12-2018

ALCOHOL EXPECTANCIES AMONG STUDENTS IN THE CITY OF POKHARA, NEPAL

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NEPAL

by

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A THESIS

Presented to the Faculty of

The Graduate College at University of Nebraska

In Partial Fulfillment of Requirements

For the Degree of Master of Arts

Major: Educational Psychology

Under the Supervision of Professor Ian M. Newman and Eric S. Buhs

Lincoln, Nebraska

December 2018

ALCOHOL EXPECTANCIES AMONG STUDENTS IN THE CITY OF POKHARA,

NEPAL

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University of Nebraska, 2018

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Alcohol plays a vital role in various aspects of Nepalese society. It also presents public health risks. Though adolescents in Nepal are at high risk for negative consequences from alcohol use, there is limited information available on their alcohol behaviors and beliefs. The present study aims to describe alcohol expectancies among a sample of secondary students in Nepal to identify and understand motivations underlying their alcohol-related behaviors.

A self-report survey was administered to 591 students from different English-medium schools in the city of Pokhara. This study began with the Chinese Adolescent Alcohol Expectancy Questionnaire (CAAEQ), then used qualitative methods to discard or revise the CAAEQ questions for use in Nepal and to identify possible additional alcohol expectancies among Nepalese adolescents. The revised instrument was named Nepalese Adolescent Alcohol Expectancy Questionnaires (NAAEQ). The Exploratory factor analysis resulted in a 4-factor solution with Cronbach's alpha ranging from 0.55 to 0.78. The Confirmatory factor analysis identified a 2-factor solution to be the best fit among different models compared. Out of 4 factors, two factors "global positive" and "parental influence" were used in further analysis to identify various relationships. Mean scores on global positive expectancy differed significantly by gender, drinking status and alcohol intention. There were also significant effects for grade, drinking status and

alcohol intention on the parental influence expectancy factor. Interestingly, the effect for ethnicity on both factors was not significant suggesting the possible disappearance of ethnic norms on alcohol use. Findings from the study suggest the drinking behavior in adolescents is a function of multiple factors (age, gender, grade and intention to drink). These findings from the study have important application in the field of intervention and policy design.

ACKNOWLEDGEMENTS

My graduate school journey wasn't easy. All experiences I gained have helped me grow as a better human. I would like to take this opportunity to express my sincere gratitude to all who have been important part of this journey.

To Dr. Ian Newman, my role model and advisor who is the constant source of my motivation and inspiration. Without you, I wouldn't be in this program to begin with. You have been both my mentor and guardian. Thank you for your support, guidance and wisdom.

To Dr. Eric Buhs, my academic advisor, thank you for your invaluable insight, advice, statistical expertise and guidance.

To Dr. Duane Shell and Michelle Maas, thank you both for brilliant ideas and insightful thoughts.

To Dr. Lanyan Ding, my colleague, thank you for taking care of me as your brother and the time spent together for 3 years in Mabel Lee Hall 107.

My sincerest gratitude to my parents, family members, Pengfei Dong, my partner, who have always supported me unconditionally throughout this journey. I also appreciate my friends in Nepal, who helped me to conduct my survey for I couldn't travel back home during the period. My final appreciation to the Almighty, whose existence I have always questioned, YOU have made my journey easy by sending all these people to assist me in this journey.

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CHAPTER 1: INTRODUCTION

Overview

Drinking alcohol is a social behavior and most people expect drinking to be enjoyable (Heath, 2000). Nepal, being a multicultural and multiethnic country, has a long alcohol making and alcohol drinking tradition. Today, Nepalese society is ambivalent about alcohol use. Both positive and negative attitudes coexist. Alcohol is an inseparable part of everyday life and plays a significant role in religious, cultural, and social activities. But it is also understood that alcohol use causes health and social problems. The political and social changes in Nepal combined with an increasing number of distilleries and wineries have led to increased production of and accessibility to alcoholic beverages. This, along with changes associated with westernization, have led to a normalization of alcohol use among the general population. There are few studies describing alcohol use in Nepal. Those that are available have focused mostly on negative outcomes from the alcohol use (Shakya, 2013; Shrestha, 1992). This study describes the alcohol expectancies among a sample of Nepalese high school students and begins to identify motivations underlying their drinking behavior. This is the first study on this topic in Nepal.

Nepal: A Country Profile

Nepal is a landlocked country in southern Asia and shares a border with the two most populous countries of the world, India and China. It has a total area of 54,363 sq. miles and a population estimated in 2011 to be 26.5 million, with the urban population constituting 17% of the total population (Central Bureau of Statistics, 2014a). People 10-19 years old make up 24% of the total population. Nepal is an agricultural country with

67% of its total population, in 2011, involved in agriculture, and 33.1% of GDP and 50% of all exports depending on agriculture (Central Bureau of Statistics, 2014b). Nepal is predominantly a Hindu nation, with 81.3% of the total population identifying as Hindu, and much of its local culture revolving around Hindu principles and traditions. The other major religions are Buddhism (9%) and Islam (4.4%) with small numbers following the teachings of Kirant, Christianity, Sikhism and several other beliefs (Central Bureau of Statistics, 2014c). The overall literacy rate for the population aged 5 years and above is 65% (CBS, 2014c). The country is geographically diverse, and is divided into high mountains, foot hills, and plains. This diverse topography has created numerous ecological niches fostering subsistence farming practices, 125 caste/ethnic groups, and 123 languages spoken as mother tongues (CBS, 2014c).

Pokhara: The Study Site

Situated at the elevation that ranges from 627m (2057ft) to 980m (3215ft) above sea level, the city of Pokhara spreads over an area of 55 sq. km. It is one of the largest cities in Nepal and is located 200 km (120 miles) west of the capital city, Kathmandu. The valley in which the city is located has varying geography and rich topographical conditions. It is surrounded by lush green hills rich in flora and fauna. Additionally, due to the proximity to the Annapurna Mountain Range, which is the home to three out of the world's ten highest mountains, the city has a reputation as a major tourism and adventure hub, sometimes referred as the tourism capital of Nepal. The city is a haven for trekkers and adventure/nature lovers with opportunities for sightseeing, trekking, white water rafting, bungee jumping and paragliding. The city is growing rapidly as a commercial center, and the service sector, which includes tourism and hospitality services, and

contributes 58% of the city's economy. Remittances from Nepalese living abroad contributes 20% of the economy, while agricultural economy constitutes 16% (Baniya, 2006). The population of the city has grown from 13,000 in the first census in 1958 to the current population of approximately 300,000 (Central Bureau of Statistics, 2014a). The major ethnic groups living in Pokhara are Brahmin, Chettri, Newar, Gurung, Magar, Thakali and Dalits. Buddhism and Hinduism are the major religions with a small proportion of Muslims and Christians. The city has a strong military tradition with a significant number of its population serving in the Nepalese and British armies. The city is also an important location for quality education in Nepal, with more than a hundred private and public high schools, and several higher education institutes granting degrees up to the doctorate level in social sciences, business, medicine, science and technology.

Historically, the valley of Pokhara was inhabited by people of Tibetan-Burmese decent, mainly Gurung and Magar, as early as the 8th and 9th century. It was not until the mid-18th century that the Newars of Kathmandu Valley migrated to Pokhara. During the 22 Kingdoms and 24 Kingdoms periods in Nepal, the valley was a part of the Kingdom of Kaski and was an important trading route between Tibet and India. The Kingdom was annexed to modern-day Nepal by King Prithvi Narayan Shah in 1786. The valley continued to grow as a major trading route between India and Tibet. It was a catering place for caravan traders with limited infrastructure facilities until the Indo-China war of 1962 that annexed Tibet into China. Though the valley was envisioned as a major commercial center in the mid-18th century, it was not until the fall of the Rana regime and establishment of democracy in 1951 that the valley experienced the acceleration in its economic development. The city gained the status of Municipality in 1959, upgraded to

the Town Panchyat in 1965 during the period of absolute monarchy, and declared the

sub-metropolitan city in 1996. In 2016, the sub-metropolitan city of Pokhara was merged

with the Lekhnath municipality to form Pokhara-Lekhnath metropolitan city, making it

the largest city in area. Until the end of the 1960s, the city was only accessed by foot or

by air. The first highway, Siddhartha Highway, was completed in 1971, and the city was

connected to the capital after the completion of Prithvi Highway in 1974. Since then,

there has been rapid urbanization, with an influx of internal migrants and tourists from all

over the world.

Education System in Nepal

The education system in Nepal can be broadly divided into pre-school, school

education and higher education (Fig.1) The pre-school system is not a part of the formal

education system. The formal school education spans 12 years and ends with the

successful completion of grade 12. Students attend either public schools run by the

government or institutional (private) schools for formal education. A higher education

system consisting of bachelor, masters and PhD programs are offered by universities. In

2011, there were 34,361schools, 3,383 higher secondary schools and 9 universities (CBS,

2014c).

According to the School Sector Reform Program that restructured school

education in 2009, the formal school system is now divided into basic education

(grades1-8) and secondary education (grades 9-12). However, most schools in Nepal

have not been reorganized because of a lack of funds and resources, so the old system

persists in most places.

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            ┌─────────────────────────────┐
            │  Education System in Nepal  │
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| Pre-school (informal) | School education (12 years) | Higher education |

Old system	New system	Bachelor's/Undergraduate
Higher Secondary (Grades11-12)	Secondary (Grades 9-12)	Master's/ Graduate
Secondary (Grades 9-10)		Post Graduate, M. Phil
		Phd Doctoral
Lower Secondary (Grades 6-8)	Basic Education (Grades 1-8)	
Primary (Grades 1-5)		
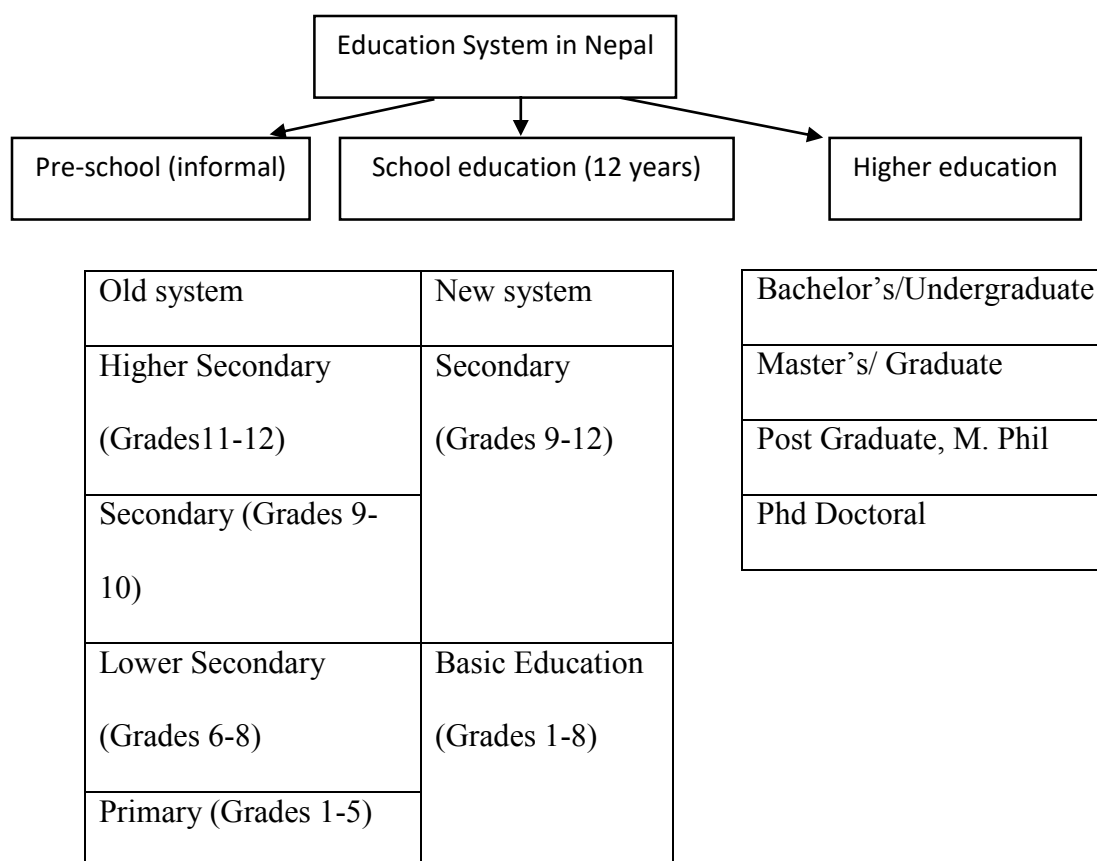
Fig. 1. Education system in Nepal

History of Alcohol in Nepal

Today, the people in Nepal can be roughly categorized into three groups based on their origin: 1. Indo-Nepalese, 2. Tibeto-Nepalese, and 3. indigenous Nepalese (Savada, 1991). The Indo-Nepalese were all Hindus, who migrated to Nepal from India and settled in the lower hills and plains in the southern part of the country. The Tibeto-Nepalese are of Tibeto-Mongol origin. They migrated from Tibet and settled in high hills and mountains in the northern part of Nepal. The third group, which is the smallest, consists of communities of indigenous Nepalese. These communities resided in Nepal before the arrival of the other two groups. Based on the discovery of neothilic tools in the Kathmandu valley, the history of Nepal can be dated back 11,000 years. This period

between the origin and the modern-day Nepal can be divided into three eras: Ancient, Medieval and Modern (Shrestha & Singh, 1972). The alcohol practices in Nepal began in the ancient period in the time of the Kirant Dynasty, which ruled Nepal from 1500BC to 300BC. Alcohol was used in rituals, and cultural and social gatherings ("The History of Kirat Rai", n.d.). The documented history of Nepal began with the inscription of King Mandev I of the Licchavi Dynasty, who ruled in Nepal between 464-505 A.D. Little is known about alcohol use during this period, however the existence of commercial trade with India and China, where there was an established alcohol drinking culture, suggests that similar alcohol practices existed in Nepal. The archeological findings from the Medieval Period suggest drinking was common between the 12th and 19th century in Nepal (Kunwor,1984). Alcohol use was popular among different ethnic groups as food and as an offering to their deities.

The social stratification of Nepal follows a unique hierarchical caste system. The Brahmin, Chettri and Thakuri, the higher strata of the Hindu hierarchical caste system, belong to Tagadhari (Holi-cod wearer) and alcohol is prohibited in their cultural practices and norms. The ethnic communities that belong to the lower strata of the hierarchical caste system fall under Matawali (alcohol drinkers). Thus, traditionally Nepalese society has been divided broadly into two groups with different alcohol use practices. This stratification of society was institutionalized in the modern era by the country's first civil code in 1854 A.D. This led to the marginalization of Matawali, who were the lowest level in the caste system. Anyone in the higher caste who drank alcohol would automatically lose their social status and prestige, both in their family and the society. This assumption is still prevalent among Brahmins and Chettris in rural areas today, where alcohol is still

a taboo. The Civil Code of Nepal 1854 was replaced by a modern civil code in 1962 that removed the discrimination based on the caste. Even though the current laws prohibit caste-based discrimination, such practices still exist in some places.

Until the last century, alcohol was locally produced, much of it home-brewed. The use of imported beverages was thought to have started after the visit of then Prime Minister Jung Bahadur Rana to England in 1950 (Dhital, Subedi, Gurung, & Hamal, 2001). Foreign alcohol was consumed by the rich and powerful nobles of Nepal. Industrial production of alcohol in local distilleries using modern alcohol making techniques began in 1960. Since the alcohol industry contributed significantly to the national economy, the industry thrived. After the democratic movement in 1989, the production and sale of spirit alcohol and beer increased rapidly (Shrestha, 1992). Today, the alcohol industry is one of the largest contributors to the national revenue. Alcohol (liquor and beer) accounted for 63% of the total excise duty in Nepal in 2016 (Inland Revenue Department, 2016)

Alcohol in China and India

Nepal is a landlocked country bordered by the People's Republic of China on the north, and by India on the east, west and south. The overall social environment of Nepal is influenced by both neighboring states. Nepal shares drinking cultures and patterns from both neighbors. This section discusses the drinking culture of China and India and its influence in Nepal's drinking practice and culture.

The history of alcohol in China can be traced back 7,000 years (Cochrane, Chen, Conigrave & Hao, 2003). Alcohol was used traditionally in major social events like festivals, social gatherings, rituals, offering to God and the worship of ancestors. It is an

important ingredient of medicine and is widely presumed to reduce stress. Drinking together is an important part of establishing and maintaining social relationships. The attitude toward alcohol is permissive with tolerance for moderate use, however there is little tolerance for bad behaviors resulting from excessive drinking. In a country as large and diverse as China, it is difficult to estimate actual alcohol use. Tang et al. (2012) cited a national survey about drinking in China which reported that 55.6% of men and 15.0% of women were current drinkers. Recent data from the World Health Organization (2014) reported that 55.9% (41.6% Males; 71.1% Females) of the total population were lifetime abstainers, and 7.6% of the total population were heavy episodic drinkers. In the last few decades, China has experienced a steady increase in alcohol production and consumption. Today, China is the largest beer producer and consumer in the world (Tang et al., 2012). The annual per capita alcohol consumption in China has been reported to be 6.7 liters of pure alcohol in 2010 (WHO, 2014). Alcohol consumption in China increased tenfold from the 1960s to the 1990s.

Unlike China, which has a permissive alcohol culture, Nepal's other neighbor, India, has never accepted alcohol as a part of everyday life (Benegal, 2005). There has never been a distinctive alcohol culture in India, like there has been in China. Traditional patterns that do exist reflect local tribal drinking patterns, practiced by small segments of the population. Hinduism, the religion of the majority of India's population stresses abstinence from alcohol. Buddhism, introduced after the establishment of Hinduism, around 700 BC, prohibits drinking among its followers. Between 1100 and 1800 AD, India was under Islamic rule. Islam, as a religion, condemns the use of alcohol. The period of British colonial rule saw a significant shift in attitudes about alcohol. Increased

production and consumption resulted when the colonial government began establishing

breweries throughout the country to reduce the costs of imported alcohol and to increase

revenue. After India's independence in 1947, alcohol policies became the responsibilities

of the states, with some states making polices to ban the production of alcohol (Rahman,

2002). Increased availability and accessibility led to a significant rise in both legal and

illegal alcohol use (Prasad, 2009). According to the WHO (2014), the prevalence of

heavy episodic drinking in India was 1.7% (3.2% Male; <0.1% Female). Abstainers were

estimated to be 84.8% of the population (75.2% Male; 95.2% Female). India has policies

on the legal minimum age for drinking alcohol. There are restrictions for on/off sales and

the time and places of sale. The Government regulates alcohol advertising and alcohol

sale/promotions.

Present Day Alcohol Use in Nepal

Alcohol consumption in Nepal has a long history and its own set of rules and

regulations. In Nepal, alcohol drinking is socially and culturally acceptable among some

ethnic groups, but prohibited among the higher Hindu castes (Brahmin, Chettris and

Thakuri) and the Muslim minority. The population that doesn't fall into one of these

groups increasingly consumes alcohol. Even though alcohol is taboo for Brahmins and

Chettris families, this belief is slowly weakening among the younger population

(Neupane & Bramness, 2004). Despite increased alcohol use, drunkenness and

alcoholism is found only in a small proportion of the population. Where alcohol is taboo,

the use of alcohol is viewed as inappropriate and leads to various consequences, most

importantly the loss of social status (Dhital et al., 2001). The people in Nepal understand

the significant role the alcohol plays in their society, and their society recognizes a wide

variety of social and physiological benefits from drinking appropriately. People can choose to drink or not to drink. This choice and the reasons for the choice is shaped by their attitudes toward drinking. In Nepalese society, drinking behavior and attitude toward drinking vary greatly. Attitudes and expectations about alcohol use are largely shaped by the family in which an individual was born and the social environment in which he or she grew to adulthood.

Alcohol drinking is a learned behavior (Newman, Shell, Qu, Xue, & Maas, 2006). There are multiple factors/determinants to explain this behavior. People drink for taste, celebration, relaxation and mood alteration. Hospitality, sociability, food and food enhancement, religion, culture and medicine are additional reasons people give for consuming alcohol. These multiple factors and their interactions add to the complexity of explaining alcohol use, especially for young people. This section discusses what is known about why people in Nepal drink.

The popularity of alcohol use is on the rise, and drinking alcohol, especially imported and high-quality alcohol, is considered a symbol of social status. However, Nepal is primarily an agricultural country with the majority of the population spending considerable amount of the time in the fields. Working in the fields results in fatigue and tiredness, and alcohol is seen as a remedy for fatigue. Many people believe alcohol is beneficial for keeping the body warm in cold weather and provides a source of energy. Drinking in groups is a way to maintain social relations and is a longstanding social tradition. Kunwar (1984) has discussed the role of alcohol in Nepalese societies. He cited social functions, religion, belief that alcohol has medical value and alcohol as food as reasons why people drink.

Though a small nation in terms of area, Nepal's society is ethnically very diverse. Alcohol serves different purposes in different communities. For example, in the Sherpa community, alcohol plays a vital role during life events like settlements, marriage and death. In an arranged marriage, alcohol is sent by the groom's parents as a marriage proposal, and drinking alcohol by the girl's father symbolizes acceptance of the proposal. Sherpas prefer to drink alcohol outside of mealtimes. In the same community, different types of alcohol are served to neighbors/relatives/visitors during mourning of someone's death. The Sherpas, before taking alcohol, touch the beverage with their ring finger and sprinkle it upwards three time as an offering to their gods. In the Newari community, a dominant ethnic group in the capital city of Kathmandu, guests and visitors to one's home are served alcohol at meals. In the farming communities among Newars, people regularly drink along with the other food and at regular intervals. They also use alcohol as offerings to their deities. Traditionally, there wouldn't be a marriage proposal without sending alcohol from the groom's family to the bride's family in the Gurung community, a dominant ethnic group in the western region of Nepal. The cultural and social use of alcohol is common in many other ethnic groups in Nepal.

Types of Alcohol Consumed

As of 2010, 47.7% of all alcohol consumed in Nepal was beer, 51.4% spirits, and 0.9% wines (WHO, 2014). There are three common types of alcohol consumed: 1) traditional alcohol, which is brewed at home following traditional methods, 2) alcohol produced in factories and local distilleries using modern technologies, and 3) imported alcohols from the other countries. The traditional homebrewed alcoholic beverages are the most common and are of two types: Distilled (local raksi and aila) and Non-distilled

(Jand, chhyang and tumba). During festivities when alcohol consumption is higher, 70%

of the alcoholic beverages consumed are locally produced (both homemade and factory

produced), while the remaining 30% are imported. ("Liquor traders witness brisk

business", 2016).

Alcohol and Nepalese Adolescents

Adolescence is the transitional phase from childhood to adulthood characterized

by significant changes in physical, social, psychological and emotional aspects of human

life (Santrock, 2007). Adolescents aged 15-19 make up 11% of the country's total

population (CBS, 2014a). In a multi-cultural country like Nepal, where traditionally

many groups use alcohol from 'womb to tomb', young people have access to alcohol at an

early age most often during religious, social and cultural occasions. The National Policy

on Regulation and Control of Alcohol-2017 prohibits the sale of alcohol to people under

the age of 21 (Gautam, 2017). Prior to the endorsement of this new regulation, the legal

age for buying and selling alcohol was 18 years, and the law was loosely enforced. One

of the major challenges in implementing the minimum age for alcohol purchase is the use

of alcohol for family functions and other religious and cultural ceremonies of the various

indigenous communities. The caste bound restriction that prevents certain populations

from using alcohol is slowly disappearing. The alcohol industries, being significant

contributors to the country's economy, market their products to people of all age groups

with few restrictions due to the current existing alcohol policies favoring such industries

(Dhital et al., 2001) The prevalence of alcohol use is on the rise among Nepalese

adolescents (Shrestha, 2012). According to the survey by Dhital et al. in 2001, the overall

prevalence of drinking alcohol among the individuals aged 10-17 in the last 12 months

was 17.4 % and for lifetime use 27.2%. The drinking environment, availability and accessibility of alcoholic beverages, social tolerance toward alcohol, poor socio-economic conditions and psychosocial competence have all contributed to alcohol use among Nepalese adolescents.

It is typical in Nepal for young people to be living with their family throughout their adolescence. This direct supervision of the adolescents gives parents some ability to control their children's behavior. Most parents are unlikely to provide their children with alcohol, however in some family, children are allowed to drink alcohol at home during social and religious occasions. Further, the adolescent period is typically characterized by experimenting, risk taking and testing their limits to explore potential identities and behaviors (Romer, 2010; Allen, Moore, & Kuperminc, 1995). Hence in this period in life, they face decisions about alcohol, and often learn drinking with their friends. The children who attend school have opportunities to have acquaintances of same age and similar interest. Peers become an important influence on the behavior of other adolescents as they search for new identities, separate from their parents (Allen et al., 1995). They are sometimes willing to conform to the group norms to gain the acceptance from their peers (Newman & Newman, 1976). These factors, like peer influence, desire to conform to the peer norms and their own desire to be seen as mature, likely lead young people to initiate drinking alcohol at an early age. Though laws exist to restrict the sale of alcohol near academic institutions, they are not always properly enforced. Young people can buy alcohol from local shops and order alcoholic beverages in restaurants with few restrictions.

Another factor that contributes to the easy access to alcohol is labor migration. The trend of male adults leaving the country for foreign employment and leaving their children at home under the supervision of their mother and grandparents, likely contributes to young people engaging in behaviors like alcohol use, which otherwise wouldn't be as likely when their father is present in the family. In a traditional patriarchal society, a male is the family leader.

Summary

Alcohol drinking is an inseparable part of Nepalese society, and it plays a vital role in social, cultural and religious activities. Alcohol also presents various public health risks. Even though adolescent drinking has been extensively studied in the western countries like the United States, there is limited information on alcohol use among the adolescents in Nepal. This study is designed to provide important information about alcohol use by Nepalese youth. This study seeks to describe alcohol expectancies among a sample of secondary school students in the city of Pokhara. The findings of this study could be useful in identifying key variables and ideas in planning alcohol related education programs for the adolescents. Chapter 2 reviews the relevant literature and concludes with the research questions that guided the study.

CHAPTER 2: LITERATURE REVIEW

Theoretical Framework: Alcohol Expectancy Theory

"Expectancy theory, in general, explains how behaviors can be influenced either by actual experience, vicarious experience or in the absence of experience, guided by an acquired concept about appropriate behavior" (Goldman, Boca & Drakes, 1999). When an association between two events is learned, the first event is said to elicit an expectancy of the second event. Once learned, the expectancy itself can elicit the associated outcome, and thus expectancies are considered to be an important determinant of behavior (Kirsch, 1999). Expectancy theory has been used to explain why people drink alcohol, and what conceptual factors related to drinking alcohol will either lead to positive (e.g. stress reduction or increased social interaction) or negative effects (e.g. loss of motor function, or possible physical harm). Alcohol expectancies are defined as the cognitive, affective and behavioral outcomes an individual expects to occur due to drinking. Expectancies vary from individual to individual. They are contextual, meaning expectancies of the same individual will vary according to the situation.

The alcohol expectancy theory has served as a conceptual basis for studying alcohol use among the adolescent population. It is a memory based cognitive learning theory, according to which the outcome expectancies related to the perceived consequences of consuming alcohol, in part, governs the drinking behavior (Young, Connor, Ricciardelli & Saunders, 2006). The alcohol expectancies, are a representation of alcohol related reinforcement, and are the results of direct and indirect experiences of alcohol users (Goldman, Brown, Christiansen & Smith,1991; Oei & Baldwin, 1994). These expectancies are regarded as structures in long term memory, and have impact on

the cognitive process governing current and future drinking (Goldman, 1999; Jones, Corbin & Fromme, 2001) Thus, from the social learning perspective, bi-directional relationships exist between the individual, environment, and behavior suggesting that these direct experiences with alcohol (consequences) represent learned information that reinforces future expectancies and behavior, and thus future consequences (Oei et al., 1994). Expectancies are 'if–then' contingencies that are hypothesized to reflect learned associations with alcohol. An example of an alcohol expectancy is: If I drink alcohol, I will feel relaxed. Once the association between behavior and outcome is learned and memorized, the association tends to influence subsequent behavior.

Alcohol Expectancy Measurement: Chinese Adolescent Alcohol Expectancy Scale

Since early 1980's, a number of scales have been developed to measure alcohol expectancies. The earliest instrument is the adult version of the Alcohol Expectancy Questionnaire (AEQ) developed in 1980 by Brown, Goldman, Inn, and Anderson (1980). About three years later, an adolescent version was developed (AEQ-A, Christiansen, Goldman, and Inn, 1982). The two versions, adult and adolescent, are similar in many respects. The difference is that the AEQ only includes positive expectancies while the AEQ-A includes both positive and negative expectancies. These two instruments are the most frequently used measures. Since the development of these instruments, various other versions (e.g., a modified AEQ, Rohsenow,1983) and new scales have been developed for different cultures and groups (e.g., the Dutch expectancy questionnaire for adolescents and adults—Wiers, Hogveen, Sergeant, & Gunning, 1997; Alcohol Effects Scale (AES)—Southwick et al., 1981; Comprehensive Effects of Alcohol Questionnaire

(CEOA)— Fremme, Stroot, and Kaplan, 1993). The Chinese Adolescent Alcohol

Expectancy Questionnaire (CAAEQ) was developed by Ming Qu (2005).

      The CAAEQ was the basis for the alcohol expectancy instrument used in this

study. The CAAEQ was initially developed from 3 months of fieldwork involving in-

depth interviews and focus group discussions exploring alcohol expectancies with

adolescents in Inner Mongolia. The 131-items questionnaire was administered to students

from Inner Mongolia. The study used factor analysis to identify the dimensionality of the

administered items. The final CAAEQ instrument consisted of 88 items and 8 factor

structures (see Table 1) (Shell et al., 2009). The development of this instrument has been

discussed in other publications (Qu, 2005; Shell et al., 2009).

Table 1

Chinese Adolescent Alcohol Expectancy Questionnaire (CAAEQ) Factors and Alpha Values

Factor	No of items	Alpha	Sample items
General negative consequences	18	0.76	Drinking alcohol causes dizziness or headache. Drinking alcohol tends to get me in trouble.
Harm to person	8	0.56	Females drinking can influence her reputation. Drinking alcohol will influence one's social development.
Negative use of alcohol	7	0.50	Drinking alcohol can dispel one's depression. I may drink alcohol when I am feeling bad.
General positive perceptions	14	0.72	Drinking is welcome behavior. Drinking is worth its cost.

Tension reduction/relaxation	16	0.72	Drinking can relieve mental pressure. Drinking alcohol makes people relax.
Drinking as social courtesy	9	0.63	I am afraid to hurt other's feeling when I refuse their toast. Alcohol adds to festival atmosphere.
Social facilitation	7	0.61	It is easier to handle affairs when drinking. Drinking can improve interpersonal relationship.
Beneficial drinking	9	0.59	Drinking a little is acceptable. A little drinking is beneficial for health.

Alcohol Expectancy Studies

The development of the "alcohol expectancy" construct can be attributed to a classic balanced placebo design study by Marlatt and colleagues (1973) in which the participants were given either the alcoholic (vodka) or the non-alcoholic (tonic) beverages in a taste-rating task. The results showed that the participants who expected to sample a drink containing alcohol drank almost twice as much beverage as those who expected to receive only tonic, regardless of the actual presence or absence of vodka in the drink. The result suggested that people's beliefs about drinking influenced their behavior, regardless of whether they were drinking alcohol or not. The researchers in the study identified the potency of cognition in predicting a social behavior in drinking situations, thus opening door to a cognitive-behavioral aspect in the study of alcohol use. Prior to this, the researchers in the alcohol field only focused on the association between alcohol use and consequences experienced, which often showed inconsistent findings and the modest relationships between two variables (Blume & Blume, 2014). The construct of

the alcohol expectancy and the theory itself went through various transitional phases, ultimately incorporating the social learning framework elaborated by Goldman and colleagues (George, Gilmore, & Stappenbeck, 2012). An individual's alcohol expectancy incorporates influences from many sources, including parental modeling, personality characteristics, biological vulnerability to alcohol, peer influence, sociocultural influences, mass media, and cultural influences (Shell, Newman, & Qu, 2009; Young et al., 2006).) The theory now incorporates a wide range of domains such as enhanced socialization, relaxation, altered cognition, sexual enhancement, assertion and affective change.

Alcohol expectancies are influenced by both age and gender (Lundahl, Davis, Adesso, & Lukas, 1997). The evidence from various studies suggests that beliefs about the effects of alcohol are present in children before their first personal experience with alcohol (e.g. Christiansen & Goldman, 1983). Any individual without drinking experience may form alcohol expectancies through observation, vicarious learning and assimilation of cultural stereotypes (Critchlow, 1986). A longitudinal study by Zucker and colleagues (1995) described the development of alcohol expectancies among children aged under 7 years. The study showed that children developed alcohol expectancies long before they ever started drinking. These researchers found the evidence that alcohol schemas were detectable in early childhood. Children as early as 3 years of age could identify at least one alcoholic beverage and this ability was more common in children from families with alcoholic fathers. The alcohol schemas, which are rudimentary at the early ages, are regarded by researchers as building blocks around which the later, more fully articulated alcohol expectancies of adolescence are shaped. Once an individual

engages in drinking behavior, expectancies about the effect of alcohol change. As drinking experience is accumulated with age, it is likely that the relationship of expectancy to drinking will evolve. The alcohol expectancy is predominately negative in the childhood, which later shifts to more positive as an individual grows and starts experimenting with the alcohol (Johnson & Johnson, 1995). Alcohol expectancies have been found to be well developed by age 12 (Christiansen, Goldman, & Inn, 1982).

Previous studies on gender difference in alcohol expectancies have yielded mixed results. Several studies have reported gender differences in alcohol expectancies (e.g., Gustafson, 1993; Larimer, Anderson, Baer, & Marlatt, 2000), while the other studies have found no gender effect (e.g., Carey, 1995; Kline, 1990). Males tend to hold stronger positive and weaker negative expectancies than do females (Jones et al., 2001). Shell et al. (2009) found males to have higher general positive expectancies than females in a sample of Chinese adolescents, while there was no significant difference in the other factors of alcohol expectancies. However, there is little agreement across the few studies about which specific alcohol expectancies are affected by gender. Sher and colleagues (1996) determined that men reported more positive expectancies than women for tension reduction, social lubrication, activity enhancement and performance enhancement. Most studies on alcohol expectancies also reported males to have more positive expectancies of social assertiveness and sexual enhancement than females (Brown et al., 1980; Gustafson, 1993; Mooney, Fromme, Kivhalan, & Marlatt, 1987).

Studies have found alcohol expectancies to be significant predictors of alcohol use in adolescents. In a community study of 614 children in families at high risk, Jester and colleagues (2015) concluded a reciprocal relationship existed between the children's

alcohol expectancies and the development of alcohol use. The findings showed that social/relaxation expectancies, which are positive expectancies, predicted time to the onset of binge drinking and first time drunk. In a reciprocal effect, onset of drinking among adolescents led to increase in rate of positive expectancies. Among a sample of adolescents aged 11-14, Christiansen et al. (1989) predicted participants' transition from non-problem to problem drinking during the next 12 months. Alcohol expectancies among the participants measured a year earlier accounted for 25% of the variance in drinking behavior a year later – suggesting the longitudinal predictive power of alcohol expectancies in that sample. Alcohol expectancies have been found to change with increasing drinking experience (Christiansen et al., 1982). Patrick et al. (2010) found alcohol expectancies to be strong proximal predictors of alcohol use and predicted relative change in alcohol use and misuse across two decades from the adolescence to the adulthood. The researchers used long term longitudinal data to predict alcohol use/misuse in subjects in the mid 30's from alcohol expectancies reported in adolescence. They found that the cohort members with more positive expectancy at age 16 reported increase in alcohol quantity consumed relative to their peers between ages 16-35, and had a higher likelihood of lifetime and previous year alcohol misuse at age 35. One study has examined the association between alcohol expectancies and two important aspects of drinking behavior (frequency and quantity of alcohol used). Positive alcohol expectancies were found to be consistently and strongly associated with quantity more than with frequency of alcohol use (Chen, Grube, & Madden, 1994).

Initially, alcohol expectancies were conceptualized as positive outcomes or expectations of reinforcement, however Leigh (1989) proposed that a decision to drink

was made by weighing the positive and negative expected consequences in drinking in a

given situation, so both negative and positive expectancies deserved attention.

Subsequently, research has found associations of positive expectancies with increased

drinking, and negative expectancies with decreased drinking (Jones et al., 2001;

Neigbors, Walkers, & Larimer, 2002). Various studies have also found a difference in

alcohol expectancies between alcohol users and non-users (Shell, Newman, & Qu, 2009;

Newman, Shell, Innadda, & Li, 2005). These studies, conducted among the high school

students, found that regular drinkers had higher positive expectancies, while students who

didn't drink had significantly higher negative expectancies. Positive expectancies were

also reported by the adolescents who were drinkers in a separate study in India (Sandhya,

Carol, Kotian & Ganaraja, 2013). Alcohol expectancies have been studied as mediators in

the association of other risk factors to alcohol consumption, including but not limited to

sensation seeking, impulsivity, anxiety and delinquency (Ham, Bacon, Carrigan,

Zamboanga, & Casner, 2015; Ham, Zamboanga, Olthuis, Casner, & Bui, 2010; Wood,

Read, Palfai, & Stevenson, 2001; Urbán, Kökönyei, & Demetrovics, 2008). Goldman et

al. (1999) argued that expectancies serve as one final common pathway to drinking and

alcoholism.

Based on the established relationships between alcohol expectancies and drinking

behavior, some researchers have proposed the manipulation of these expectancies in the

prevention and treatment of problem drinking. A review of studies by Jones et al. (2004)

concluded further studies needed to be done to securely link the manipulation of various

alcohol expectancies with subsequent changes in alcohol consumption. Nevertheless,

alcohol expectancies have been found to be correlated with drinking behavior across a

wide range of age and drinking styles. The few studies done in various Asian populations in Thailand and China, have also shown alcohol expectancies to be associated with alcohol consumption (Newman Shell, Li, & Innadda, 2006; Shell et al., 2009).

Prevalence of Alcohol Use among Nepalese Drinking Population

Alcohol has always been used in Nepal, but what proportion of the population consume alcohol is not well documented. Social tolerance for alcohol use is high. Consequently, there has been a lack of serious concern by the government to describe national drinking patterns. Some experts believe alcohol abuse has become the single biggest medical and social problem in Nepal, but the issue has been overshadowed by drug use and tobacco smoking (Shrestha, 1992). In Nepal, most available studies have focused on epidemiological aspects, in the clinical setting, and with limited attention to populations who are at the risk for alcohol related problems (Budhathoki et al., 2010; Shakya, 2013).

Dhital et al. (2001) conducted a large scale comprehensive study of drug use, including alcohol. This study aimed to provide baseline information on use of drugs, including alcohol, for different strata in Nepalese society. This first large scale study of its kind in Nepal included 2,400 households in 16 districts. Interviews were completed in 2,333 households (97.2% response rate). A single person was interviewed in each household. The respondents were asked about alcohol use in their lifetime, in the last 12 months, and in the last 30 days. Of the total sample, 57% had ever used alcohol in their life time, 41% (48.3%M, 27.7%F) of the respondents had consumed alcohol beverages in the last 12 months, and 37.6% (46.5% M, 21.35%F) had consumed alcohol in the last 30 days. In a separate study, Thapa and colleagues (2016) assessed the prevalence of alcohol

consumption in the squatter's communities of Kathmandu. They found that out of 422 residents (age range: 18-64, 46.7% M, 53.3% F), who participated in the study, 39.81% had consumed alcohol in the past 12 months.

The World Health Organization is an important source of data on alcohol use worldwide; however, WHO's 1999 *Global Status Report on Alcohol* did not include data from Nepal (WHO, 1999). The WHO's 2004 report used the data from Dhital et al.'s study for its only source (Dhital, 2001; WHO, 2004). In the 2011 report, the WHO estimated 31.2% of Nepal's population to have consumed alcohol in the past 12 months (WHO, 2011). WHO's report on alcohol published in 2014 estimated the percentage of Nepalese who drank in the past 12 months to be 12.1% overall (12.1%M and 3.6% F) (WHO, 2014). The WHO (2014) also classified 0.4% of the population as heavy episodic drinkers, defined as someone who consumes at least 60g or more of pure alcohol on at least one occasion weekly. The World Health Organization's Global Status Reports on Alcohol are based on data supplied by each country. The WHO also conducts the regular STEPwise approach to Surveillance (STEPS) survey, which is a standardized survey used by all participating countries to collect data on non-communicable disease risk. In the 2003 STEPS survey conducted in Kathmandu, 48% of the total respondents (N=2030, ages 25-64, 49.8%M, 50.2%F) had ever consumed alcohol in their life time, whereas the survey conducted in 3 districts (Lalitpur, Illam and Tanahu) in 2005 reported the overall prevalence rate at 38.4% in a sample of 7792 people aged 15-64 (47.15%M, 52.85%F) (Shrestha, Wagle, Karki, & Regmi, 2005). The percentage of current users (last 12 months) was 37.4% (50.4% M, 25.8%F) in 2003, and 28.6% (59.1% M, 26.4% F) in 2005. The findings of these surveys showed variations in the prevalence of alcohol use in

different regions in Nepal, and significant gender differences in alcohol use. Two nationally representative sets of cross-sectional STEPS surveys were conducted in 2007/08 and 2012/2013. The survey in 2007/08 reported 37.3% of the respondents (N= 4328) consumed alcohol in the last 12 months (Karki, Dahal, Regmi, Poudel, & Gurung, 2008), whereas the percentage in 2012/13 was 22.1% (N=4143; Aryal et al, 2014). The gender difference in alcohol consumption was also apparent in both surveys: 50.4% M, and 22.7% F in 2007/08; 35.1% M and 9.4% F in 2012/2013.

Prevalence of Adolescent Alcohol Use in Nepal

The easy access and availability of alcohol in the market in combination with loose enforcement of the alcohol minimum age law has created a favorable social environment for young people to purchase and consume alcohol with little to no restriction. Some experts in the field of substance use in Nepal have suggested a rise in alcohol use among the adolescent population (Shrestha, 2012). However, there is lack of longitudinal data on alcohol use among young people to support claims of a trend. Most studies on substance use among adolescent have focused on tobacco use. The most recent "Demographic and Health Survey" in 2016 did not include alcohol as a health indicator. A recent study was conducted to identify the prevalence and risk factors associated with psychoactive drug use among a sample of adolescents in Nepal, however the survey did not ask about alcohol use (Karki, Länsimies, Laukkanen, Pirskanen, & Pietilä, 2016).

A national level study by Dhital et al. (2001) reported the extent and pattern of alcohol use among a sample of youth aged 10-17(N=426). Alcohol use in the 12 months preceding the survey was found to be 17.4% (21.8% M, and 11.2% F). Only 9.2% of the youth (10.1%M, and 7.9% F) reported drinking in the last 30 days. A recent study in

Suryabinayak Municipality, Bhaktapur, of a sample of 250 adolescents and young adults (ages 15-24) found 56% (male 37.6% and female 18.4%) to have used alcohol in the past 12 months (Maharjan & Magar, 2017). Among those who drank alcohol in the last 12 months, 73.6% had consumed alcohol in the past 30 days. The higher prevalence in the second study is likely due to the inclusion of a larger age range of respondents. Both surveys found that a substantial proportion of youth were drinking alcohol, and gender differences in alcohol use were clear.

A few other studies have reported on the prevalence of alcohol use among adolescents and special populations. In the study by Child Workers in Nepal (CWIN, 2004), out of 789 adolescents aged 10-18, 11.8% had used alcohol in their lifetime and 2.4% had consumed alcohol within the past year. Shakya (2013) in his review paper cited an unpublished survey done in 2003 titled "Survey of KAP of alcohol and other substance use/abuse among high school students in Dharan" that reported 11.1% of the total participants (N=1889, mean age 15.5 years) had used alcohol at some point in their lifetime. Dhital, Gurung, Subedi & Hamal (2002), interviewed 180 (160 males, and 20 females) street children aged 10-17 from six urban centers in Nepal. The percentage of these at-risk children who had ever used alcohol in their lifetime was 63.9%(66.9% M and 40.0%F). Of the total sample, 55.6% had consumed alcohol in the last 12 months (59.4% of the boys; 25.0% of the girls).

Astha Shrestha (2012) reported that out of 170 students aged 14-19 years, 22.9% were current alcohol users. In her study she, however, didn't specify any time criteria for a participant to be classified as a "current" drinker. Shrestha did explore factors related to intention to use alcohol and found significant relationships between intention to use

alcohol and alcohol refusal skills, relaxation skills, media influence, peer influence, accessibility to alcohol, and family relationships. In another study, Parajuli and colleagues (2015) explored the socio-contextual influence on alcohol use among sample of 857 adolescents aged 11-17. Nepalese ethnic groups can be broadly categorized into traditional alcohol non-users (TANU) and traditional alcohol users (TAU). The researchers examined the difference in alcohol use by ethnic group. Among TANU, 19.4% reported drinking alcohol in their lifetime, whereas for (TAU) adolescents the percentage was 40.1%. The study, however, didn't assess the prevalence rate of alcohol use among participants in terms of their recent use. This study also found that alcohol use was significantly related to perceived approval from parents and peers.

Summary

The findings from the studies of alcohol use among adolescents in Nepal are inconsistent. Most of the studies discussed in this review focused on the prevalence rate of alcohol use among adolescents. The studies suggest adolescent drinking rates vary significantly by geographic region, socio-economic level, ethnicity, and gender. The inconsistency in the findings may also be related to the design of the survey questions. Only a couple of studies attempted to measure individual and social factors linked to alcohol use or intention to drink. Expectancy theory has been widely used in the western countries and in a few Asian countries to better understand adolescent alcohol use. This is the first attempt to use alcohol expectancy theory to understand drinking behavior among secondary level students in Nepal.

Purpose Statement

The purpose of this study was to describe and explore aspects of alcohol use and alcohol expectancies among a sample of secondary level students in Pokhara, Nepal.

General Objectives

- To examine the relationship between alcohol use and selected demographic variables (age, gender and ethnicity) among a sample of secondary level students in Nepal.

- To describe alcohol expectancies among a sample of secondary level students in Nepal.

- To explore how age, gender, and ethnicity are related to alcohol expectancies among a sample of Nepalese adolescents.

CHAPTER 3: METHODOLOGY

This study is the first known attempt to describe alcohol expectancies among secondary students in Nepal, hence the study is descriptive in nature. A cross sectional survey research design was used. The study aimed to add to the existing literature on alcohol in Nepal by addressing the following questions:

Research Questions

1. What is the factor structure and the properties of the Nepalese Adolescents Alcohol Expectancy Questionnaire (NAAEQ) with the data drawn from the Nepalese adolescent sample?

2. What are the properties of the factor/scale scores gathered on the NAAEQ for adolescent students in Nepal?

3. Does drinking status among a sample of Nepalese adolescents differ based on, 1) age, 2) gender (male vs female), and 3) ethnicity (traditional alcohol-user vs traditional alcohol non-user)?

4. Do the participants differ on their alcohol expectancies based on 1) drinking status (alcohol user vs. alcohol non-user), 2) age, 3) gender (male vs female), and ethnicity (traditional alcohol-user vs traditional alcohol non-user)?

Hypotheses

1. Both occasional and current drinkers will have higher positive alcohol expectancies than non-drinkers.

2. Males will have higher general positive alcohol expectancies than females.

3. The traditional alcohol-users will have higher positive alcohol expectancies than traditional alcohol non-users.

4. The older participants will have higher positive alcohol expectancies than the younger participants.

5. The participants with a higher intention to use alcohol in the next 6 months will have higher positive alcohol expectancies than those with a lower intention to use alcohol.

Development of the Nepalese Adolescent Alcohol Expectancy Questionnaire (NAAEQ)

No adolescent alcohol expectancy questionnaire has yet been developed for Nepal; therefore, the "Chinese Adolescent Alcohol Expectancy Questionnaire" (CAAEQ) formed the basis for the development of the expectancy questions to be used for this study. As a first step, the researchers invited Nepalese undergraduate and graduate students studying at the University of Nebraska-Lincoln to a group discussion about alcohol use in Nepal. The objective of the discussion was to gather information that would be relevant to revising the CAAEQ questions for use in Nepal. The participants were invited because they had lived in the urban areas in Nepal before moving to the USA and because they had firsthand knowledge of alcohol use in Nepal. The discussion was led by Dr. Ian Newman. The participants were informed about the purpose of the study and the discussion. The focus of the discussion was high school students in urban areas in Nepal and alcohol. The discussion lasted for approximately 90 minutes until the researchers determined no new information was emerging from the discussion.

The 65-item Chinese Adolescent Alcohol Expectancy Questionnaire (Ding, 2014) was used for the purpose of the discussion. These items were translated from Chinese to English for use in the discussion group. The discussion elicited comments on potential differences for the Nepalese population on the following response prompts regarding alcohol use and expectancies: gender, age, religion, caste, income, rural/urban, health/safety, cultural values, family use, and benefits/harms (See Appendix B for a complete list of statements and comments from participants in the focus group). In the group discussion, the participating students commented on the appropriateness of the items, critiqued the comprehensibility of the items, and suggested changes to improve content and structure of questions. Of the 65 CAAEQ items, 18 items (2, 3, 5, 9, 10, 11, 18, 22, 33, 35, 37, 41, 48, 52, 56, 61, 63, 65) were removed because they were not relevant to Nepalese young people. Seven items (16, 14, 24, 36, 43, 50, 55) were removed because they were specific to Chinese alcohol culture and drinking practices. Similarly, seven items (6, 14, 24, 36, 43, 50, 55) were deleted because they contained references to sexual content. In addition to Nepal being a conservative nation, the participants in the group discussion raised concerns about the appropriateness of including these items due to the age of the intended survey participants. Based on suggestions from the group discussion, the wording of some questions was revised and some new questions were developed. The resulting Nepalese adolescent alcohol expectancy questionnaire used for this study consisted of 52 items: 33 items adapted from the CAAEQ, 15 new items developed as a result of the group discussion, and 4 items suggested by the investigators based on their knowledge of Nepalese society.

Population Location

The study was conducted in schools in Pokhara, Nepal. The location was selected because of its convenient location and because of the number of secondary level schools in the city. In addition to being an ethnically diverse city, Pokhara attracts secondary level students from different parts of the country, making the student body very diverse.

Criteria for Selecting Participating Schools and Participants

The schools meeting the following two criteria were invited to participate in the study: (1) secondary level schools, minimum of grade 10 level with students generally between ages 12-18; and (2) English as the primary language of instruction. Any student enrolled in grades 8 to 12 (secondary level) in the schools that granted permission for the study was eligible to complete the questionnaire.

Study Population and Sample Size

Students attending grades 8-12 (secondary level) in English-language schools in Pokhara were the target study population. The minimum sample size required for the study was estimated using the following formula

$n = Z^2_{1-\alpha/2} P(1-P)/d^2$, where,

n	= sample size
$Z^2_{1-\alpha/2}$	= confidence interval
P	= estimated proportion
d	= desired precision

Since there are no previous studies using this questionnaire with this population, p= 0.50 was used because it is the most conservative estimate, and it would yield the largest sample size. Allowing for a margin of error of 5% (d=0.05), 95% confident level

(z=1.96), and adding 10% non-response rate (for complete or missing data), *n* was

calculated as follows.

n = 1.962 0.5(1-0.5)/0.052 + 10% non-response rate

= 384.16 + 38.42 = 422.57

= (423) cases

Variables and Measurements

Note: descriptive statistics for all measures are presented in the results section below.

    Demographic variables. Four questions were included that assessed 1) age, 2) Sex, 3) Grade currently enrolled, and 4) Ethnic group. For ethnicity, two options— Brahmin and Chettris—are traditional alcohol non-users (TANU). Participants who chose ethnic groups other than Brahmin and Chettris were classified as traditional alcohol users (TAU).

    Alcohol use. One item was used to measure alcohol use. The participants were asked how often they drank alcohol in the past 12 months. The participants were classified into three groups based on their response. Those who didn't consume alcohol in the last 12 months were classified as non-drinkers. Participants who said they drank alcohol in past 12 months but not in the last 30 days were classified as occasional drinkers, and participants who consumed alcohol on one or more days in the last 30 days were classified as current drinkers.

    Alcohol expectancy. Students responded to the 52 alcohol expectancy items on a five-point Likert scale: 1) strongly disagree, 2) disagree, 3) neither disagree nor agree, 4)

agree, and 5) strongly agree. A lower score reflected the absence of a particular

expectation, whereas a higher score reflected the presence of a particular expectation.

Alcohol Intention. The likelihood a participant would drink alcohol on different

occasions in the next 6 months was measured using four items. The participants were

asked about their intention to drink 1) at a party with friends, 2) in a family celebration,

3) at a festival celebration, and 4) their general intention to drink alcohol in the next six

months. The participants responded on a five-point scale: 1) completely disagree, 2)

disagree, 3) neither disagree nor agree, 4) agree, and 5) completely agree. The higher the

aggregated mean score for the four items, the higher the individual's intention of

consuming alcohol in the next six months. Based on aggregated mean scores, participants

were grouped into three categories: 1) high intention (≥ 3), 2) ambivalent (>2-<3), and 3)

low intention (≤ 2). The cutoff points for the groups were based on the response value

chosen by the participants. The participants who agreed on each intention statement

would choose either 4 or 5, whereas those who disagreed would choose 1 or 2. Therefore,

the participants who scored 2 or less are likely to have low intention to drink, whereas

those who score 4 or higher are likely to have high intention to drink. The participants,

who neither disagree nor agree (ambiguous), choose the value 3 in the Likert scale.

Data Collection Procedure

In the participating schools, the principals selected the classrooms to be surveyed.

All students in the selected classroom on the day of the survey completed the

questionnaire. The participants were informed about the purpose of the survey and of

their right to refuse to answer any of the questions or not participate in the survey without

negative consequences. In addition, a statement about the study purpose and participants'

rights was printed on the front page of the questionnaire. Classroom teachers followed a written script while overseeing the students completing the questionnaire (see appendix C).

Ethical Consideration

The Institutional Review Board at the University of Nebraska-Lincoln granted ethical approval to conduct the study (Project ID: 17066 IRB Approval #: 20170417066EP).

Data Analysis

The data analysis was performed using the Statistical Package for the Social Sciences, version 25 (SPSS 25). A descriptive analysis was conducted to describe the characteristics of the sample in the study. The Chi-square test was used to determine the demographic differences of alcohol nondrinkers, occasional drinkers, and current drinkers. An Exploratory Factor Analysis (EFA) was performed on a random split half-sample to identify the factor structure of the questionnaire items for alcohol expectancies. A Confirmatory Factor Analysis (CFA) was conducted with the second split half sample. The independent t-test and/or ANOVA were used to examine the differences in mean expectancy scores for demographic variables (gender, age, grade and ethnicity), drinking status (non-drinker vs. occasional vs. current), and drinking intention (high vs. ambivalent vs. low)

CHAPTER 4: RESULTS

Characteristics of the Sample

The sampling unit for this study was a private secondary level school located in the city of Pokhara. A convenient (non-probability) sample was used. Five schools participated in the study. The data used in this study were collected in May-June 2017. A total of 591 students completed the survey. Of these, 29 questionnaires were deemed invalid and removed from any further analysis This judgement was based on incomplete questionnaires, identical responses and systematic response patterns (e.g. AAABBBAAABBB, ABABAB, and so on). Table 2 shows the demographic characteristics of the valid sample of 562 students in the study.

Table 2
Demographic Characteristics of the Sample

	N	%
Gender		
Male	297	53.32
Female	260	46.68
Total	557	100
Ethnicity		
Traditional alcohol user (TAU)	449	80.18
Traditional alcohol non-user (TANU)	111	19.82
Total	560	100

Age (in years)

12	2	0.36
13	14	2.50
14	96	17.14
15	157	28.04
16	126	22.50
17	94	16.79
18	53	9.46
19	9	1.61
20	9	1.61
Total	560	100

Grade

8	14	2.49
9	140	24.91
10	190	33.81
11	101	17.97
12	117	20.82
Total	562	100

Drinking Status

Non-drinker	387	78.66

Occasional drinker	72	14.63
Current drinker	33	6.71
Total	492	100

Alcohol Intention		
Low intention	311	57.17
Ambivalent intention	85	15.63
High intention	148	27.20
Total	544	100

As shown in the Table 2, the gender distribution of the sample was almost equal (53.32% M, 46.68% F). The mean age of the participants was 15.76 years.

Drinking Status

Based on a single alcohol use question in the survey (see Appendix C), the participants were categorized into three groups: 387 Nondrinkers (78.66%), 72 Occasional drinkers (14.63%), and 33 Current drinkers (6.71%). Seventy students did not answer the alcohol question.

Association between drinking status and demographic variables. The relationship between drinking status and demographic variables was tested using Chi-square test of independence. A significant difference was found for age, gender, and grade. The result for ethnicity was not significant.

Although the Chi-square analyses showed a significant result for age, there was no clear pattern to participant's age and drinking status (Table 3). Female drinkers

(15.75%) were more likely to be occasional drinkers than males (13.33%), whereas male

drinkers (10.98%) were more likely to be current drinkers than females (2.13%) (Table

4). The participants in grade 8 were more likely to be non-drinkers, and those in grade 12

were more likely to be occasional and current drinkers (Table 5).

Table 3
Drinking Status by Age

Drinking status		Age									Total
		12	13	14	15	16	17	18	19	20	
Non-drinker	N	2	9	73	113	84	64	32	3	6	386
	%	100	69.23	84.88	82.48	81.55	75.29	65.29	42.85	66.67	78.62
Occasional drinker	N	0	4	10	12	11	16	13	4	2	72
	%	0	30.77	11.62	8.76	10.68	18.82	26.5	57.14	22.22	14.66
Current drinker	N	0	0	3	12	8	5	4	0	1	33
	%	0	0	3.49	8.76	7.77	5.9	8.16	0	11.11	6.72
Total	N	2	13	86	137	103	85	49	7	9	491
	%	100	100	100	100	100	100	100	100	100	100

$\chi 2$ = 30.098, df=16, P=0.017

Table 4
Drinking Status by Gender

Drinking Status	Gender				Total	
	Male		Female			
	N	%	N	%	N	%
Non-drinker	193	75.68	193	82.12	386	78.77
Occasional drinker	34	13.33	37	15.75	71	14.49
Current drinker	28	10.98	5	2.13	33	6.74
Total	255	100	235	100	490	100

χ2 = 15.37, df=2, P<0.001

Table 5
Drinking Status by Grade

Drinking status	Grade										Total	
	8		9		10		11		12			
	N	%	N	%	N	%	N	%	N	%	N	%
Non-drinker	10	83.33	95	78.51	139	85.28	77	86.52	66	61.68	387	78.66
Occasional	0	0	20	16.53	12	7.36	9	10.11	31	28.97	72	14.63
Current	2	16.67	6	4.96	12	7.36	3	3.37	10	9.35	33	6.71
Total	12	100	121	100	163	100	89	100	107	100	492	100

χ2 =34.80, df=8, P<0.001

Association between drinking status and alcohol intention. Table 6 describes

participants by their drinking status and intention to use alcohol in the next six months.

Table 6
Drinking Status by Alcohol Intention Level

Alcohol Intention	Low		Ambivalent		High		Total	
Drinking Status								
	N	%	N	%	N	%	N	%
Non-drinkers	261	94.57	52	69.33	56	45.53	369	77.85
Occasional	11	3.98	16	21.33	45	36.58	72	15.19
Current	4	1.45	7	9.33	22	17.19	33	6.96
Total	276	100	75	100	123	100	474	100

$\chi2$ =122.59, df=4, P<0.001

Alcohol Expectancy and Factor Analysis

Exploratory factor analysis and reliability analysis. The sample of 562 students

was randomly split into two sub-samples of equal size (n=281) for a two-part factor

analysis. An exploratory factor analysis was used to identify the factor structure of

alcohol expectancy. The factor structure was based on both statistical advantage of the

obtained factor structure and the conceptual coherence of the items in each factor. The

initial analysis included use of multiple approaches/indicators (Kaiser's test or eigenvalue

>1, parallel analysis and screen plot test) to determine number of factors. These multiple

approaches suggested two to six factors. The ultimate selection of items in the identified factors was based on the following criteria:

- Items loading at or above 0.5

- No significant cross loading (i.e., estimated loadings above 0.3)

- Items conceptually interpretable and coherent

Initially, an EFA was performed in all 52 items. To determine the best factor structure, the analysis was conducted extracting two to seven factors, and the solutions were compared for quality and interpretability. A four-factor solution was identified as the most suitable. This factor solution produced relatively clean factor loadings and was conceptually coherent. The four factors are summarized as follows: Factor 1 (8 items) represents alcohol as a global positive agent that results in enhanced positive effects, socialization and relaxation; Factor 2 (4 items) was conceptualized as parental influence on how adolescents perceive alcohol and its uses; Factor 3 (2 items) contained traditional Nepalese alcohol related beliefs; and Factor 4 (3 items) was interpreted as alcohol induced externalizing and risky behaviors. The first factor is positive in nature, whereas second, third, and fourth factors are negative.

The four factors had eigenvalues of 7.23, 4.69, 2.51 and 2.06. They accounted for 31.72% of the total variance (Factor1=13.90%, Factor2=4.69%, Factor3= 4.83%, and Factor4=3.96%). The four scales suggested by each factor were subjected to reliability analysis. The Cronbach alpha was used as the reliability measure. Following the initial determination of a four-factors structure followed by reliability analysis, factors were

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cleaned by removing ill-fitted items. The descriptive statistics of the four factors and their

Cronbach alpha values are presented in Table 7.

Table 7

Mean Scores of Alcohol Expectancy Factors and their Reliability Estimates (Cronbach's alpha).

Factors	No of items	N	Mean Score	Alpha
1	8	514	3.20	0.78
2	4	538	4.26	0.64
3	2	543	2.75	0.69
4	3	516	3.41	0.55

The item correlations ranged from 0.30 to 0.61 indicating acceptable item

properties (Appendix E). Cronbach's alpha values for the four factors ranged from 0.55

to 0.78 indicating an acceptable/satisfactory degree of internal consistency within the

scales with the exception of factor 4, which returned a low value of 0.55. Nunnally and

Bernstein (1994) recommended that the internal consistency, as measured with

Cronbach's alpha, should be at least 0.70 for a self-reported instrument to be reliable. The

alpha values for the scale in the study are within the similar range reported for the

CAAEQ (Shell et. al., 2009) and Alcohol Expectancy Questionnaire (AEQ) developed in

the United States for both adult and adolescent versions (Brown, Christiansen, &

Goldman, 1987).

Confirmatory factor analysis. The Exploratory Factor Analysis (EFA) combined

with Confirmatory Factor Analysis (CFA) provide a good tool for model development.

The EFA has been suggested as an appropriate analysis in the early stage of model

development. It identifies an initial factor structure for a set of variables. CFA is a good tool in the later stage of the model development, when a researcher proposes an exact model in advance, then forces variables to load on certain pre-determined factors. The purpose of CFA is to test the fit of that particular model. Thus, the primary aim of a CFA is to determine the ability of a predefined factor model to fit an observed set of data (DeCoster, 1998).

The four-factor solution extracted from the EFA in the earlier stage using one half of the split sample was used as the predefined model. The remaining data from 281 students were used for the CFA to test whether that factor solution could be modeled with the second data subset. In order to assess the best model-fit for alcohol expectancy scale, we applied a set of fit indices that included the chi-square statistic, the Root Mean Square Error of Approximation (RMSEA), Bentler's Comparative Fit Index (CFI), and Standardized Root Mean Square Residual (SRMR). These were computed using Mplus with maximum likelihood estimation. The Akaike (AIC) value was also computed as a comparative measure of fit to across different models as necessary.

The Chi-square has been traditionally used as a measure for evaluating overall model fit, this test is sensitive to the sample size, hence any model with a large sample size is nearly always rejected even when the model actually describes the data accurately. For this reason, various other fit indices have been proposed. Since each fit statistic has its own limitation, the consistency across indices may be regarded as the most suitable and reliable assessment of model fit. MacCallum, Browne and Sugawara (1996) have used 0.01, 0.05, and 0.08 to indicate excellent, good, and mediocre fit, respectively. However, others have suggested 0.10 as the cutoff for poor fitting models. A SRMR

value below 0.08 indicates a good-fitting model (Hu & Bentler, 1999). CFI values can

range from 0 to 1, with values closer to 1 indicating a good model fit. A lower CFI value

indicates a better fit, and it is meaningful only when different models are estimated.

These fit indices values for four different models were calculated to identify the best fit

model (Table 8).

Table 8

Fit Indices Statistics for different Models.

Models	AIC	Chi-square	df	RMSEA	SRMR	CFI
Four factors	13425.36	173.46	98	0.05	0.06	0.86
Three factors without 4th	11104.61	111.96	62	0.05	0.06	0.89
Three factors without3rd	11630.92	132.48	74	0.05	0.06	0.87
Two factors (1st and 2nd)	9311.06	84.06	43	0.06	0.05	0.90

AIC= Akaike Information Criterion
RMSEA= Root Mean Square Error of Approximation
SRMR= Standard Root Mean Square Residual
CFI= Confirmatory Fit Index

The CFA model estimates and fit indices indicated that the two-factor solution

was the best fit to the data (see Fig.1 and Fig.2). This overall fit was based on the

consistencies across various reported fit indices. The AIC value is the lowest for this

model, a RMSEA value was 0.06 (90 percent confidence interval 0.04 to 0.08), and a

SRMR value was 0.05 which is less than 0.08.
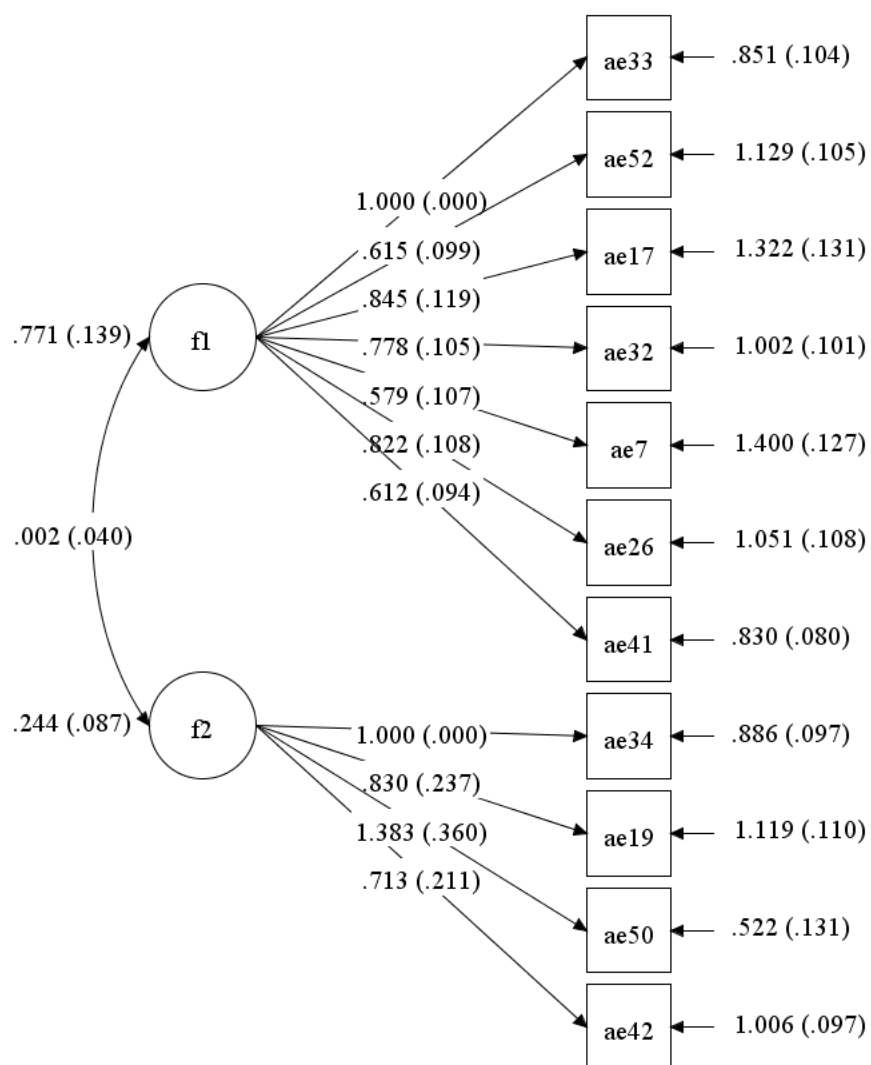
Fig. 2. A diagram of CFA representing two-factor model of NAAEQ (f1=Global positive, f2=parental influence)
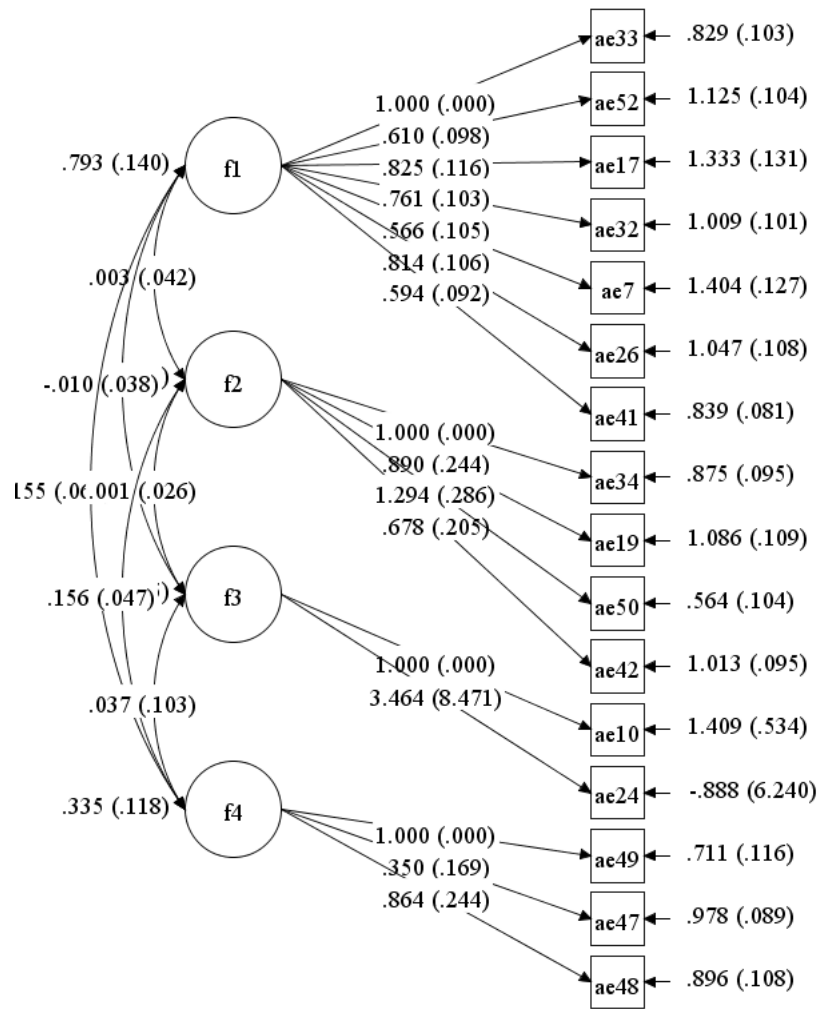
Fig. 3. A diagram of CFA representing four-factor model of NAAEQ (f1=Global positive, f2=parental influence, f3=Traditional Nepalese beliefs about alcohol, f4=externalizing and risky behavior.)

Alcohol Expectancy and Demographic Variables (Age, Gender, Grade and Ethnicity)

One-way ANOVA was used to examine whether expectancies differ for students in different demographic groups. The Tukey HSD was used as the Post Hoc test for multiple comparisons when necessary. A significance level of α=0.05 was used for all tests.

Age. The relationship of alcohol expectancy to alcohol use is likely to change as a person ages due to the accumulation of drinking experience. A one-way between-subjects ANOVA was conducted to compare the effect of age on alcohol expectancy at different age levels from 12 to 20. There was no significant effect of age on mean scores on both the factors of the alcohol expectancy scale.

Gender. In general, males tended to have higher score on positive alcohol expectancy than females. Mean scores and the ANOVA test result are shown in Table 9. The result found mean scores on factor 1 for males to be significantly different than females (F $(1, 507)$ =4.90, p=0.027, R^2=0.01), whereas the effect of gender on mean score on Factor 2 was not significant. Male students scored higher on global positive factor than female students. This result was consistent with the findings of other similar studies which found males to have scored higher on positive alcohol expectancy as compared to females (Shell et al., 2009).

Table 9

Mean Scores on Alcohol Expectancies by Gender.

| Factor | Gender | | | | | | | | |
| | Male | | | Female | | | | | |
	N	Mean	SD	N	Mean	SD	df	F	Sig.
1. Global positive	274	3.27	0.79	235	3.12	0.71	1	4.90*	0.027
2.Parental influence	280	4.21	0.7	254	4.31	0.71	1	2.57	0.109

Grade. The students in the same grade in Nepal may be of different ages. The ANOVA result (shown in the Table 10) indicated a significant effect of grade on mean scores on factor 2 ($F_{(4, 533)}$ =5.23, p=0.27, R^2=0.04), but not on factor 1. The Post Hoc comparison using the Tukey HSD test indicated that mean scores on factor 2 for students at grade 8 (M=3.54, SD=1.20) were significantly different than students from all other grades: Grade 9 (M=4.18, SD=0.76, p=0.009, Grade 10 (M=4.26, SD=0.68, p=0.002), Grade11 (M=4.39, SD=0.64, p<0.001), and Grade 12 (M=4.30, SD=0.59.

Table 10

Mean Scores on Alcohol Expectancies by Grade.

Factors	Grade	N	Mean	SD	df	F	Sig.
	8	12	3.20	0.55			
	9	124	3.13	0.69			
1. Global positive	10	172	3.20	0.83	4	1	0.408
	11	85	3.16	0.76			
	12	111	3.32	0.69			
	8	14	3.54	1.2			
	9	132	4.18	0.76			
2.Parental influence	10	178	4.26	0.68	4	5.23*	<0.001
	11	99	4.39	0.64			
	12	115	4.3	0.59			

Ethnicity. The ANOVA analysis found no significant effect of ethnicity on mean scores for both factors of the alcohol expectancy scale.

Alcohol Expectancy and Drinking Status

Mean scores and ANOVA results for the comparison based on drinking status are shown in the Table 11. The significant drinking effect was found for drinking status on both factor 1 ($F_{(2, 448)} = 20.16$, $p < 0.001$, $R^2 = 0.83$), and factor 2 ($F_{(2,471)} = 10.84$, $p < 0.001$, R2=0.40). Post Hoc comparisons using the Tukey test indicated that the mean score on factor 1 for non-drinkers (M= 3.11, SD=0.74) was statistically significantly

lower than the occasional drinkers (M=3.52, SD=0.54, p<0.001) and the current drinkers (M=3.80, SD=0.73, p<0.001). However, there was no significant difference between the occasional drinkers and the current drinkers. Similarly, for factor 2, a Tukey Post hoc test showed the mean scores for non-drinkers (M=4.36, SD=0.62) to be significantly higher than the occasional drinkers (M=3.99, SD=0.83, p<0.001) but was not significant with the current drinkers (M=4.06, SD= 0.79, p=0.051).

Table 11

Mean Scores on Alcohol Expectancies by Drinking Status.

Factors	Drinking Status	N	Mean	SD	df	F	Sig.
1.Global positive	1	354	3.11	0.74			
	2	65	3.52	0.54	2	20.16*	<0.001
	3	32	3.8	0.73			
2.Parental influence	1	374	4.36	0.62			
	2	69	3.99	0.83	2	10.84*	<0.001
	3	31	4.06	0.79			

Alcohol Expectancy and Alcohol Intention

There was an association between alcohol expectancy and intention to drink. Alcohol expectancy scores were found to be a strong predictor of intention to drink in previous studies (Aas, Klepp, Laberg, &Aarø 1995). There was a statistically significant difference here among alcohol intention groups as determined by one-way ANOVA for factor 1 ($F_{(2, 495)}$ =37.40, p<0.001, R^2=0.13) and factor 2 ($F_{(2, 518)}$ =10.95, p<0.002,

R^2=0.041) (see Table 12). A Tukey post hoc test revealed that the mean score on factor 1

for students with low intention (M=2.98, SD=0.75) was significantly lower than students

with ambivalent alcohol intention (M=3.23, SD=0.67, p=0.013) and students with high

alcohol intention (M=3.61, SD=0.31, p<0.001). There was also a statistically significant

difference between ambivalent intention and high intention groups (p<0.001). Similarly,

for the parental influence factor (factor 2), a Tukey post hoc test showed that the

participant from low intention group (M=4.36, SD=0.64) differ from high alcohol

intention group (M=4.03, SD=0.81, p<0.001).

Table 12

Mean Scores on Alcohol Expectancies by Alcohol Intention.

Factor	Alcohol Intention	N	Mean	SD	df	F	Sig.
1.Global positive	Low	281	2.98	0.75			
	Ambivalent	80	3.23	0.67	2	37.40*	<0.001
	High	137	3.61	0.61			
2.Parental influence	Low	301	4.36	0.64			
	Ambivalent	79	4.2	0.68	2	10.95*	<0.001
	High	141	4.03	0.81			

CHAPTER 5: DISCUSSION

This study is the first known study of alcohol expectancies among any Nepalese population. Only a few studies have looked into the prevalence of alcohol use among Nepalese youth (e.g. Dhital et al., 2001; Parajuli et al., 2015). These authors acknowledged the need to explore alcohol use pattern and alcohol-related consequences among the Nepalese adolescent population. Expectancy theory, the basic concept linking alcohol expectancy to drinking behaviors, has been widely applied to the study of alcohol use among adolescents in Western countries. This study applied expectancy theory to a study of drinking behaviors among adolescents in a sample of secondary level English-medium schools in Pokhara, Nepal.

Development of Nepalese Adolescents Alcohol Expectancy Scale (NAAEQ)

The Chinese Adolescent Alcohol Expectancy Scale (CAAEQ) formed the basis for the development of the Nepalese Adolescents Alcohol Expectancy Questionnaire (NAAEQ) that was used in this study. This study used a two-stage procedure to develop and examine the psychometric properties of the scale. A qualitative approach was used in the first stage, in which the CAAEQ items were discussed with a group of Nepalese students at University of Nebraska-Lincoln. Items were removed that were considered not culturally relevant to Nepalese adolescents, some items were revised, and some were added based on suggestions from the group discussion. This process ensured some degree of face validity to the items used for the first time in this alcohol expectancy questionnaire for Nepalese high school students. Both the AEQ and the CAAEQ have included alcohol expectancies related to sexual behavior, but based on the result of the group discussion this research team chose not to include sex expectancies in the NAAEQ.

Sex-related alcohol expectancies were included in the earliest version of the CAAEQ, but were removed after further statistical analysis (Qu, 2005). In Nepal, as in China, sex is a sensitive subject and is not publicly discussed. However, in societies where the topic has been studied, research has established that alcohol expectancies regarding sex are related to drinking behaviors and to sexual behaviors (Gálvez-Buccollini et al., 2008, Kalichman, Simbayi, Cain, & Jooste, 2007; Morojele et al., 2004). It will be important in future studies about alcohol use in Nepal to explore such sensitive issues and to develop more measures of alcohol use, including measures of both quantity and frequency.

The second stage of instrument development was a quantitative method and scale evaluation. An exploratory factor analysis identified four factors using data from a sample of 282 students. The reliability analysis tested the internal consistency of four factors. The confirmatory factor analysis was employed to identify the fit of factor solution extracted. The CFA confirmed two factor solution consisting of factors 1 and 2 as the best fit to the data. Factor 1, global positive expectancies about alcohol use, was somewhat comparable to positive alcohol expectancy scales in the AEQ and the CAAEQ. Factor 2, parental influence on adolescent alcohol beliefs and use, was somewhat comparable to the positive social perception scale identified in the CAAEQ. These similarities suggest that some alcohol expectancies are present across cultures.

Drinking Status

This study relied on a one item questionnaire to assess the drinking behavior of the participants and to classify them in three categories based on their responses. A larger percentage of students who participated in the study were non-drinkers (78.7%) as compared to drinkers (21.3%, 14.6% occasional and 6.7% current). This result was

consistent with findings of previous studies. Parajuli et al. (2015) reported 19.4% of TAU and 4.01% of TANU in their sample had used alcohol. Dhital et al.'s (2001) in a survey of a nationally representative sample reported 19% of young participants ages 6-17 years consumed alcohol in the past 12 months. Karki (2017) reported that 22.3% of adolescent ages 12-18 years had used alcohol. In Nepal, a large proportion of the adult population reports being nondrinkers. Dhital (2001) reported alcohol use among an adult population aged 35-44 years to be 48.1%. Other studies have reported estimates of 39.8% (Thapa et al., 2016) and 62.9% (Manadhar, Shrestha, & Joshi, 2017) for adult drinkers. It is important to note that there is no uniform set of alcohol use questions or standardized method to assess the alcohol use in these studies. Bloomfield et al. (2003) suggest that due to differences in drinking patterns, no single "best" instrument likely exists for measuring alcohol consumption. Newman, Qian and Xue (2004), noted the difficulty in making comparisons among different studies without a consistent measurement system. For this study we selected a single question to define non-drinkers, occasional drinkers and current drinkers that has been widely used in China (Shell, Newman, & Qu, 2009; Shell, Newman, & Fang, 2010).

Drinking status and age. The participants in the study ranged in age from 12 to 20 years old. There was no clear trend to indicate that there is a gradual increase in the alcohol use with age. The result is likely due to unequal distribution of the number of participants in different ages, and the approach used to classify the drinking status. The majority of students in the sample (93.9%) fell within the range of 14-18 years. These results did not include data on age of initiation of alcohol use, but it was evident that for some adolescents it was below the Nepali legal minimum age of 18. The several other

studies have reported the mean initiation age of alcohol use to be less than 18 years
(initial use was reported as 11 years in Parajuli et al., 2015, and initial use was reported as
14.5 years for boys and 13.5 for girls in Karki, 2017). Early alcohol use has been
identified as potential risk for alcohol dependence.

    Potential factors influencing early age drinking. Although current Nepalese law
limits the age at which alcohol consumption can legally begin, there is no restriction
when and where alcohol is sold (WHO, 2014). The drinking age restrictions are not
strictly enforced. Alcohol is produced at home for both commercial and personal use by
people especially belonging to TAU group. Though attempts have been made to curb the
production and sale of unrecorded/traditional alcohol, there is no sign of decline in the
use of such alcohol as evidence from studies which reported that majority of alcohol
consumed is traditional home-made alcohol like raksi, jaand and chhyang (Dhital et al.,
2001; Karki, 2017; Manadhar et al., 2017). Alcohol beverages are easily available during
festivals and social gatherings without much restriction. Karki (2017) found 61% of
adolescents aged 12-18 years in his study had helped their parents make alcohol at home.
Parental alcohol use has been found to significantly influence the alcohol use behaviors
of youth (Parajuli et al., 2015), and 15% of adolescents in Karki (2017) agreed with the
statement that their parents' substance use habit influenced their own behavior. Studies
with Western adolescent samples have linked easy access or availability of alcohol and
family alcohol use to increased likelihood of alcohol use among adolescents (Donovan &
Molina, 2008; Picone, MacDougald, Sloan, Platt, & Kertesz, 2010).

    Drinking status and gender. Drinking alcohol is not seen as acceptable behavior
for females in Nepalese society, whereas male drinking is viewed as normal. This belief

could explain the gender difference in alcohol use found in this study, which found that females were less likely to be drinkers than their male counterparts. Gender differences in alcohol use revealed in this study were consistent with findings from other studies that reported higher drinking rates for males vs. females (Parajuli et al., 2015; Manandhar et al., 2017). In the adult population Manadhar et al. (2017) reported alcohol use among males (77.4%) to be almost twice the alcohol use among females (48.1). Modern social reforms in Nepal have emphasized gender equality and women's rights. Social changes combined with parental alcohol use, peer influence and increased availability of alcoholic beverages may shrink gender differences in alcohol use in Nepal.

Drinking Status and grade. In some studies, where age of the participants is not available, grade in school is used as proxy age. However, it is difficult to apply the same strategy in Nepal because there are students with different ages in the same grade. In this sample, a higher percentage of the participants at grades 10 (85.28%) and 11 (86.52%) had not consumed alcohol in the last year (nondrinkers). In Nepal's educational system, students take a national examination at the end of grade 10. The exam is an important academic milestone, and the exam results affect the student's choice of academic field when in grade 11. There are no studies available in Nepal to make any comparison. Since noted earlier in the discussion, ages of students in the same grade varies, peer influence, not measured in this study, might influence drinking behavior among students.

Drinking status and Ethnicity. Parajuli et al. (2015) found TAU adolescents to be more likely to have used alcohol than TANU adolescents. The same study reported alcohol use in family celebrations in TANU communities was lower than in TAU families, although adolescents in both groups reported drinking with family members in

family celebration and festivals. In the present study, TAU adolescents (77.41%) were less likely to be non-drinkers than TANU adolescents (83.50%), and were more likely to be occasional drinkers (15.48% TAU and 11.34% TANU) and current drinkers (7.11% TAU 5.15% TANU). Though the differences based on ethnicity existed in absolute values, the difference was not statistically significant. This finding might be indicative of a trend toward the gradual disappearance of ethnic norms on alcohol use, and dissolution of the clear line between alcohol user and non-user ethnic groups as suggested by various other studies (Acharya, 2002; Dhital, et al., 2001; Parajuli, et al., 2015). The transition in Nepal from a traditional to a modern society has been accompanied by political changes, more exposure to other cultures, and the introduction of a modern educational system. Alcohol use is a matter of both socialization and reputation – both of which are undergoing change in Nepal. As suggested by Dhital et al. (2001), alcohol has touched every strata of Nepalese society irrespective of gender, ethnicity, caste hierarchy, social and religious beliefs.

Alcohol Expectancy and Drinking Status

This study also examined whether alcohol expectancies differed by drinking status. It was hypothesized that drinkers were likely to have higher scores in positive expectancy (global positive) than non-drinkers. Compared to non-drinkers, drinkers in this sample (both occasional and current) had higher mean scores on the global positive expectancy factor, and in the contrast, lower mean scores on the parental influence factor (negative expectancy). Both the results were significant and, thus, the hypothesis was confirmed. Alcohol expectancy scores, in general, have been used to predict alcohol drinking behavior in terms of frequency and quantity and prior analyses have found that

drinking behavior tends to be significantly and positively related to positive alcohol expectancies, and inversely related to negative expectancies (Christiansen & Goldman, 1983; Brown et al., 1987). Based on this established relationship between expectancies and drinking behaviors, some researchers have argued that the expectancies can be used in the field of prevention and treatment of alcoholism and other alcohol related problem (Jones, et al., 2001). They have proposed educational approaches designed to challenge positive alcohol expectancies.

Alcohol Expectancy and Demographic variables

Age. Alcohol expectancies have been found to develop at early age in children, prior to any drinking experience, through vicarious learning and observation. Such expectancies are negative at early age, and later shift to positive as an individual grows older and accumulates drinking experiences. Interestingly, this study found no effect for age on the two sub-scales scores for alcohol expectancy. It was hypothesized that the older participants would score higher on positive alcohol expectancy scale than the younger participants. This hypothesis was not supported by the data from this sample. One of the reasons for this result might be that the expected outcomes after drinking alcohol among different ages were similar because of the large percentage of the participants who were non-drinkers. In addition, there is the possibility of confounding results due to the effect of other factors like gender, peer pressure, and family alcohol use. Such potential confounding effects were not directly examined in the study.

Gender. It was hypothesized that males were more likely to have higher positive alcohol expectancies than females. The study found a significant gender difference on mean scores for positive alcohol expectancy and confirmed the hypothesis. However, the

gender difference was not significant for the parental influence factor scores (a negative expectancy). While males tend to have higher positive expectancies toward alcohol than females, results from several studies on gender differences in alcohol expectancy have produced conflicting findings. Some studies have found gender difference in alcohol expectancies on one or more areas, whereas other studies reported no gender differences. Global positive alcohol expectancies, as measured by different expectancy scales like AEQ (Brown et al., 1980) and CAAEQ (Qu, 2005) have been inconsistent in their results. Mooney et al., (1987) and Gustafson (1993) found men to have stronger global positive expectancies, while Brown et al. (1980) and Williams et al. (1991) found the opposite: the female participants scored higher on the global positive expectancy scale than the male participants. Other confounding variables like age, location of participants and family alcohol use might have resulted in such inconsistent outcomes as reported by Wiers, Hoogeveen, Sergeant and Gunning (1997), and Lundahl, Davis, Adesso, and Lukas (1997).

The current findings did show a gender difference in alcohol use, with a higher percentage of the males reporting being drinkers than females. For males, drinking is deemed acceptable and normal in Nepalese society, but for females, drinking carries a stigma of being unacceptable and immoral. These negative cultural attitudes toward female drinking might explain the result found in this study.

Grade Level. This study looked into whether participants differ in alcohol expectancies by grade. No hypothesis was proposed for this relationship since no research has looked into the effect of grade on alcohol expectancy. Unlike the effect of age on the two factors in this study, the effect of grade on scores on global positive

expectancy was not significant, but was significant for the parental influence expectancy. The difference was only significant when the participants from grade 8 were compared to the other grades. The result showed that participants at the lowest grade level had a higher score on this negative alcohol expectancy. This might be explained by the other finding in the study that indicated all participants below grade 8 were non-drinkers. Alcohol expectancy research has shown that non-drinkers tend to have higher negative alcohol expectancies, hence the higher score on parental influence scale for the nondrinkers in this study.

The transition from grade 8 to grade 9 (higher grade) is equivalent to the transition from a middle school to a high school in the US. There is a significant change for students as they move from grade 8 to 9, characterized by increased freedom, feelings of maturity and increased peer pressure. Similar to other adolescent groups, they tend to conform to group norms to establish their self-identity. Substance use, including drinking alcohol, could be a way to demonstrate the power and status among peers. As drinking experience accumulates, a student is also typically more likely to develop more positive attitudes toward drinking outcomes (Aas, Leigh, Anderssen & Jakobsen, 1998). However, no significant difference for scores on the positive expectancy was found. In contrast, the significant result for parental influence expectancy could be explained from a child-parent relationship perspective. In Nepal, the parents have a high level of control over the everyday lives of their children, hence children's behaviors and perception are highly influenced by their parents. The direct control and higher level of parental monitoring dictate both behaviors and thoughts in younger children. As a child is

promoted to higher academic grades, the pressure to confirm to peers and a need for autonomy might weaken parental influence.

Ethnicity. There was no significant difference on mean scores on either of the expectancy factors by ethnicity. The study hypothesized that the traditional alcohol-user group will have higher positive alcohol expectancies than traditional alcohol non-user group. Since alcohol use is a taboo in the TANU group, it was hypothesized that the participants from the TANU group would have lower scores on global positive expectancies or, in contrast, higher scores on the parental influence scale (a negative expectancy). The result, however, did not confirm the hypothesis. This could be because the number of drinkers was comparable in both ethnic groups. This result could be consistent with reports of changes in drinking culture, pattern and behavior among the younger generation in Nepal. It is likely the traditional cultural taboos that had been protective factors against any use of alcohol are slowly eroding. Though the mean scores for the TANU were lower on global positive expectancies and higher on parental influence scale as compared to the TAU, neither result was significant.

Alcohol Expectancy and Alcohol Intention

We also hypothesized that participants with high alcohol intention would score higher on the positive expectancy scale. The participants with low alcohol intention were found to score significantly lower on the global positive scale and higher on parental influence scale as compared to the participants in high alcohol intention groups. Hence, the hypothesis was confirmed in the study. Aas et al. (1995) reported positive alcohol expectancy to be a significant predictor of intention to drink among adolescents, independent of their previous drinking experience. The same study also found drinking

experience to impact the association between alcohol intention and alcohol expectancy outcomes. These results and other research findings indicate that alcohol expectancies are useful predictors of future alcohol use behavior (Newman, Shell, Qu, Xue, & Maas, 2006). Behavior and intention tend to be closely related. A meta-analysis of 10 meta-analyses indicated that intentions explain 28% of the variance, on average, in future behavior (Sheeran, 2002). A person's intention to perform a task can predict a person's behavior. In this study, mean scores on both sub-scales of NAAEQ were significantly different by drinking status. This is consistent with the finding that alcohol expectancy was closely related to alcohol intention in this study. The regular drinkers are likely to have higher intention to consume alcohol in the future as compared to non-drinkers. People who are drinkers and have intention to drink alcohol confirm their positive alcohol expectancies, hence continue with their drinking behavior in the future.

Conclusion

This study examined alcohol expectancies to better understand the drinking behavior of Nepalese adolescents. To this end, we used the NAAEQ, an alcohol expectancy questionnaire, and adapted it for use in Nepal. The study identified some alcohol expectancies that Nepalese adolescents hold and examined the relationship between alcohol expectancies and demographic variables (age, gender and ethnicity) that might influence drinking behaviors. According to the Ninth Special Report to the U.S. Congress on Alcohol and Health (NIAAA, 1997), "Alcohol expectancies represent a final common pathway mediating the influence of the biological, psychological and social factors on drinking behavior". This study has suggested that drinking behaviors among Nepalese adolescents are the combined result of biological, psychological and socio-

cultural factors: age and gender reflected the biological aspect, alcohol expectancies represented psychological factor, and ethnicity reflected a socio-cultural factor in the study. Hence, it is necessary to consider multiple factors simultaneously when programs to reduce alcohol consumption and to encourage low risk drinking are designed and implemented.

Limitations

No study is without limitations. First, this study used a cross-sectional survey as primary source of data collection. It would be inappropriate to draw any causal conclusions based on relationships identified in the study. Though self-reported alcohol use questionnaires are one of the most common instruments used in social and behavioral science, the approach has its limitations. The researchers rely on the honesty of the participants, and participants are unlikely to be completely honest when it comes to sensitive issues like alcohol use, especially if they are younger than the legal minimum drinking age. Even when they are honest, participants may lack introspective ability and comprehension to provide accurate responses to every item. The responses of the participants are based on their understanding of the instructions and the questions in the questionnaire. The study also used a rating scale for responses and different groups of people interpret and use rating scales differently.

Second, the participants of the study attended English medium schools, and all schools were located in one city. There are other government/public schools in Pokhara where Nepali, the national language, is the primary mode of teaching. This study did not include students from those public schools. These circumstances limit the generalizations

of any findings to other populations and settings. The participants in this study should not be viewed as a representative of Nepalese adolescents.

Third, human behaviors are very complex. Though the survey combined with exploratory and confirmatory factor analysis is a powerful tool in identifying alcohol expectancies, the complex nature of human behavior, and associated values and attitudes cannot be easily underestimated. Every statement for alcohol expectancies on the questionnaire started with "If I drink…..." to emphasize the personal effect of alcohol use on each participant. A large proportion of the participants reported that they were non-drinkers and, even though some participants recognized the effects of alcohol use, they might have estimated the effects from observations of others rather than their own experiences when taking the survey. Some of the questions may not have been relevant if the participants did not use alcohol or were not exposed to alcohol. Some expectancies were likely learned vicariously.

Fourth, the survey was only available in English, which meant some participants might not have been familiar with the meaning of some words used in the survey. It would have been convenient if a Nepali version of the survey was available to the participants.

Fifth, alcohol expectancies for sexual behavior were not explored in the study. This was the first attempt to develop and use an alcohol expectancy questionnaire for Nepalese high school students. The questionnaire could be refined. For example, the measurement of behavioral intention used a bipolar scale when a unipolar scale would have been more appropriate.

The goal of policies and programs related to alcohol is to ensure the well-being of members within societies by maximizing benefits and minimizing any potential harm and risk associated with drinking alcohol (ICAP, Blue Book, 2005). This study of alcohol expectancies among Nepalese adolescents provides useful data on which to base future studies and shows Nepalese educational administrators that such studies are possible and the results are useful for educational and public health program planning.

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APPENDIX A

Institutional Review Board Approval

April 19, 2017

Niran Tamrakar
Department of Educational Psychology
2223 Vine Street Lincoln, NE 68503

Ian Newman
Department of Educational Psychology
232 TEAC, UNL, 68588-0345

IRB Number: 20170417066EP
Project ID: 17066
Project Title: Alcohol expectancies among secondary level students in Pokhara, Nepal.

Dear Niran:

This letter is to officially notify you of the approval of your project by the Institutional Review Board (IRB) for the Protection of Human Subjects. It is the Board's opinion that you have provided adequate safeguards for the rights and welfare of the participants in this study based on the information provided. Your proposal is in compliance with this institution's Federal Wide Assurance 00002258 and the DHHS Regulations for the Protection of Human Subjects (45 CFR 46).

You are authorized to implement this study as of the Date of Final Approval: 04/10/2017. This approval is Valid Until: 04/09/2018.

You are approved to conduct your research at Jyotikunj Higher Secondary English School, Bethany Higher Secondary Boarding School, Golden Future Higher Secondary School, and Rainbow Academic Homes Higher Secondary School.

If other schools will be added to the project, please be sure to submit a change request form.

o Review conducted using expedited review category 7 at 45 CFR 46.110
o Date of Approval: 4/10/2017
o Date of Expedited review: 4/10/2017
o Funding: N/A
o Consent waiver: Waiver of parental consent and waiver of assent at 45 CFR 46.116(d)(1-4)
o Review of specific regulatory criteria (contingent on funding source): N/A
o Subpart B, C or D review: Subpart D at 45 CFR 46.404 (Research with children not involving greater than minimal risk)

We wish to remind you that the principal investigator is responsible for reporting to this Board any of the following events within 48 hours of the event:
* Any serious event (including on-site and off-site adverse events, injuries, side effects, deaths, or other problems) which in the opinion of the local investigator was unanticipated, involved risk to subjects or others, and was possibly related to the research procedures;
* Any serious accidental or unintentional change to the IRB-approved protocol that involves risk or has the potential to recur;
* Any publication in the literature, safety monitoring report, interim result or other finding that indicates an unexpected change to the risk/benefit ratio of the research;
* Any breach in confidentiality or compromise in data privacy related to the subject or others; or
* Any complaint of a subject that indicates an unanticipated risk or that cannot be resolved by the research

staff.

For projects which continue beyond one year from the starting date, the IRB will request continuing review and update of the research project. Your study will be due for continuing review as indicated above. The investigator must also advise the Board when this study is finished or discontinued by completing the enclosed Protocol Final Report form and returning it to the Institutional Review Board.

If you have any questions, please contact the IRB office at 402-472-6965.

Sincerely,

Rachel Wenzl, CIP
for the IRB

APPENDIX B

Comments and Statements from Participants of Focus Group on Alcohol and Alcohol

Expectancies

Young people drink because they want to have good time.

Drinking makes young people look cool

Young people drink alcohol out of curiosity.

Young people drink because alcohol provide them with some buzz feeling

Young people drink due to peer pressure either they are pushed to drink or they fear of

being left out if they don't drink with their drinking friend

Some adolescents drink simply because of the taste of the alcohol

People in certain community drink for religious reasons (Newars of Kathmandu)

People in certain community use religion for not drinking (Brahmin and Chettri)

In some community, alcohol is offered to deities. It's Ok for Gods but not for humans

Drinking is common in festivals and social gatherings

Drinking among adolescents is more casual than habitual.

Drinking with friends is fun.

Young people drink to be like someone.

Drinking and relationship

People drink to relieve stress.

People drink in cold weather for warmth

Parents don't expect children to drink at early age

Income and Education impacts alcohol use among general population

Gender difference in alcohol use is prevalent with male drinking much more as compare to female.

Social gathering like birthday party, and places like restaurants and bar are common place for drinking.

Drinking too much lead to health complication like liver damage

Drinking helps young people to be confident, avoid shyness, helps social interaction.

Drinking makes people happy.

Public disturbance and fighting are negative consequence of drinking.

People when see other drunk won't care about people drinking too much.

There is no party without alcohol.

Easy availability and accessibility of alcohol promote drinking among young people.

There is no system of checking identity card to see if people drinking are minors.

There was a sign 18 and above for drinking in the bar, but everyone very young were drinking freely without restriction.

People drink alcohol as medicine to treat minor condition of cold.

Loss of prestige within family if a person is alcoholic

Alcoholic are likely to be socially boycotted.

APPENDIX C

Nepal Alcohol Expectancy Survey-2017

This questionnaire asks about what you would expect to happen after you drink alcohol. You do not have to have drunk alcohol to answer the questions. The questions ask only about what you think would happen if you drink alcohol. In this questionnaire alcohol includes alcohol includes any of the following homemade or commercially-made: chyang (छ्याङ), aila (अयला), raksi (रक्सी), beer, fruit wine, distillery products like brandy, raksi (रक्सी), vodka, whisky, or rum, and foreign made/imported products like wine, brandy, gin, or whiskey.

The information you provide will be used to develop better health education programs for young people in Nepal. Your help is greatly appreciated!

Before you begin, please read the following instructions carefully:

This is not an exam or a test. Please answer each question according to your actual thoughts. There are no right or wrong answers. How and whether you answer all the questions will not affect your grade in this class or your standing in the school.

Do not write your name on this survey. The answers you give will be kept private. No one will know what you have written. The questions that ask about your background will be used only to describe the types of students completing this survey. The information will not be used to identify you.

There are no hidden meanings in the questions or responses. Please answer the questions according to your first thought. You do not need to take time thinking about your answer.

You may omit any questions that you choose not to answer.

If you are not clear about the meaning of any question, leave the answer blank.

The survey will take less than 30 minutes to complete.

<div align="center">Thank you so much for your participation!</div>

Part I: Demographic Information.

1.   Age in years

2.   Sex (Please   male   female

      circle selection)

3.   Which class are you in school?   8   9   10   11   12

4. Which group best describes you? Please circle your selection

a)   Brahmin

b)   Chhetri

c)   Gurung

d)   Newar

e)   Tamang

f)   Other

Part II: Alcohol Use

The next question asks about the alcohol use. Remember, alcohol includes any of the following homemade or commercially-made: chyang (छ्याङ), aila (अयला), raksi (रक्सी), beer, fruit wine, distillery products like brandy, raksi (रक्सी), vodka, whisky, or rum, and foreign made/imported products like wine, brandy, gin, or whiskey.

How often have you drink alcohol in the past 12 months? Please circle your selection.

a) I didn't drink alcohol in the last 12 months

b) I did drink alcohol in the last 12 months, but not in the last 30 days

c) I drank alcohol on 1 or more days of the last 30 days

Part II: Alcohol Expectancies

The following statements describe what could happen when a person drinks alcohol. You do not have to have drunk alcohol to complete the questionnaire. The following statements are about what you think would happen if you would drink alcohol. Remember, alcohol includes any of the following homemade or commercially-made: chyang (छ्याङ), aila (अयला), raksi (रक्सी), beer, fruit wine, distillery products like brandy, raksi (रक्सी), vodka, whisky, or rum, and foreign made/imported products like wine, brandy, gin, or whiskey.

For each statement you should mark how strongly you agree or disagree with this statement. If you strongly disagree mark 1, if you disagree, but not strongly disagree

mark 2, if you neither disagree nor agree mark 3, if you agree mark 4 and if you strongly

agree mark 5.

Please circle the number that best describes you.

		strongly disagree	disagree	neither disagree nor	agree	strongly agree
1.	If I drink alcohol, my reaction time will slow down.	1	2	3	4	5
2.	If I drink alcohol, I will overcome my shyness.	1	2	3	4	5
3.	If I drink alcohol, my physical tiredness will be relieved.	1	2	3	4	5
4.	If I drink alcohol, I will enjoy its taste.	1	2	3	4	5
5.	If I drink alcohol, my health will be harmed.	1	2	3	4	5
6.	If I drink alcohol, pain will be relieved.	1	2	3	4	5
7.	If I drink alcohol, I can say what I really think	1	2	3	4	5
8.	If I drink alcohol, I will be happy	1	2	3	4	5
9.	If I drink alcohol, I will get dizzy and /or have a headache.	1	2	3	4	5
10.	If I drink alcohol, it will be against my religion.	1	2	3	4	5
11.	If I drink alcohol, it will encourage me to express my love/feelings to people.	1	2	3	4	5
12.	If I drink alcohol, I will be less depressed.	1	2	3	4	5
13.	If I drink, alcohol, my judgement will be impaired.	1	2	3	4	5

14.	If I drink alcohol, I will feel relaxed.	1	2	3	4	5
15.	If I drink alcohol, I will do stupid things	1	2	3	4	5
16.	If I drink alcohol, it will give me buzz/high feeling.	1	2	3	4	35
17.	If I drink alcohol, I will be brave and daring.	1	2	3	4	5

		strongly disagree	disagree	neither disagree nor	agree	strongly agree
18.	If I drink alcohol, I will be more inspired.	1	2	3	4	5
19.	If I drink alcohol, my parents will be angry.	1	2	3	4	5
20.	If I refuse someone's offer to drink, I will show disrespect to them.	1	2	3	4	5
21.	If I drink alcohol, it will make me look cool.	1	2	3	4	5
22.	If I drink alcohol, I will be more resistant to cold weather.	1	2	3	4	5
23.	If I drink alcohol, it makes me an adult/feel mature.	1	2	3	4	5
24.	If I drink alcohol, it will be against my caste status.	1	2	3	4	5
25.	If I drink alcohol, I will perform poor in my school.	1	2	3	4	5
26.	If I drink alcohol, it will help me forget problems at home and school.	1	2	3	4	5
27.	If I drink alcohol, it will help me to get attention from my friends.	1	2	3	4	5
28.	If I drink alcohol, it will increase my confidence level.	1	2	3	4	5

		strongly disagree	disagree	neither disagree nor	agree	strongly agree
29.	If I drink alcohol, I will get drunk/wasted.	1	2	3	4	5
30.	If I drink alcohol with my friends, it will make me feel a part of the group.	1	2	3	4	5
31.	If I drink alcohol in religious ceremony, I will be paying respect to God.	1	2	3	4	5
32.	If I drink alcohol, I will be energetic.	1	2	3	4	5
33.	If I drink alcohol, I will have more fun in the party/gathering.	1	2	3	4	5
34.	If I drink alcohol, I am wasting my pocket money.	1	2	3	4	5
35.	If I drink alcohol, I will be moody.	1	2	3	4	5
36.	If I don't drink alcohol when my friends drink, my friends will not like me.	1	2	3	4	5
37.	If I drink alcohol, I will become careless.	1	2	3	4	5
38.	If I drink alcohol, I will feel guilty.	1	2	3	4	5
39.	If I drink alcohol, I will talk more about my feeling.	1	2	3	4	5
40.	If I drink alcohol, I will not be able to concentrate on study.	1	2	3	4	5
41.	If I drink alcohol, I will worry less.	1	2	3	4	5
42.	If I drink alcohol, my parents will blame me.	1	2	3	4	5

43.   If I drink alcohol, I will be more friendly.   1   2   3   4   5

44.   If I drink alcohol, I will have difficulty in thinking.   1   2   3   4   5

45.   If I drink alcohol, I will miss schoolwork and homework.   1   2   3   4   5

46.   If I drink alcohol, I will be irresponsible.   1   2   3   4   5

47.   If I drink alcohol, I will be tough.   1   2   3   4   5

		strongly disagree	disagree	neither disagree nor	agree	strongly agree
48.	If I drink alcohol, I will take risk.	1	2	3	4	5
49.	If I drink alcohol, I will be outgoing.	1	2	3	4	5
50.	If I drink alcohol, my parents will be upset.	1	2	3	4	5
51.	If I drink alcohol, I will be more sociable.	1	2	3	4	5
52.	If I drink alcohol, I will be funny/humorous.	1	2	3	4	5

Part III. Alcohol Intentions

The next questions ask about how likely you are to drink any alcohol in the future.

Remember alcohol includes homemade or commercially available alcohol drinks in

Nepal, including chyang (छ्याङ), aila (अयला), raksi (रक्सी), beer, fruit wine, distillery

products like brandy, raksi (रक्सी), vodka, whisky, or rum, and foreign made/imported

products like wine, brandy, gin, or whiskey.

For each statement you should mark how completely you agree or disagree with this statement. If you completely disagree mark 1, if you disagree, but not completely disagree mark 2, if you neither disagree nor agree mark 3, if you agree mark 4 and if you completely agree mark 5.

Please circle the number that best describes you.

		completely disagree	disagree	neither disagree nor	agree	completely agree
1.	I intend to drink alcohol in the next 6 months if I go to a party with my friends.	1	2	3	4	5
2.	I intend to drink alcohol in the next six months if I go to a family celebration like a birthday, wedding, or naming ceremony.	1	2	3	4	5
3.	I intend to drink alcohol in the next 6 months if I go to a festival celebration like Dashai or Tihar or others.	1	2	3	4	5
4.	I intend to drink alcohol in the next 6 months.	1	2	3	4	5

APPENDIX D

Four Alcohol Expectancy Factors (Total items 17 items)

Factor 1 (Global positive, 8 items)

If I drink alcohol, …….

      AE33 I will have more fun in the party/gathering.

      AE52 I will be funny/humorous.

      AE17 I will be brave and daring.

      AE32 I will be energetic.

      AE7 I can say what I really think.

      AE39 I will talk more about my feeling.

      AE26 I will help me forget problems at home and school.

      AE41 I will worry less.

Factor 2 (Parental influence, 4 items)

If I drink alcohol, ……

      AE34 I am wasting my pocket money.

      AE19 my parents will be angry.

      AE50 my parents will be upset.

      AE42 my parents will blame me.

Factor 3 (Traditional alcohol expectations, 2 items)

If I drink alcohol, ….

      AE24 it will be against my caste status.

      AE10 it will be against my religion.

Factor 4 (3 items)

If I drink alcohol, ….

>AE47 I will be irresponsible.

>AE48 I will take risk.

>AE49 I will be outgoing.

Appendix E

Results of Reliability Analysis of four NAAEQ sub-scales

Factor 1 (8 items)

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.786	.784	8

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
AE33	22.37	27.272	.608	.397	.742
AE52	22.11	30.464	.439	.214	.771
AE17	22.71	27.408	.547	.342	.753
AE32	23.10	28.846	.537	.358	.755
AE7	22.22	29.136	.484	.248	.764
AE39	21.86	32.097	.355	.157	.782
AE26	22.72	29.118	.460	.232	.768
AE41	22.44	29.914	.491	.255	.763

Factor 2 (4 items)

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.638	.642	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
AE34	12.86	5.214	.403	.166	.584
AE19	12.66	5.704	.406	.178	.577
AE50	12.68	5.785	.443	.202	.555
AE42	13.08	5.385	.427	.183	.562

Factor 3 (2 items)

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.689	.689	2

Item Statistics

	Mean	Std. Deviation	N
AE24	2.73	1.238	271
AE10	2.65	1.241	271

Factor 4 (3 items)

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.545	.546	3

Item Statistics

	Mean	Std. Deviation	N
AE47	2.99	1.011	263
AE48	3.57	1.106	263
AE49	3.52	.999	263