., 2001)

3. Family APGAR (Smilkstein et al.,1982)

4. Difficulties in Emotion Regulation Scale – Short Form or, DERS-SF(Kaufman et al., 2015)

5. Beck Depression Inventory-II or, BDI-II (Beck, Steer & Brown; 1996)

6.8 Procedure for data collection

Many towns and villages were visited within the location of East district of Sikkim and consenting participants who met the sample inclusion/exclusion criteria were sought. All the data was collected using Google forms by means of self-report measure. The study has made use of standardized questionnaires and self designed sociodemographic data sheet as means to collect data. The consent form with detailed information on the current research, its purpose and assurance of confidentiality had been provided together with the questionnaire. Ethical considerations were met and all participation has been completely voluntary.

6.9 Scoring and Analysis

Scoring has been done on the various standardized questionnaire with reference to the individual manuals of the same. After scoring the data have been subjected to various statistical analyses using software SPSS 23 (Statistical Package for Social Sciences).

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The data obtained from the respondents has been analyzed to obtain the following information:

1. Descriptive statistics of the sample to derive the various frequencies

2. Bivariate correlation analysis to derive the inter-correlations between the various variables used in the study.

3. Process Macro 4.0 has been used for mediation analysis using dependent, independent and moderating variables. Model 1,1A, 1B, and 1C has used family functioning as the predictor variable towards severity of alcohol use and its domains with depression as mediator. Model 2, 2A, 2B, and 2C has used difficulties in emotion regulation as the predictor variable towards severity of alcohol use and its domains with depression as mediator.

4. Categorical regression using optimal scaling under CATREG has been used to check the predictive capability of the used socio-demographic variables towards severity of alcohol use and its domains.

6.10 Major Finding of the current study

❖ Section 1:

- There was a significant negative correlation between severity of alcohol use and its domains of hazardous alcohol use, dependence symptoms, and harmful alcohol use with family functioning.

- There was a significant positive correlation between severity of alcohol use and its domains of dependence symptoms, and harmful alcohol use with difficulties in emotion regulation. There was no correlation found between hazardous alcohol use domain and difficulties in emotion regulation.

- There was a significant positive correlation between severity of alcohol use and its domains of hazardous alcohol use, dependence symptoms, and harmful alcohol use with depression.

- There was a significant negative correlation between depression and family functioning.

- There was a significant positive correlation between depression and difficulties in emotion regulation.

❖ Section 2:

- Firstly, family function was a significant predictor of severity of alcohol use and its domains when depression was kept as the mediator. Secondly, difficulties in emotion regulation was a significant predictor of severity of alcohol use and its domains when depression was kept as the mediator.

❖ Section 3:

- The various socio-demographic variables used in the study were a significant predictor of severity of alcohol use and its domains.

6.11 Limitations of the current study

- As in accordance to the time constraints the extent to which data that could be collected was less, thus making the sample size small in frequency and only 100 in frequency.

- The study was only limited to young adult females of East Sikkim thus excluding other age groups which could be incorporated in the study.

- The sample of the current study was focused only on young adult female population of East Sikkim thus excluding other genders like males, transgender etc.

- The chosen location for research was limited to East Sikkim due to the constraints in resource availability and extent of an M.Phil research. The study excluded other districts of Sikkim for data collection as in accordance to the requirements of the current research.

- The study could also incorporate other variables which could play a role in predicting alcohol use like self-esteem, peer pressure, anxiety etc. The study was only limited to using family functioning, difficulties in emotion regulation and depression towards predicting severity of alcohol use.

6.12 Conclusion

There was a significant correlation between the family functioning, difficulties in emotion regulation, depression and severity of alcohol use and its domains. These variables were further used for mediation analysis.

- Family function was a significant predictor of severity of alcohol use and its domains when depression was kept as the mediator.

- Difficulties in emotion regulation was a significant predictor of severity of alcohol use and its domains when depression was kept as the mediator.

- The selected socio-demographic variables were a significant predictor of severity of alcohol use and its domains.

6.13 Implications of the current study

❖ The current study has provided explorative understanding towards the psycho-social predictors of severity of alcohol use in young adult female population of East Sikkim. This study can help the policy makers and various healthcare workers understand the various psycho-social factors when evaluating the cases of alcohol use in young adult female population of East Sikkim.

❖ The content of the current study lays in par with women studies. This research can thus provide valuable literature for future researchers who focus on exploring alcohol use tendencies in female population.

❖ This study can provide an understanding towards exploring the reason behind higher levels of alcohol use in women of Sikkim as compared to the national average of Indian population as reported in various national family health surveys.

❖ This study has also highlighted the various socio-demographic factors that have the ability to predict alcohol use. This needs in depth explorative studies in the near future.

6.14 Suggestions for future research

1. This study can be extended to other districts of Sikkim. It is also possible in the near future to do a comparative study between all districts of Sikkim taking the same variables as this study.

2. This current study had been gender restricted i.e., only females had been taken. Future researches can take other genders into consideration for the study that can be men, transgender etc.

3. This study had also been restricted in terms of age group taken. Future researches can take a large sample with greater range of age distribution like older adults to adolescents etc.

4. Other variables like anxiety, self-regulation, stress etc can also be incorporated in future studies for explorative study towards alcohol use

5. Sample can be made larger for better reliability and validity in future researches.

6. Comparative studies can be taken by dividing future samples in terms of gender, urban/rural community, educational qualification etc.

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INFORMED CONSENT FORM

TITLE OF STUDY :

Psycho-social Predictors of Severity of Alcohol Use in Young Adult Females of East Sikkim

PRINCIPAL INVESTIGATOR

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Please read the following carefully before proceeding:

You are being asked to take part in a research study. Before you decide to participate in this study, it is important that you understand why the research is being done and what it will involve. Please read the following information carefully. Please ask the researcher if there is anything that is not clear or if you need more information.

PURPOSE OF STUDY

The purpose of this study is to explore the psycho-social factors of alcohol use in young adult females of East Sikkim. This study is being conducted as a part of M.Phil course which is being pursued by researcher from the Department of Psychology, Sikkim University.

STUDY PROCEDURES

There are a total of 4 questionnaires to be reported that may take an approximate time of

around 15-20 minutes. The first would include the Socio-demographic Datasheet which would ask for general information about you. Then after the questionnaires of AUDIT, Family APGAR, Difficulties in Emotion Regulation Scale – Short Form and Beck Depression Inventory-II.

AUDIT is a measure for screening alcohol use, Family APGAR is a measure for screening family functioning, Difficulties in Emotion Regulation Scale is a measure for screening problems associated with regulation of emotions and Beck-Depression Inventory –II is a measure for screening levels of depression.

RISKS

There are no associated risks involved in filling the questionnaires and all your data will strictly be used only for research purposes. If in case of discomfort, you may decline to answer any or all questions and you may terminate your involvement at any time if you choose.

BENEFITS

The data which you will provide will help in understanding the problem of female alcohol use which is so prevalent in Sikkim and has also made it to higher levels in national surveys. Your participation in this study will help the research to generate fruitful conclusions which may later on help the policy makers as well as future researchers understand alcoholism in females in much more efficient manner

CONFIDENTIALITY

Your responses to this survey will be anonymous. Please do not write any identifying information on your survey. Every effort will be made by the researcher to preserve your confidentiality and the responses shall only be used for research purposes

CONTACT INFORMATION

If you have questions at any time about this study, or you experience adverse effects as the result of participating in this study, you may contact the researcher whose contact information is provided on the first page.

VOLUNTARY PARTICIPATION

Your participation in this study is voluntary. It is up to you to decide whether or not to take part in this study. If you decide to take part in this study, you will be asked to sign a

consent form. After you sign the consent form, you are still free to withdraw at any time and without giving a reason. Withdrawing from this study will not affect the relationship you have, if any, with the researcher. If you withdraw from the study before data collection is completed, your data will be returned to you or destroyed.

CONSENT

I have read and I understand the provided information and have had the opportunity to ask questions. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving a reason and without cost. I understand that I will be given a copy of this consent form. I voluntarily agree to take part in this study.

Participant's signature _____ Date _____

Investigator's signature _____ Date _____

Socio Demographic Datasheet

Instructions: Please enter the **AGE** in written format. In case of the rest of the datasheet please report by ticking a mark where possible. Please do not put more than one response to a single statement. Do ask in case of confusion.

1. Age : _____

2. Educational Qualification:

Uneducated	10th/12th Pass	Graduate	Masters & above

3. Relationship Status

Single	In a relationship	Married

4. Style of Family

Joint	Nuclear	Extended

5. Mental Health Medical History

Yes	No

6. Community Drinking

Yes	No

7. Self Employment Status

Employed	Not employed	Self-employed

8. Family Employment Status

Yes	No

9. Geographic Area

Urban	Rural

10. Preferred Choice of Drink during usual usage

Beer	Whiskey	Brandy	Vodka	Breezer	Wine	Rum	Other Local beverage Chang/Raksi/Jaar

The Alcohol Use Disorders Identification Test

Babor et al. 2001

Instructions: Place an X in one box that best describes your answer to each question.

Questions	0	1	2	3	4	
1. How often do you have a drink containing alcohol?	Never	Monthly or less	2-4 times a month	2-3 times a week	4 or more times a week	
2. How many drinks containing alcohol do you have on a typical day when you are drinking?	1 or 2	3 or 4	5 or 6	7 to 9	10 or more	
3. How often do you have six or more drinks on one occasion?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
4. How often during the last year have you found that you were not able to stop drinking once you had started?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
5. How often during the last year have you failed to do what was normally expected of you because of drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
6. How often during the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
7. How often during the last year have you had a feeling of guilt or remorse after drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
8. How often during the last year have you been unable to remember what happened the night before because of your drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
9. Have you or someone else been injured because of your drinking?	No		Yes, but not in the last year		Yes, during the last year	
10. Has a relative, friend, doctor, or other health care worker been concerned about your drinking or suggested you cut down?	No		Yes, but not in the last year		Yes, during the last year	
					Total	

Family APGAR Questionnaire

Smilkstein et al. 1982

Instructions: Please select one from the following options by putting a tick mark according to what might be applicable to you.

		Almost Always	Some of the Time	Hardly Ever
A	I am satisfied that I can turn to my family when something is troubling me.			
P	I am satisfied with the way my family talks on things with me and shares problems with me.			
G	I am satisfied that my family accepts and supports my wishes to take on new activities or directions.			
A	I am satisfied with the way my family expresses affection and responds to my emotion such as anger, sorrow and love.			
R	I am satisfied with the way my family and I share time together.			

Difficulties in Emotion Regulation Scale – Short Form (DERS-SF)
Kaufman, Xia, Fosco, Yaptangco, Skidmore, & Crowell (2015)

<u>Please indicate how often the following apply to you.</u>

	Almost Never (0–10%)	Some-times (11–35%)	About Half Of the Time (36–65%)	Most of the Time (66–90%)	Almost Always (91–100%)
1. I pay attention to how I feel	1	2	3	4	5
2. I have no idea how I am feeling	1	2	3	4	5
3. I have difficulty making sense out of my feelings	1	2	3	4	5
4. I care about what I am feeling	1	2	3	4	5
5. I am confused about how I feel	1	2	3	4	5
6. When I'm upset, I acknowledge my emotions	1	2	3	4	5
7. When I'm upset, I become embarrassed for feeling that way	1	2	3	4	5
8. When I'm upset, I have difficulty getting work done	1	2	3	4	5
9. When I'm upset, I become out of control	1	2	3	4	5
10. When I'm upset, I believe that I will end up feeling very depressed	1	2	3	4	5
11. When I'm upset, I have difficulty focusing on other things	1	2	3	4	5
12. When I'm upset, I feel guilty for feeling that way	1	2	3	4	5
13. When I'm upset, I have difficulty concentrating	1	2	3	4	5
14. When I'm upset, I have difficulty controlling my behaviors	1	2	3	4	5
15. When I'm upset, I believe there is nothing I can do to make myself feel better	1	2	3	4	5
16. When I'm upset, I become irritated with myself for feeling that way	1	2	3	4	5
17. When I'm upset, I lose control over my behavior	1	2	3	4	5
18. When I'm upset, it takes me a long time to feel better	1	2	3	4	5

Beck Depression Inventory – II

Beck, Steer & Brown, 1996

Instructions: This questionnaire consists of 21 groups of statements. Please read each group of statements carefully, and then pick out the **one statement** in each group that best describes the way you have been feeling during the **past two weeks, including today**. Circle the number beside the statement you have picked. If several statements in the group seem to apply equally well, circle the highest number for that group. Be sure that you do not choose more than one statement for any group, including Item 16 (Changes in Sleeping Pattern) or Item 18 (Changes in Appetite).

1. Sadness

0   I do not feel sad.
1   I feel sad much of the time.
2   I am sad all the time.
3   I am so sad or unhappy that I can't stand it.

2. Pessimism

0   I am not discouraged about my future.
1   I feel more discouraged about my future than I used to be.
2   I do not expect things to work out for me.
3   I feel my future is hopeless and will only get worse.

3. Past Failure

0   I do not feel like a failure.
1   I have failed more than I should have.
2   As I look back, I see a lot of failures.
3   I feel I am a total failure as a person.

4. Loss of Pleasure

0   I get as much pleasure as I ever did from the things I enjoy.
1   I don't enjoy things as much as I used to.
2   I get very little pleasure from the things I used to enjoy.
3   I can't get any pleasure from the things I used to enjoy.

5. Guilty Feelings

0   I don't feel particularly guilty.
1   I feel guilty over many things I have done or should have done.
2   I feel quite guilty most of the time.
3   I feel guilty all of the time.

6. Punishment Feelings

0   I don't feel I am being punished.
1   I feel I may be punished.
2   I expect to be punished.
3   I feel I am being punished.

7. Self-Dislike

0   I feel the same about myself as ever.
1   I have lost confidence in myself.
2   I am disappointed in myself.
3   I dislike myself.

8. Self-Criticalness

0   I don't criticize or blame myself more than usual.
1   I am more critical of myself than I used to be.
2   I criticize myself for all of my faults.
3   I blame myself for everything bad that happens.

9. Suicidal Thoughts or Wishes

0   I don't have any thoughts of killing myself.
1   I have thoughts of killing myself, but I would not carry them out.
2   I would like to kill myself.
3   I would kill myself if I had the chance.

10. Crying

0   I don't cry anymore than I used to.
1   I cry more than I used to.
2   I cry over every little thing.
3   I feel like crying, but I can't.