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The Influence of Cultural Orientation, Alcohol Expectancies, and Self-efficacy on Adolescent Drinking Behavior in China

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Title: The Influence of Cultural Orientation, Alcohol Expectancies, and Self-efficacy on Adolescent Drinking Behavior in Beijing

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ABSTRACT

Objective: We hypothesized that the drinking behavior of adolescents in China is influenced by expectancies and self-efficacy and that adolescents' cultural orientation toward Western versus traditional Chinese values influences expectancies, self-efficacy and drinking behavior, with Western values leading to more dysfunctional patterns of beliefs and drinking and that these beliefs are influenced by students' gender and school environment.

Method: 1020 high school students from Beijing completed the Chinese Adolescent Alcohol Expectancy, the Chinese Cultural Orientation, and the Chinese Self-regulation Self-efficacy questionnaires.

Results: Results generally confirmed our hypotheses. Higher negative expectancies and higher self-efficacy significantly reduced the likelihood of drinking. Higher positive expectancies increased the likelihood of regular drinking but not occasional drinking. Having Western cultural orientation increased the likelihood of drinking. Higher levels of Western cultural orientation also increased positive expectancies, lowered negative expectancies, and lowered self-efficacy. Having more Western (less traditional) views toward traditional Chinese values decreased positive and negative expectancies. Gender influenced beliefs with males having higher positive and lower negative expectancies, lower self-efficacy, and more traditional cultural orientation. Students in key and general schools had less traditional cultural orientation and key school students had higher self-efficacy.

Conclusions: Results indicate that cultural orientation influences adolescent drinking and this influence is partially mediated through cultural orientation influences on adolescent drinking expectancies and self-efficacy. Having more Western and less traditional Chinese cultural orientation leads to more drinking, lower self-efficacy for regulating drinking, and more risk promoting alcohol expectancies.

INTRODUCTION

Understanding the psychosocial and cultural factors that influence alcohol consumption is a first step in developing programs and policies to reduce risky drinking behaviors among adolescents. In developing countries, there is little systematic research on the psychosocial and cultural factors that shape drinking behavior. In China, an influx of Western influences has resulted in rapid social change, in some cases contradicting the traditional psychosocial controls on risky behaviors. This paper examines the influences of alcohol expectancies, alcohol self-efficacy, and cultural orientation beliefs on alcohol consumption among Chinese adolescents and the impact of students' gender and school environment on these beliefs.

Alcohol from a Chinese Perspective

China has a recorded tradition of alcohol use stretching back 7000 years. Throughout its history, there are many examples of attempts to modify drinking and to curb related behavior, but, in general, alcohol use has been considered an integral part of daily life. Today, as a result of opening to the West and changing economic conditions, new nontraditional patterns of alcohol use are developing. The range of alcohol products available is expanding and per capita consumption is increasing (see Martinic and Measham[1] for a good description of traditional and imported drinking practices in China). Despite the increasing rate of alcohol production and the rising per capita consumption, alcohol-related problems, with the exception of traffic crashes, are not yet seen as significant. Assuming that in the future alcohol-related problems will reach a level of public consciousness and will demand some kind of official response, the availability of research about the specifics of alcohol use will give policy makers some guidance.

Changing Patterns of Alcohol Use

Data on the use of alcohol in China is not easy to find. An extensive review completed for WHO's China office in 2007 [2] is perhaps the best collection of available data. Some highlights illustrate the issues. In 1999, using the population aged 15 and older and production data, the World Health Organization reported the increase in per capita consumption of pure alcohol in China to be the second highest in the world. Between 1970-72 and 1994-96, the per capita consumption of alcohol, in liters, increased from 1.03 to 5.17, a 401.94 % increase. Between 1949 and 1981, beer production in China increased 91 times [3] and beer production continues to expand. According to the World Advertising Research Center [4], between 1980 and 2000, beer production in China increased 3,826.3%. In 2001, a panel of experts estimated unrecorded alcohol consumption to be 1.0 liters of pure alcohol per capita [5].

Newman, Qian & Xue [6] reviewed 13 Chinese college student alcohol surveys. The proportion of college students who were drinkers ranged from 19.8% to 90%; however, these studies used a variety of definitions of drinker and a nonuniform set of frequency questions, making it hard to determine drinking rates among young people in China. Newman, Xue & Fang [7] found 59.4% of 1091 students in a Beijing high school sample had drunk alcohol in the last year (69.9% males; 51.4% females), and that the proportion of drinkers increased with grade in school.

Alcohol Expectancies

Alcohol expectancies reflect the outcomes that people believe will occur from drinking. Research has consistently shown that expectancies predict drinking even after other variables such as past use are controlled. These findings hold across ages, cultural groups, genders,

methods, and measures [8-10]. Expectancies have been found to be predictive of subsequent drinking in longitudinal studies [11-13]; and reviews in [9-10]. Expectancies held by adolescents prior to drinking have been found to predict the likelihood of drinking and consumption levels later when adolescents initiated drinking [14-15].

Alcohol Self-regulation Self-efficacy

Alcohol self-regulation self-efficacy has been conceptualized as confidence in one's ability to drink moderately [16] or to abstain or refuse to drink in a given situation [17]. Studies have consistently shown that self-efficacy is related to alcohol use (those with higher self-efficacy consume less or resist temptations to drink more) in nonclinical samples and predicted treatment success in clinical samples [see review in 10, and also 16-20]. Maisto et al. [10] have indicated that relations between self-regulation self-efficacy and alcohol use are similar cross-culturally and do not differ by gender.

Cultural Orientation

Cultural orientation describes the changes a person experiences when exposed to a culture from outside their home culture [21-23]. Cultural orientation differs from acculturation, which describes the changes immigrants experience as they become assimilated into a new home [24]. When a person in his or her own society is absorbing different and new cultural values and attitudes introduced from outside, his or her traditional cultural orientation is challenged. The degree to which a person accepts the new or imported values reflects his or her cultural orientation. Chinese young people have recently been exposed to many forces from outside their traditional culture (many originating in the West), which challenge their core beliefs and values.

With globalization, it is increasingly recognized that Western alcohol products and patterns of drinking are encroaching on traditional products and practices [25]. However, there are few studies that directly assess this influence on drinking patterns. Eide and Acuda [21, 25] and Eide et al. [26-27] examined the relationship of cultural orientation and alcohol use among a sample of 3061 secondary students in Zimbabwe. They concluded that alcohol use was associated positively with Western cultural orientation and negatively with local orientation. Xue, in studies in China, came to similar conclusions [23, 24, 28].

METHODS

Measures

Drinking. Newman, Qian, and Xue [6] have discussed the problems of measuring drinking quantity in China. Valid quantity measures have not been obtainable due the lack of standardized drinking containers and alcohol content in China resulting from varying concentration of alcohol in different drinks; the sale of alcohol in bottles of different sizes; and the practice of consuming alcohol from glasses, cups, and bowls of different sizes. Consequently we only used a drinking frequency measure to identify and categorize drinkers and nondrinkers. Drinking frequency was categorized as non-drinkers (those who reported never drinking or not drinking within the past year), occasional drinkers (those who drank in the last year but not in the last 30 days), and regular drinkers (those who drank within the last 30 days) [29].

Chinese Alcohol Expectancy Questionnaire (CAEQ). Students' alcohol expectancies were measured using the CAEQ. The CAEQ was developed over a number of years [29-32].), The instrument used in this study is a revision of the instrument reported by Shell et al. [29] with an

eight sub-scale factor structure: three reflecting negative expectancies and five reflecting positive expectancies. It has 67 items scored on a 6-point Likert scale from Strongest Disagree (1) to Strongest Agree (6).

The eight factor structure for this sample was validated with a confirmatory factor analysis using maximum likelihood estimation using the Mplus V. 4.2 program. Items were constrained to load only on their hypothesized latent factor. Factors were allowed to be correlated. The 8 factor structure achieved an acceptable fit (SRMR < .08; RMSEA < .06; see Hu and Bentler, [33, 34]). The 8 factor solution also achieved a better fit than alternative theory based four, three, and two factor solutions. Coefficient Alpha reliability estimates for each of the 8 sub-scales were as follows: negative consequences (e.g., If I drink alcohol, my judgment would be impaired) -.88, negative personal effects (e.g., If I drink alcohol, my reputation would be ruined) -.76, negative family reactions (e.g., If I drink alcohol, my parents will be upset) -.65, sexual expectancies (e.g., If I drink alcohol, I will be more attractive to opposite sex classmates or friends) -.80, positive physical/mental effects (e.g., If I drink alcohol, I will feel relaxed) -.89, positive social perceptions (e.g., If I drink alcohol, it would help me make friends) -.87, drinking as social courtesy (e.g., If I refuse someone's toasting, I am afraid of hurting their feelings) -.83, and traditional Chinese drinking (e.g., If I drink alcohol at festivals, it adds more pleasure to my life) -.75. The coefficient alpha estimated reliabilities for the CAEQ are within the range as the coefficient alpha reliabilities reported for the Alcohol Expectancy Questionnaire (AEQ), in both the adult and adolescent formats [35]. The factor structure of Chinese adolescents' alcohol expectancies is somewhat similar to that found for U.S. adolescents and adults on the AEQ [35, 36].

There has been considerable theoretical debate about the status of expectancy sub-dimensions [e.g., 9, 36]. George et al. [36] suggest that higher order factors be used in correlation and regression studies due to subscale multicollinearity. To determine if higher order factors could more parsimoniously represent the CAEQ subscale factors, we did a second order factor analysis on the scale scores for each instrument. Using both Principal Components and Principal Axis factoring with both Varimax and Promax (correlated) rotations, we obtained consistent, theoretically sound second order factors. We found a positive factor (sexual expectancies, positive physical/mental effects, positive social perceptions, drinking as social courtesy, traditional Chinese drinking) and a negative factor (negative consequences, negative personal effects, negative family reactions). This second order factoring is consistent with much prior expectancy research (see Goldman et al. [9]). Coefficient Alpha estimates for the factors were negative expectancy = .84 and positive expectancy = .87. Second order factor scores were computed by taking the mean of the subscale scores in each factor.

Chinese Cultural Orientation Questionnaire (CCOQ). Students' cultural orientation was measured using the CCOQ. The CCOQ also was developed over a number of years [23, 24, 28]. The instrument used in this study is a revision of the instrument reported by Xue et al. [23, 28] with a ten sub-scale factor structure reflecting both traditional Chinese cultural values and aspects of values associated with westernization. The ten factor structure for this sample was validated with a confirmatory factor analysis using maximum likelihood estimation using the Mplus V. 4.2 program. Items were constrained to load only on their hypothesized latent factor. Factors were allowed to be correlated. The hypothesized 10 factor structure achieved an

acceptable fit (SRMR < .08; RMSEA < .06; see Hu and Bentler [33, 34]). The instrument has 78 items scored on a 5-point Likert scale from Strongly Disagree (1) to Strongly Agree (5).

Coefficient Alpha reliability estimates for each of the 10 sub-scales were as follows: appearance preference (e.g., I think I would be more attractive in brand name clothes) -.77, Interest in Western culture (e.g., I would like to live in Western countries) -.75, dating attitudes (e.g., I feel comfortable seeing couples hugging in public) -.78, consumerism (e.g., I will not live on loan like Westerners do [Negative worded]) -.74, gender discrimination (e.g., I think the male should play a leading role in my society) -.84, filial piety (e.g., I study mainly for “gaining face” for my parents) -.72, respect toward elders (e.g., I think I should give respect to old people) -.68, Chinese pride (e.g., I believe the West could learn many things from China) -.79, collectivism (e.g., When my opinions conflict with my friends, I would be more likely to go with them) -.58, and obedience to authority (e.g., I comply with what my teachers say) -.61. For scoring, all items are recoded so that a higher score represents a more Western or less traditional cultural orientation.

Similar to expectancy measures, theorists (e.g., Maisto et al.[10] and Yang [22]) have argued that cultural orientation and values scales are multidimensional with second order factors. To determine if higher order factors could more parsimoniously represent the CCOQ subscale factors, we did a second order factor analysis on the scale scores for each instrument. Using both Principal Components and Principal Axis factoring with both Varimax and Promax (correlated) rotations, we obtained consistent, theoretically sound second order factors. We found a Western Cultural Orientation factor containing the dating attitudes, interest in Western culture, consumerism, and

appearance preference scales associated with Westernization values [21, 25-27] and a Traditional Cultural Orientation factor containing the respect for elders, obedience to authority, filial piety, Chinese pride, collectivism, and gender discrimination scales associated with more traditional dimensions of Chinese cultural values [22, 37]. Coefficient Alpha estimates for the factors were Western Cultural Orientation = .69 and positive expectancy = .63. Second order factor scores were computed by taking the mean of the subscale scores in each factor.

Chinese Alcohol Self-regulation Self-efficacy (CASSE). Students' self-efficacy for regulating their drinking was measured using the CASSE. To create the CASSE, we followed procedures described by Bandura[38] for the construction of self-efficacy scales. A number of existing alcohol abstinence or alcohol refusal self-efficacy scales [16-18] were used as the models for construction of a self-efficacy scale appropriate for drinking behaviors and situations in China. Based on the categories identified by Baldwin et al.[18], situations in which Chinese young adults might encounter social pressures to drink (e.g., when friends are drinking), situations where drinking is expected (e.g., festivals, banquets), and emotional or personal reasons for drinking (e.g., when feeling joyful, to improve mood, to feel more socially comfortable) were developed based on extensive consultation with Chinese colleagues. Questions reflecting confidence for either resisting pressure from peers or for resisting personal urges to drink were developed. These questions were reviewed by colleagues in China and final revisions were made based on their comments. Questions were asked both for drinking any alcohol and for drinking excessively.

As a first step in validating the scale, exploratory factor analysis was done using Principle Components with Varimax rotation. The analysis identified four factors. The factors identified

deviated somewhat from the hypothesized factor structure. One factor represented the expected emotional/mood-related efficacies. Social pressures and situations, however, split along an internal vs external dimension with outside pressures from friends or settings forming one factor and personal/internal urges to drink due to pressures or settings forming another. Finally, excessive consumption either due to social pressures, situations, or internal urges formed a separate factor. Although not exactly corresponding to the hypothesized categories, these factors are consistent with sub-factors identified in previous studies [16-18]. The final instrument contained 28 items scored on a 0 – 100 scale from “I cannot do it at all” (0) to “I am certain I can do it” (100). Coefficient Alpha reliability estimates for each of the four sub-scales were as follows: situational social pressures (e.g., Resist pressure to engage in toasting at a banquet) -.90, mood/affect (e.g., Resist the urge to drink to improve your mood) -.80, personal social pressures (e.g., Resist the urge to drink to make you feel more comfortable in a social setting) -.91, and excessive drinking (e.g., Resist pressure from your friends to get drunk at a festival) -.92.

Although we created the CASSE with distinct categories [18], other research has found that drinking self-efficacy measures can have higher order factors (see Maisto et al. [10]). To determine if higher order factors could more parsimoniously represent the CASSE subscale factors, we did a second order factor analysis on the scale scores for each instrument. Using both Principal Components and Principal Axis factoring with both Varimax and Promax (correlated) rotations, we found a single second order factor consistent with prior research [10]. The Coefficient Alpha estimate for the second order factor was .90. The single self-efficacy score was computed by taking the mean of the four subscale scores.

Demographic. Students were asked their gender and the type of school they attended (key, general, or occupational). Key schools provide a college preparatory curriculum for students with high test scores competing for university entrance. General schools provide a broad-based general and college preparatory curriculum for students with lower test scores but who may also be competing for university entrance. Occupational schools provide a vocational/technical curriculum for students who generally have lower test scores and are preparing for careers other than university entrance.

For analysis, gender was dummy coded into a dichotomous binary variable with female = 0 and male = 1. School type was dummy coded into two dummy variables with key schools coded as 1 in the first and general schools coded as 1 in the second. In accordance with dummy coding this coding contrasts key and general schools to occupational school as the reference.

Participants

1020 high school students (512 male; 506 female) from key (388), general (290), and occupational (342) high schools in Beijing, China, completed the questionnaires. Students were ages 12 (1-likely an error), 14 (3), 15 (166), 16 (386), 17 (322), 18 (133), and 19 (5). All were in the equivalent of 10th (363), 11th (349), and 12th (308) grades.

Procedures

Students completed the questionnaire in their classrooms. The staff from the Institute of Developmental Psychology, School of Psychology at Beijing Normal University administered the questionnaire under the supervision of the third author. The teachers were not present in the

classrooms during the survey. The questionnaire took approximately 30 to 50 minutes to complete. Although students were informed that participation was voluntary, participation was 100% in all classrooms.

Analysis

To examine how students' beliefs were related to their drinking, we conducted a path analysis as shown in Figure 1 to predict adolescents' level of drinking (non-drinker, occasional drinker, frequent drinker) from their beliefs. We used SPSS v. 17 to analyze the path. Multinomial regression was used to regress the three drinking categories on the second order factors for positive and negative expectancy, self-efficacy, Western cultural orientation, traditional cultural orientation, gender, and type of school attended. Linear regression was used to regress positive expectancy, negative expectancy, and self-efficacy individually on Western cultural orientation, traditional cultural orientation, gender, and school type. Finally, Western and traditional cultural orientation were individually regressed on gender and school type.

RESULTS

Table 1 provides the path coefficients for the model depicted in Figure 1. Overall explained variances (R^2) for each predicted variable in the path model were drinking = .323 (Cox and Snell estimated) and .364 (Nagelkerke estimated), positive expectancy = .167, negative expectancy = .117, self-efficacy = .15, traditional cultural orientation = .102, and Western cultural orientation = .003.

Occasional drinking was predicted by negative expectancies, self-efficacy, Western cultural orientation, and both key and general school attendance. Odds ratios for the likelihood of occasional drinking from the multinomial logistic regression (Table 2) show that the odds of occasional drinking versus no drinking were lowered by higher negative expectancies and higher self-efficacy and increased by more Western cultural orientation. Students in both key and general schools had higher odds of occasional drinking than students in occupational schools. Regular drinking was predicted by positive expectancies, negative expectancies, self-efficacy, Western cultural orientation, and gender. Odds ratios for the likelihood of regular drinking from the multinomial logistic regression (Table 2) show that the odds of regular drinking versus no drinking were increased by higher positive expectancies, lowered by higher negative expectancies and higher self-efficacy, and increased by more Western cultural orientation. Being male increased the odds of regular drinking by almost 2.5 times.

Table 1
Parameter Coefficients for the Path Model

Variable	Positive	Negative	Tradition SE	Western C.O.	Western C.O	Gender	School	
	Expect	Expect					1	2
Drinking Cat. 1	-.05	-1.08*	-.03*	-.31	.68*	.12	.76*	.57*
Drinking Cat. 2	.49*	-1.76*	-.04*	.07	.70*	.86*	-.07	.06
Positive Expect	--	--	--	-.13*	.39*	.10*	-.01	.03
Negative Expect	--	--	--	-.20*	-.24*	-.09*	-.05	-.07
Self-Efficacy	--	--	--	-.02	-.28*	-.22*	.14*	.01
Traditional C.O.	--	--	--	--	--	-.28*	.12*	.12*
Western C.O.	--	--	--	--	--	-.01	-.04	.02

Note. Drinking Cat. 1 = Occasional drinker versus non-drinker; Drinking Cat 2 = Regular drinker versus non-drinker. SE = Self-Efficacy; Traditional C.O = Traditional Cultural Orientation; Western C.O.= Western Cultural Orientation. Gender Dummy Code - Male = 1, Female = 2. School Dummy Code - School 1 = Key School versus Occupational School, School 2 = General School versus Occupational School.

Parameter coefficients for Drinking Cat. 1 and Drinking Cat. 2 are unstandardized regression weights from multinomial logistic regression. Parameter coefficients for all other variables are standardized regression Beta weights.

-- = no coefficient, parameter not in the model.

* = $p < .05$

Table 2
Odds Ratios for Multinomial Logistic Regression Predicting Drinking

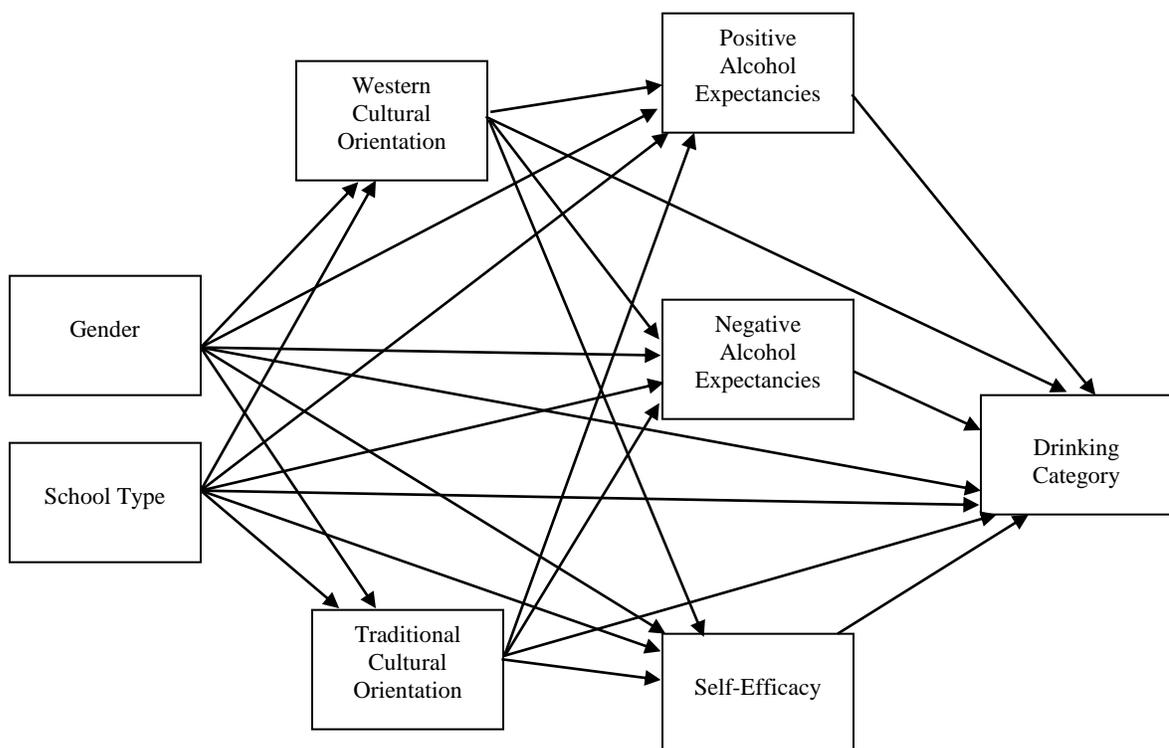
Variables	Odds Ratio
Occasional Drinker versus Non-drinker	
Positive expectancy	.952
Negative expectancy	.339*
Self-efficacy	.973*
Traditional C.O.	.734
Western C.O.	1.978*
Gender	1.125
Key versus occupational school	2.147*
General versus occupational school	1.768*
Regular Drinker versus Non-drinker	
Positive expectancy	1.630*
Negative expectancy	.172*
Self-efficacy	.959*
Traditional C.O.	1.077

Western C.O.	2.010*
Gender	2.354*
Key versus occupational school	.932
General versus occupational school	1.057

* $p < .05$

Higher positive expectancy was predicted by higher levels of Western cultural orientation and being male. Lower negative expectancy was predicted by having lower traditional cultural orientation (being more Western oriented to traditional values), having higher Western cultural orientation, and being male. Lower self-efficacy was predicted by higher Western cultural orientation and being male. Higher self-efficacy was predicted by attending a key school. Males had a more traditional cultural orientation (lower score on the scale). Less traditional cultural orientation (more Western oriented to traditional values) was predicted by being in a key or general school rather than an occupational school.

Figure 1 Path Model Predicting Students' Drinking



DISCUSSION

Path analysis confirmed our expectations that Chinese adolescents' drinking would be influenced by their expectancies and self-efficacy for regulating their drinking. Our findings for expectancies were consistent with the existing literature on alcohol expectancies [8-10]. They also confirm the patterns found in previous studies of Chinese adolescents' expectancies and alcohol use [29]. Negative expectancies were associated with reduction in both occasional and regular drinking, suggesting that negative expectancies are a general protective factor for reducing drinking. Positive expectancies, however, were only associated with increased regular drinking. This suggests positive expectancies play less of a role in decision making about drinking or not drinking and more of a role in influencing drinking frequency among those who drink. Like other studies in both China [29] and the U.S. [10], males had higher positive and lower negative expectancies. Expectancies were not influenced by type of school attended. This suggests that the general culture and environment plays a larger role in developing expectancies about alcohol than specific school environments.

Our findings suggest that self-efficacy for regulating drinking and resisting pressures to drink plays a role in reducing Chinese adolescent drinking, similar to the findings for U.S. adolescents [10]. Our findings also support other research that suggests the relationship of self-regulation self-efficacy and alcohol use are similar cross-culturally [10]. Unlike findings from research on U.S. adolescents [10], being male was associated with lower self-efficacy. This suggests that self-efficacy development in Chinese adolescents may diverge for men and women in ways different than what is typical for U.S. adolescents. Being a student in a key school was associated with higher self-efficacy. Key school attendance was associated with higher occasional drinking but

not higher regular drinking. The higher self-efficacy of these students for regulating their drinking may contribute to the indicated lower risk drinking pattern.

Our findings advance understanding of the role of cultural orientation in drinking. Similar to previous studies [21, 23-28] , we found that a more Western cultural orientation was associated with more drinking. Traditional cultural orientation did not directly affect drinking. These findings suggest that adoption of Western values, more than the rejection of traditional values, is associated with higher drinking. Males had more traditional cultural orientation but gender was not predictive of Western cultural orientation. Students in key and general schools had less traditional cultural orientations. School type was not associated with Western cultural orientation.

We extended the research on cultural orientation by examining the influences of cultural orientation on alcohol expectancy and self-efficacy beliefs. Cultural orientation is a general psychological construct. Psychological constructs have long been thought to have a hierarchical organization reflecting proximal to distal influences. In this framework, the influences of a general construct or belief, such as cultural orientation, on a specific behavior, such as drinking, is thought to be both direct and indirect through psychological influences more proximal to the specific behavior (see, for example, the Marsh/Shavelson model of self-concept[39]). This hierarchical influence model was examined through path analysis. We found that cultural orientation exerted strong influences on alcohol expectancies and alcohol self-regulation self-efficacy. This suggests that cultural orientation has a larger effect on adolescents' drinking than would be indicated only by its direct influence on drinking. Cultural orientation also appears to influence the development of other psychological beliefs that themselves strongly influence drinking.

This study is limited to a single city in China. We cannot know if the findings would generalize to other parts of China. Also, the data was collected through a retrospective survey at a single point in time. Acknowledging these limitations and the need to replicate these results in more sites and with other more direct measures and longitudinal data, we think it is useful to consider the significance of our findings for policy and program development. Since both expectancies and self-efficacy are predictive of behavior, and since both are learned, purposeful educational programs can be developed to shape this learning. If an objective is to reduce occasional drinking, then the reinforcement of negative expectancies would be useful. If the objective is to reduce regular drinking, then education to reshape positive expectancies would be useful. The finding that a Western cultural orientation is related to alcohol use suggests the opportunity for educational programs that clarify Western values and strengthen and reinforce Chinese values. Initial efforts at educational programming in Chinese high schools have found that expectancies and self-efficacy can be changed by classroom interventions [40].

The finding that cultural orientation influences alcohol use through expectancies and self-efficacy and that Western cultural orientation directly affects alcohol use suggests a need to further understand the dimensions and contributions of cultural orientation. Within these general findings are the subtle differences related to gender and school type, suggesting the need for replication studies to validate these differences and the opportunity to evaluate educational initiatives that are school and/or gender specific.

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