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## Adolescent Alcohol Use: Mixed Methods Research Approach

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## Adolescent Alcohol Use: Mixed Methods Research Approach

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### ABSTRACT

This paper describes how one research team uses a variety of qualitative, cultural anthropological research techniques and qualitative survey research techniques to better understand the characteristics of young people who drink and do not drink alcohol. The team used qualitative methods of cultural anthropology for initial small-group studies of three mental constructs known to predict behaviors. These mental constructs are: what young people expect to happen when they drink alcohol (alcohol expectancies), how they view Chinese and Western cultural values (cultural orientation), and how confident they are in believing they can manage pressures to drink alcohol (self-efficacy). Data from the qualitative study were used to construct surveys to measure expectancies, cultural orientation, and self-efficacy. The surveys were then tested on large groups of adolescents. The statistical analysis showed these surveys were capable of detecting differences in expectancies, cultural orientation, and self-efficacy between drinkers and nondrinkers. The insights gained from the survey data suggest ways policy and educational initiatives can be designed to reduce alcohol-related risks among adolescents.

### RESEARCH PHILOSOPHY

Cultural anthropology is the study of the ways people behave and prosper in groups. Most other social and behavioral sciences contribute to anthropology. Originally, medicine was the art and science of caring for the sick. Today, medicine merges with cultural anthropology in the field of public health, which is the study of ways people behave to reduce the likelihood of people becoming sick. Depending upon one's personal views, medical anthropology can be narrowly defined in its focus or quite broad.

Our research group functions from a very broad perspective. We identify or anticipate a public health problem using epidemiological data. Then we focus on health problems that are the results of particular patterns of human behavior. We then explore the dynamics of the behavior until we understand it well enough to propose and test ways to reduce the problem.

Medical anthropology is a tool for public health. We believe we can best understand these health-related behaviors by first using qualitative research techniques, common to cultural anthropology, to develop a clear view of these behaviors from the perspective of the participants. We then use the results of this qualitative research to develop survey instruments that provide us quantitative data to explore questions of health-related behaviors in more detail and with larger groups of people. Using these data, health professionals can develop and test public health programs aimed at changing behaviors. Our hope is that well-designed behavior change programs over a long period of time will eventually reduce the frequency of a certain sickness or disability in the society by preventing it.

To some people it may seem arrogant or naïve to recommend changes in human behavior in a society in order to reduce a health problem. There is a potential dilemma between the goal of reducing health problems and preserving and valuing the culture identified by the cultural anthropologist. Nevertheless, behavior change is the objective of public health. There have been many benefits to individuals and society from public health activities.

The public health worker manages the dilemma by stating in advance their basic objectives. In our studies of adolescent alcohol use we acknowledge that for many people, drinking alcohol is enjoyable and adds enjoyment to many events and activities. We acknowledge that any intervention to minimize the public health consequences should not create other problems. Consequently, we judge our plans by how they enhance the following objectives: (1) enhance pleasure; (2) encourage traditional celebrations and rituals; (3) reduce personal risk and harm at school, at work, and during travel; (4) support the acceptance of abstinence; (5) reduce community risk to such things as vandalism and crime; (6) support the family and family organizations; (7) provide a safe environment for drinking; (8) encourage public attitudes that condemn drunkenness, heroic drinking, and rebellious drinking; (9) support the inclusion of other activities in drinking occasions; and (10) discourage drinking as a solo behavior.

## RESEARCH FOCUS AND METHODS

### **The Behavior**

This paper describes our work to better understand alcohol use among young people in China. We study alcohol consumption because of its important role in traditions and in many social practices. Alcohol has “two faces”: Some drinking practices have positive social benefits, and some drinking practices cause public health problems. This is why alcohol is different from most other beverages.

In the USA it is probably true to say that over the years more attention has focused on public health problems caused by alcohol. As a result, in the USA alcohol production, sale and use is highly regulated. In China it is the case that attention has focused on alcohol’s social and traditional benefits, and alcohol sale and use is unrestricted. In China not much attention is going to public health problems caused by alcohol, however, there is evidence that problems arising from alcohol use are increasing. It is now estimated that, worldwide, alcohol is responsible for more years of life lost than tobacco <sup>[1]</sup>. The reason is that alcohol-related deaths and injuries occur mainly among younger people, while tobacco-related deaths and disabilities occur among

older people. Per capita consumption of alcohol has increased dramatically in China. The World Health Organization estimated per capita alcohol consumption in China increased 402% between 1970-1972 and 1994-96.<sup>[2]</sup> While the per capita consumption of alcohol in China is lower than in many other countries, this has only created the perception among alcohol manufacturers that China has a large potential market and they have begun to aggressively sell more alcohol products in China. While there are few studies in China at present linking alcohol to public health problems, studies in other countries have shown that alcohol is linked to public health and social problems like motor vehicle crash deaths and injuries, unintended pregnancies and sexually transmitted disease, family violence, school drop-out, poor job performance, and petty crime such as vandalism.

We are ultimately interested in reducing the human and societal costs of public health problems caused by alcohol consumption while at the same time acknowledging and supporting the positive role alcohol plays in most societies.

### **The Social Group**

We study young people because they are inexperienced at drinking alcohol so they are at a higher risk for health problems related to alcohol use; also, their drinking behaviors and their attitudes and beliefs about alcohol are not yet set for life, which means young people can be reached successfully by prevention and education programs.

## **MIXED METHODS RESEARCH**

### **Qualitative Methods**

Our research can be described as mixed methods.<sup>[3]</sup> We began our investigations by using qualitative methods typical of cultural anthropology. We observed and talked in depth with individuals and groups of individuals engaged in the behavior that interested us: alcohol use. We explored their reasons for using alcohol. We also talked extensively with individuals who do not drink alcohol to find out their reasons for not drinking. We talked with individuals who are knowledgeable about the group we are interested in (in this case, adolescents), such as teachers and social workers. Based on conversations with individual young people, we develop discussion guidelines and talked with groups of young people. Discussion in groups usually elicits new information and allows members of the group to question one another on the information they are providing. This group process often uncovers additional information not discovered in the individual interviews. By the end of this process we had a large amount of narrative data that described the meanings of the behavior (alcohol use and non-use) to adolescents.

### **Review of Literature**

In addition to interviewing individuals and groups, we also searched the literature for recent and historical, published and unpublished descriptions by other researchers of alcohol use by adolescents. We also searched the available medical and statistical records to gain a view of the extent and distribution of health problems caused by alcohol—an epidemiological assessment.

## Quantitative Method

Using data derived from the qualitative methods, we developed instruments that gave us quantitative measures of specific constructs that influence the behavior of interest and we explored the relationship of this behavior with other behaviors. The survey instruments allow us to explore our interests in more detail and with larger groups of people.

Motivations for human behaviors are very complex: Individual volitional decisions are affected by the behaviors and the expectations of other people, by experience, by tradition, and by the way the material and social environment is structured. In our research we are focused on three things known to affect an individual's behavior choices: alcohol-related expectancies, self-efficacy, and cultural orientation—the effects of China's newly open borders on the cultural values of young people. We believe that understanding these three concepts and the relationship of these three concepts to drinking behavior among young people will suggest ways to reduce risky alcohol use. Ultimately, we are interested developing and testing strategies and programs to reduce the risks associated with alcohol use while at the same time supporting and maintaining its use in low risk social customs and practices.

### *Alcohol Expectancies*

We measured expectancies by asking young people what they expect will happen if they drink alcohol. We developed expectancy statements for our survey instrument based on the information adolescents provided us in discussions and observations.

An expectancy statement is an "if" statement: If I drink alcohol it will make me lazy, If I drink alcohol it will make me look like a man, If I drink alcohol it will lead me to do bad things. On a survey instrument, people rate their agreement with statements like these on a scale of 5 or more points, with "strongly agree" at the high end point and "strongly disagree" at the low endpoint. Our scales may have anywhere from five to 10 points, depending on the nature of the questions and the survey respondents.

Because expectancies can be learned by observation, without participating in the behavior, they reflect values associated with the behavior, even for those who have not practiced the behavior. In other words, young people have ideas about what to expect from drinking alcohol even though they may have not have actually drunk alcohol. When they do drink alcohol, they either confirm their expectancies or they modify them. Expectancies are therefore very useful in describing how people view alcohol. They are also excellent predictors of future alcohol use behavior.

### *Self-efficacy*

Another individual dimension that affects behaviors is self-efficacy. Self-efficacy represents a person's confidence that they can carry out a particular task. In particular, we are interested in whether or not young people feel they could control their drinking behavior even when being pressured by others to drink in ways they do not wish to. Research suggests that self-efficacy is a critical variable in whether or not a person will act upon their knowledge and/or their expectancies. In other words, if two people have essentially the same knowledge and the same

expectancies and equal desire to not participate in a behavior they are being pressured to carry out, the one with the higher level of self-efficacy (confidence) to resist the pressure will be more likely to resist the pressure than the person with the lower level of self-efficacy.

For the survey instrument we devised self-efficacy statements based on interviews and literature review of similar studies. Self-efficacy statements included: Resist pressure to go to “Western” style bar, Resist the urge to drink to improve your mood, Resist the urge to drink a lot of drinks to show your friends how you can drink a large quantity of alcohol. On a survey instrument, people rate their confidence on a scale with “I am certain I can do it” at the high end point and “I cannot do at all” at the low endpoint.

### *Cultural Orientation*

The concept of cultural orientation represents a person’s core values. Cultural orientation differs from cultural identification. Cultural identification emphasizes ethnic affiliation, while cultural orientation is a less constrained concept that acknowledges the multi dimensional nature of an individual’s position in two or more cultures. In measurement terms, an individual’s cultural orientation could be uni-dimensional, along a continuum from global to local <sup>[4]</sup> or multi-dimensional as described by Yang. <sup>[5, 6]</sup> We are interested in assessing what young people valued in their traditional cultures and in western culture and identifying their location in this matrix of cultural values. We hypothesized that as Chinese young people are more exposed to western values through media, advertising, the availability of western products, and contact with westerners, that some will more quickly accept certain western values and abandon certain Chinese values. We were interested in whether or not this changing cultural orientation is associated with changes in patterns of alcohol consumption, or changes in alcohol related expectancies and self-efficacy.

Statements about cultural orientation were collected from individual and group interviews. They included statements like: I comply with what my teachers say, I enjoy western music like Rock, Jazz and Pop, and I offer my seat to elders when riding buses. People rated their agreement to statements on the survey on a scale with “strongly agree” at the high end point and “strongly disagree” at the low endpoint.

### OUR DATA BASE: THE QUALITATIVE DATA

In the past 14 years, we accumulated data from interviews with approximately 250 adolescents from various parts of China. Our team has held personal and group discussions with students in 9 different cities. Below are some examples of qualitative data on alcohol and alcohol-related behaviors by young people.

### **Alcohol Types**

In the West, due to many traditions and laws that classify alcohol beverages differently from non-alcohol beverages, and the two classes of beverage are very separate in the western mind and in western discussion.

In discussions with young people in China, it is clear that there is a wider range of alcohol products consumed in China than is typical in the West and that there is some confusion about exactly what is an alcoholic drink, as the following quotes illustrate.

Beer, liquor, fruit wine, and rice wines are all types of alcohol, but rice wine is not really alcohol because it contains so little alcohol. Very early in life I drank some rice wine—I remember it was sweet ...

Rice wine has very low proof. It is like a dessert ...

Rice wine is not alcohol ...

I saw drinking in a foreign movie and people drank from these wonderful glasses. My first thought was, did they get drunk? Later my parents explained that foreigners use ice to dilute the alcohol so they don't get drunk ...

We often call liquor "wine"....

Beer is not really alcohol.

### **Problems Related to Alcohol**

In the west, there has been considerable private and public discussion of alcohol-related problems. In interviews with Chinese adolescents questions about alcohol use as a problem behavior were met with surprise. At first, our western-style questions about consequences of alcohol use and ways to change drinking practices created surprise and noncommittal answers. Our earliest qualitative data mainly showed that alcohol use "was not a problem." Perhaps we were too inexperienced at interviewing Chinese adolescents and perhaps people just did not associate alcohol with social problems. In recent years, young people began to discuss links they perceived between alcohol and some social problems, particularly family relationship problems and motor vehicle crash deaths and injuries.

### **Learning to Drink**

The constructs that we are most interested in, expectancies, cultural orientation, and self-efficacy, represent the results of learning. Because they are linked so clearly to behavior, and because they are learned, they are considered changeable. That is why knowing more about each of these constructs and how they interrelate is useful information for planning public health educational programs designed to reduce alcohol-related risks.

Drinking alcohol is also a learned behavior. Most people do not recall their first drink as an especially pleasant experience. With time, however, they either learn to like alcohol or learn how to drink to in a way that minimizes what they do not like.

Most learning occurs unnoticed to the learner. In talking with young people, we reconstructed some images of learning to drink.

### *Initial Experiences*

I remember Grandma cooked dishes with yellow wine to eliminate the awful taste. I knew what she used was alcohol, but I would not drink it. I thought drinking was only adult's business....

I remember my first drink. It was at my uncle's house at spring festival. My parents left. I drank some hard liquor ... I felt ...

Very early I drank rice wine. I felt it was sweet. It tasted good. I remember I drank grape wine in high school. I drank a little. It's taste was not good. It was spring festival ...

The first time I drank I felt dizzy and sleepy....

### *Parental Influences*

This early dislike of alcohol was influenced by parental behavior. Memories of these significant adults drinking alcohol are important in shaping attitudes toward alcohol and guiding early personal experiences with alcohol. Adults' attitudes and expressed expectations were also remembered. As these quotes indicate, it was most often fathers' drinking that was remembered.

Chinese life was pretty poor. We would only drink alcohol sometimes, usually with delicious dishes. Drinking was always related to a special event. It was not common at that time (1980's)....

My father drank at special occasions, such as festivals, or when we had guests. He drank liquor....

Hard liquor was a gift to be presented—not to be drunk by oneself. Alcohol was not to be consumed, but to be given as a precious gift (famous brands)....

My parents would only allow us to drink on special occasions like spring festival. Most times we drank beer. Parents did not allow us to drink liquor....

Parents would tolerate drinking, but not getting drunk. Parents prohibited smoking but not drinking....

Sometimes it was not just adult's behavior that gave a lasting impression. As this quote shows, this young person was attracted to a visual quality of beer.



I remember our family visited one relative every spring festival. We had a banquet. The host and my parents drank full glasses of beer. I drank a little beer too. I did not think it was good to drink beer but the foam on the top was lovely.

Not all memories were positive.

I grew up in Shanghai. My grandmother always scolded my uncle who drank and smoked so this gave me a bad impression of smoking and drinking. Both were always connected with being a bad boy. Later when I went to work at our unit, the director was a young man—usually a gentleman. Once he drank too much and kicked his wife—in front of us. It seemed he lost control.

My uncle, after he drank would be very talkative, which was the opposite of how he usually was.

When I was a child, maybe five or six years old, I remember a guest, a relative, who drank too much and after drinking too much he was under the table. He twitched and looked like he was about to die. It scared me!

My father drank frequently, almost every day, both at lunch and dinner. He drank one liang (50 grams) but took a long time. He talked more and was very boring. It seemed his drinking never ended.

One student told how his father summarized the drinking process in a way that seemed to reflect the spirit of many conversations.

My father used three phrases to describe the drinking process. First phrase: Sweet and Honeyed; second phase (after a few drinks): Brave Words; third phase: No Words!

## **Gender Differences**

Gender differences were reflected in several ways.

The way boys and girls drink is different. It is genetic that boys drink more. Boys develop their ability to drink by practice. Girls' drinking is by nature. Girls do not intend to develop their drinking ability....

If a boy can drink, people would say it is good. If a girl can drink, people will say it's a surprise....

At senior high school boys did not have to go home after school, but girls usually had to. Boys asked for alcohol when they ate in restaurants. I think drinking and smoking are characteristics of boys....

My sister also drank but she drank less. I think girls need to keep face—it's a tradition....

Question: How do you feel when you drink and enjoy toasts?

Answer: Like a man.

### **Reasons for Drinking**

While students did not appear to have thought deeply about alcohol use, they did have opinions on why people drank. These reasons were many and varied.

Curiosity was the motive for some.

Young people start drinking because they are curious. Some like to drink because it is their nature. Most start because it's fun and they are influenced by their families. Later they feel it is not bad, so they continue to drink....

Common among reasons for drinking was the need to socialize and feel good.

I think the purpose of drinking is to make friends....

You feel happy by drinking....

Drinking can increase a person's creativity....

After drinking people feel very friendly and close. It's very important to feel friendly and close. If you drank water you would not have this feeling....

Drinking alcohol is a coherent force. Alcohol stimulates and excites people. Sometimes alcohol is a means to adjust to personal relationships. Drinking is a good excuse for people to come together and talk controversy....

Drinking can remove misunderstanding....

Seeking a feeling of maturity and sophistication was identified as a motive to drink.

Some drink to appear mature because alcohol is an adult behavior. When I saw young people drinking, I thought they were more mature than me....

I appreciate those who know how to drink, who do not drink too much, and those who can evaluate which alcohol tastes best....

Some suggested the reason for alcohol use was related to dealing with problems.

Some drink because of depression. At university some students drank because they knew they would have to return to their small towns....

Students who drink alone and without food are trying to dispel depression....

Pleasures associated with alcohol and food continued to be a reason for drinking.

It would be a great regret to have a good meal and not have alcohol...

Drinking is a joyous part of the meal....

Alcohol was also explained with some very pragmatic reasons.

Beer drinking quenches thirst....

Drinking has become a social norm....

I asked my brother why he drank and he told me it was to keep cool, especially in summer....

Nowadays people drink for the sake of business....

Our group often partied and drank together to show that our group was powerful and united....

Few comments acknowledged peer pressure as these two did:

If you went to a party you had to drink. It was like a necessity. You have to drink when others toast you. If you refuse, they would force you to drink by any means. They did not force girls to drink....

If others toast you, you have to drink; otherwise you lose face. If you refuse to drink it is not good because you hurt others.

The notion that drinking makes the good times better was reflected in the range of occasions when drinking occurred. Festivals and parties were clearly the times for drinking. At these times camaraderie and mutual enjoyment were prime. People who celebrated together were usually friends and usually held similar values. Individual drinking patterns were related to friends' drinking patterns.

## OUR DATABASE: THE QUANTITATIVE DATA

The qualitative data led us to preliminary conclusions about the behavior and the factors that affect the behavior. The qualitative data are the basis for developing survey instruments to gather data that are then subjected to quantitative analysis. The quantitative analysis confirms, refutes or modifies our conclusions from the qualitative data. The following description of some of our quantitative results illustrates this connection.

### **Drinking Practices and Related Factors**

There are many different perceptions about the drinking patterns of specific groups of people, like adolescents. Survey data, like individual's perceptions, contain a margin of error; nevertheless, surveys are the most efficient way to obtain a cross-sectional view of a particular behavior from a large sample of a particular group of people. Our first evaluation of drinking was obtained from a survey of 969 high school students in Inner Mongolia.

Drinking Patterns. Almost two-thirds (59.4%) of students had drunk alcohol in the last year. The percentage of male drinkers (69.9%) was higher than that of the female drinkers (51.4%) ( $\chi^2 = 33.3$ ,  $df = 1$ ,  $p < 0.001$ ). As young people moved to higher grades in school the percentage who drank alcohol increased significantly: 50.1% of 10 graders, 61.4% of 11th graders and 67.3% of 12 graders ( $\chi^2 = 19.1$ ,  $df = 2$ ,  $p < 0.001$ ). Students in key schools were less likely to report drinking (51.6%) than students in general schools (63.3%) or occupational school (61.4%) ( $\chi^2 = 10.5$ ,  $df = 2$ ,  $p < 0.05$ ). Most drinking took place in the home, (44.2% males, 59.3% females), and in restaurants (45.8% males, 27.6% females).

The most common occasion for drinking was when eating with friends (37.9% males, 25.6% females), when eating with parents and their guests (25.9% males, 27.1% females), at festivals (11.9% males, 18.5% females) and when in a bad mood (11.3% males, 13.6% females). These young people were most likely to drink with their friends (57.4% males, 39.8% females) and with their parents (25.0% males, 47.2% females).

Type of Alcohol. The majority (70.8%) reported drinking beer, followed by fruit wine (15.7%). More females preferred wine (21.3%) than males (10.7%) ( $\chi^2 = 9.9$ ,  $df = 1$ ,  $p < 0.05$ ).

Pocket Money. As the amount of pocket money increased so did the likelihood students would report drinking ( $\chi^2 = 14.1$ ,  $df = 3$ ,  $p < 0.05$ ). Of students with less than 50 Yuan a month 53.1% reported drinking, of those with 51–100 Yuan a month 58.6% reported drinking and of those with 101–150 Yuan per month 63.3% reported drinking. Sixty-eight percent of students with 150 Yuan a month or more in pocket money were alcohol users.

Parent's Behavior and Attitudes. Of this sample 24.3% of the students reported both their parents drank alcohol, 59.0% reported one parent drank, and 16.7% said neither parent drank. If only one parent drank it was almost always (96%) the father. One third (35.5%) of the students said their parents disapproved of their drinking alcohol, 64.5% said their parents expressed an indifferent attitude toward their drinking.

In this sample, if both parents drank and were indifferent to their students drinking 82.1% of their students reported drinking. If both parents drank and disapproved of their students drinking only 34.1% reported drinking. If only one parent drank and the parents were indifferent to their students drinking 74.5% reported drinking. If neither parent drank but they were indifferent to their students drinking 64.6% reported drinking compared to 23.9% of the students of parents who disapproved. Regardless of parents' own drinking behavior if parents openly disapproved of their students drinking there was a greater likelihood their students would not drink.

Peer Attitudes and Behaviors. Fourteen percent reported that their friends disapproved of their drinking alcohol. Eighty-six percent said their friends were indifferent in their attitude toward their friend's drinking. Students who reported that more than half of their friends drank and who reported their friends were indifferent to their drinking were more likely to be drinkers themselves (76.8%) than students who reported that none of their friends drank and that their friends disapproved of their drinking (6.8%). Of the students who reported half or fewer of their friends drank but who said their friends were indifferent 63.2% drank compared to those with disapproving friends where only 34.5% drank.

The important findings here is the suggested relationship between students drinking and their parents drinking and parent's attitude towards their drinking and the reported drinking behavior of their friends and their friends attitudes toward their drinking. Regardless of the parents behavior more students were likely to report drinking if their parents did not show a disapproving attitude. Parents who drank and showed an indifferent attitude toward their students drinking were almost 3.4 times more likely to have students who reported drinking than were parents who disapproved.<sup>[7]</sup>

These quantitative results build on the findings from the qualitative results. For example, the survey data on the influence of friends brings into clearer focus the nature of friends' influences. Similarly the quantitative data refined our understanding of the ways that parents influence adolescent drinking, as described by the students in interviews and group discussions. Both the qualitative and quantitative data confirm findings from studies in non-Chinese settings reporting an influence of friends and parents on adolescent drinking.

### **Alcohol Expectancies**

Based on interviews and group discussions described earlier we developed an extensive list of expected outcomes from alcohol use. We revised the list to eliminate duplicate items and developed a survey instrument. We pilot tested the survey instrument and revised the instrument based on the pilot test experience. After revisions we had a survey instrument that high school students could easily understand. We named this survey the Chinese Adolescent Alcohol Expectancy Questionnaire. Nine hundred and nineteen high school students in Inner Mongolia completed the questionnaire. Factor analysis was used to determine the dimensionality of the results. The analysis identified eight factors, some of which mirrored the factors found for expectancy scales in U.S. studies<sup>[8,9]</sup> and some of which reflected traditional Chinese roles for alcohol (Table 1). Non-drinkers, occasional drinkers, and regular drinkers and males and females differed in their expectancies across the factors. To improve the psychometric qualities of this questionnaire, a second study was done with 1,244 high-school students from Inner Mongolia.

Factor analysis was again used to determine the dimensionality of the CAEQ. The results obtained were compared to the results from the first study. Differences were resolved by examining alternative factorings of the two samples and considering the conceptual coherence of the items in each factor. Judging conceptual coherence was assisted by a reexamination of the qualitative data from the interviews and small group discussions. An eight-factor model suggested in the first study was replicated in the second study. Again, differences in alcohol expectancies were found between non-drinkers, occasional drinkers, and regular drinkers and between males and females.<sup>[10, 11]</sup> Findings from the second study showed that males had higher general positive expectancies about alcohol use than females. This suggests that males are more likely to drink because they expect positive things to happen, both socially and physically. Regular drinkers had higher general positive expectancies and lower general negative consequences expectancies than either occasional drinkers or nondrinkers, suggesting that regular drinkers have somewhat global expectations for more positive outcomes and fewer negative consequences than occasional drinkers and nondrinkers.

[Insert Table 1 about here]

Non-drinkers had higher harm to person/reputation expectancies than either occasional or regular drinkers, suggesting that they expected drinking could damage one's reputation or cause one to be looked on unfavorably.

In general, students who drink regularly appeared to be influenced mostly by general expectancies about alcohol that are cross-cultural and similar to those that influence adolescent drinking in the U.S. Non-drinkers and Occasional drinkers are influenced more by culturally specific expectancies that reflect aspects of Chinese culture, tradition and society. These differences suggest that cultural-specific expectancies potentially play an important role in moderating drinking. These effects need to be examined further, particularly in societies that are undergoing cultural changes or experiencing an influx Western social influences that might weaken these potentially beneficial traditional cultural influences on a person's expectancies. The qualitative data from interviews and small groups discussions with high school students suggested that alcohol use in China was deeply ingrained in cultural practices and traditions. The quantitative data from the survey confirmed that the cultural practices and traditions of China play a significant role in moderating alcohol use by adolescents.

### **Self-Efficacy**

To develop our self-efficacy instrument, we followed Bandura's<sup>[12]</sup> guidelines for the construction of self-efficacy scales. These guidelines have been used to construct a number of alcohol use, abstinence, or alcohol refusal self-efficacy scales.<sup>[13-17]</sup> Using existing scales as our models, we constructed a self-efficacy scale appropriate to drinking behaviors and situations in China. We used drinking behaviors and drinking situations described by students in the qualitative phase of the study in the interviews and focus groups discussions. Based on the categories identified by Baldwin et al.<sup>[15]</sup>, situations in which Chinese young adults might encounter social pressures to drink (e.g., when friends are drinking, when on a date), situations where drinking is expected (e.g., festivals, birthday parties, banquets), and emotional or personal reasons for drinking (e.g., when feeling joyful, to improve mood, to feel more socially

comfortable) were identified and incorporated into the survey instrument. Questions reflecting confidence for either resisting pressure from peers or for resisting personal urges to drink were developed. Questions are asked both for drinking any alcohol and for drinking excessively. We named this survey the Chinese Adolescent Self-Regulation Self-Efficacy Questionnaire.

On the survey, students rated their confidence on a scale of 0 to 100 for each task or behavior listed. The self-efficacy score was computed as the mean or sum of the individual item scores.

Factor analysis of data from 1020 students identified four factors (Table 2). One factor represented emotional/mood related efficacies. Social pressures split along an internal versus external dimension, with outside pressures from friends or settings forming one factor (social) and personal/internal urges to drink (personal temptations) forming another. Excessive consumption either due to social pressures, situations, or internal urges formed a fourth factor.

[Insert Table 2 about here]

In interviews and groups discussions it was difficult for young people to describe their ability to resist pressures to use alcohol or to use alcohol excessively. There is also a tendency for many young people to overestimate their ability to resist pressure, especially pressure from their close friends. A clearer picture of young people's confidence in their ability to control their drinking emerged from the survey data. The four factors that resulted from the factor analysis will become the focus of future interviews and group discussions if we explore self-efficacy related to alcohol use in the future.

### **Cultural Orientation**

To develop a Chinese Cultural Orientation Questionnaire we combined the results from our interviews and groups discussions with results of others already published<sup>[18-20]</sup> to develop questions. The questionnaire was pilot-tested and revised. The revised 111-question instrument was completed by 1091 senior high school students from five schools in Beijing (two key schools, two general schools, and one occupational school) in an instrument validation study. Data were factor analyzed. A 10-factor structure of the scale seemed most logical (Table 3). Item analysis was done to examine the quality of each scale. Items with poor fit in the factor analysis or poor item-total correlations with their respective scales were removed. This resulted in a final 98 item instrument.

[insert Table 3 about here]

Results indicated the cultural orientation score for males was statistically significantly different from the cultural orientation score for females, and the cultural orientation scores were statistically different for non-drinkers, occasional drinkers and regular drinkers. The results suggest that alcohol use by adolescents was related to cultural orientation. Students with higher Chinese orientation scores were less likely to be drinkers than students with higher western cultural orientation scores.

This was the first known attempt to develop and validate a cultural orientation scale to use specifically with Chinese adolescents and then to use the scale to study adolescent alcohol behaviors. The value of understanding cultural orientation is in the recognition that it represents an individual perspective rather than the perspective of a group. We were able to show that it is possible to measure an individual person's cultural orientation. Given the increasing exposure to Western values and the associated challenges to traditional Chinese values the measurement of cultural orientation opens the opportunity for research about the consequences of westernization on specific behaviors, such as alcohol use.

#### SHAPING EDUCATIONAL MESSAGES BASED ON DATA

Gathering qualitative and quantitative data is not its own reward. The pay-off is when data is used to shape educational programs that have the potential to reduce health problems related to alcohol use. But before any educational programs can be designed, the social group (adolescents) and the behavior (alcohol use) must be carefully studied to obtain a thorough understanding. This requires many years of step-by-step study. So far, we are in the stage of understanding the group (adolescents) and the behavior (alcohol use). In the future we will reach the next stage when, based on what we have learned, we can design educational programs to reduce alcohol use. Designing and testing educational programs to reduce alcohol use is also a many-year, step-by-step study that requires mixed methods of research.

#### REFERENCES

1. Murray CJL, Lopez AL. (1996). Quantifying the burden of disease and injury attributable to ten major risk factors. In: Murray CJL, Lopez AD, eds. *The global burden of disease: a comprehensive assessment of mortality and disability from diseases, injuries, and risk factors in 1990 and projected to 2020*. Cambridge: Harvard School of Public Health, 295-314.
2. World Health Organization. (1999). *Global Status Report on Alcohol*, Document Number: WHO/HSC/SAB/99.11; WHO: Geneva, Switzerland.
3. Creswell, J. (1998). *Qualitative Inquiry and Research Design*. Thousand Oaks, CA: Sage Publications.
4. Eide, A.H., & Acuda, S.W. (1996). Cultural orientation and adolescents' alcohol use in Zimbabwe. *Addiction*, 91(6): 807~814.
5. Yang, K.S. (1988). Will societal modernization eventually eliminate cross-cultural psychological differences? In M. H. Bond (Ed.), *The Cross-Cultural Challenge to Social Psychology* (pp. 67-85). Beverly Hills, CA: Sage.
6. Yang, K.S. (1996). Chinese Social Orientation: An Integrative Analysis [M]. In T.Y. Lin, W.S. Tseng & E.K. Yeh (Eds): *Chinese societies and mental health* (pp. 19-39). New York: Oxford University Press.
7. Newman, I.M., Xue, J.P., Fang, X.Y. (2004). Beijing shi gao zhong sheng yin jiu xing wei ji qi ying xiang yin su [Alcohol use and its risk factors among high school students in Beijing]. *Zhong Guo Xue Xiao Wei Sheng [Chinese Journal of School Health]*, 25(4), 385-386.



8. Brown, S.A., Goldman, M.S., Inn, A., & Anderson, L.R. (1980). Expectations of reinforcement from alcohol: Their domain and relation to drinking problems. *Journal of Consulting and Clinical Psychology, 48*, 419-426.
9. Christiansen, B. A., Goldman, M. S., & Inn, A. (1982). Development of alcohol related expectancies in adolescents: Separating pharmacological from social learning influences. *Journal of Consulting and Clinical Psychology, 50*, 336-344.
10. Shell, D. F., Newman, I. M., & Qu, M. (2002, June). *Alcohol expectancies among high school students in China*. Poster presented at the 25<sup>th</sup> Annual Scientific Meeting of the Research Society on Alcoholism, San Francisco, CA.
11. Shell, D.F., Newman, I.M., Qu, M. (2002). Alcohol expectancies among high school students in China [abstract]. *Alcoholism: Clinical and Experimental Research, 26* (5, Suppl.), Abstract No. 426.
12. Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall.
13. Annis, H. M. (1982). *The situational confidence questionnaire (SCQ-39)*. Toronto, Ontario: Addiction Research Foundation.
14. Ellickson, P. L., & Hays, R. D. (1991). Beliefs about resistance self-efficacy and drug prevalence: Do they really affect drug use? *International Journal of the Addictions, 25*, 1353-1378.
15. Baldwin, A. R., Oei, T. P. S., & Young, R. (1993). To drink or not to drink: The differential role of alcohol expectancies and drinking refusal self-efficacy in quantity and frequency of alcohol consumption. *Cognitive Therapy and Research, 17*, 511-530.
16. DiClemente, C.C., Carbonari, J.P., Montgomery, R.P.G., & Hughes, S.O. (1994). The alcohol abstinence self-efficacy scale. *Journal of Studies on Alcohol, 55*, 141-148.
17. Web, J. A., & Baer, P. E. (1995). Influence of family disharmony and parental alcohol use on adolescent social skills, self-efficacy, and alcohol use. *Addictive Behaviors, 20*, 127-135.
18. Hsu, F. L. K. (1981). *American and Chinese: Passage to differences*. Honolulu: University of Hawaii.
19. Hui, C. H. (1988). Measurement of individualism-collectivism. *Journal of Research in Personality, 22*, 17-36.
20. Yang, K.S. (1996). The Psychological Transformation of the Chinese People as a Result of Societal Modernization. In M. H. Bond (Ed.), *The handbook of Chinese psychology* (pp. 479-498). New York: Oxford University Press.

**Table 1**  
**Adolescent Alcohol Expectancy Factors**

<b>Factor</b>	<b>Sample Items</b>	<b>Corresponding AEQ Factor</b>
General Negative Consequences 18 - Items	Drinking alcohol causes dizziness or headache. Drinking alcohol tends to get me in trouble. Drinking alcohol is harmful to health. Drinking causes delay of work or business.	Cognitive and Motor Impairment.
Harm to Person/Reputation 8 - Items	Females drinking can influence her reputation. Drinking alcohol will influence one's social development. Students with good academic records drink less frequently.	
Negative Uses of Alcohol 7 - Items	People may act excessively on opposite sex by using alcohol as an excuse. I may drink alcohol when I am feeling bad. The purpose of drinking is to show off oneself before other people.	Aggression and Arousal; Power and Aggression.
General Positive Perceptions 14 - Items	Drinking is welcome behavior. Drinking should be filled with joy. A person drinking a large amount of alcohol is admired. Drinking is worth its cost.	Physical and Social Pleasure; Change in Social Behavior.
Tension Reduction/Relaxation 16 - Items	Drinking can relieve mental pressure. Drinking alcohol makes people relax. Drinking makes people forget displeased things. Drinking makes fun.	Tension Reduction/Relaxation.
Drinking as Social Courtesy 9 - Items	I am afraid to hurt others' feeling when I refuse their toast. People would be disappointed without alcohol at parties. Toasting shows respect.	
Social Facilitation 7 - Items	It is easier to handle affairs when drinking. Drinking can boost one's courage. Drinking helps improve interpersonal relationship.	Social Assertiveness; Social Expression.
Beneficial Drinking/Moderation 7 - Items	Drinking but not drunkenness is delighted. Drinking a little is acceptable. A little drinking is beneficial for health.	

**Table 2**  
***Adolescent Alcohol Self-Regulatory, Self-Efficacy Factors***

Factor	Sample Items
Social Pressures 8-items	Resist pressure from your friends to drink when you are at their homes. Resist the pressure to engage in toasting at a banquet. Resist pressure from your boyfriend/girlfriend to drink on a date.
Mood/Affect 4 - Items	Resist the urge to drink to improve your mood. Resist the urge to get drunk when you are feeling joyful. Resist the urge to get drunk to improve your mood.
Personal Temptations 8 – Items	Resist the urge to drink to make you feel more comfortable in a social setting. Resist the urge to have a drink with a delicious meal. Resist the urge to drink to impress your boyfriend/girlfriend.
Excessive Drinking 8 – Items	Resist pressure to get drunk at your own birthday party. Resist pressure from your friends to get drunk at a festival. Resist the pressure to engage in excessive toasting at a banquet.

**Table 3**  
**Adolescent Cultural Orientation Factors**

Factor	Sample Items
Appearance Preference 7 - Items	Fashionable clothing makes me feel cool. I think I would be more attractive in brand name clothes. I like to get my hair dyed just as Westerner's hair.
Gender Discrimination 11 - Items	I think the male should play a leading role in my society. I think women can pursue a successful career just like men. I agree that men should have higher status than women in families.
Being Interested in Western Culture 14 - Items	I would like to live in Western countries. I prefer Western restaurants or fast food restaurants with Western atmosphere to Chinese restaurants. I admire those Chinese studying and working in Western countries.
Dating Attitudes 12 - Items	I think it is acceptable to make girlfriends or boyfriends in high school. I feel comfortable to see couples hugging in public. I do not think middle school students should date.
Filial Piety 10 - Items	I study mainly for "gaining face" for my parents. I would be concerned if I can't achieve what my parents expected. I object to the arrangement of sending parents to nursery.
Respect Toward Elders 11 - Items	I think it is OK to call a senior's name directly. I think that the rule "senior first" at the doorway is already outdated. I think I should give respect to old people..
Consumerism 11 - Items	I will not live on loan like Westerners do, even if I have a decent job in the future. I can't accept the concept of unplanned consumption. Even if I have a high monthly salary later, I will still save more and spend less. I think high spending is OK as long as you can afford.
Chinese Pride 10 - Items	I believe that the west should learn many things from China. Due to China's position in the world today, I am not proud of China. I am proud of China's long history.
Individualism vs Collectivism 7 - Items	I would be happy if there are no disagreements between my friends and me. When my opinions conflict with my friends, I would be more likely to go with them. I give priority to group interests rather than individual ones.
Obedience to Authorities 5 - items	If my teacher blamed me, I would argue with him/her. I comply with what my teachers say. I do not doubt of my teachers authority.

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