Consuming Alcohol to Prepare for Adulthood: An Event History Analysis of the Onset of Alcohol Use Among Chinese College Students

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Abstract
Heavy episodic drinking among college students is a common but scarcely researched public health problem in China. Although social drinking could be regarded as an enjoyable activity across cultures, the Chinese cultural belief about alcohol use is different from that of its Western counterpart, which has been richly evidenced in the research literature. Specifically, Chinese college students may consider social drinking as a venue for practicing an important social skill and preparing for life after college. This project introduces and tests the concept of “drinking as preparation for adulthood.” An approximate longitudinal study was conducted with a purposive sample of 338 college students (65.5% as females) in Southern China. An event history analysis confirms that drinking as preparation for adulthood is a significant predictor of college drinking onset. Findings indicate that culturally unique psychological factors can provide valuable alternative explanations and expand the scientific validity of theories established in the West.

Keywords
Chinese college students, Chinese drinking culture, event history analysis, onset of alcohol use, preparation for adulthood

Introduction
Heavy episodic (“binge”) drinking is a common problem among college students in China. According to the World Health Organization (WHO), alcohol consumption among the Chinese population aged 15 and older outpaces alcohol consumption in the United States (Engel, 2015). As China enjoys a long drinking tradition over thousands of years (Shen & Wang, 1998), it is clear that drinking behaviors across different societies can reflect different cultural patterns (Chang, 2011). Compelled by “the need for building and strengthening Guan Xi (relationships),” the Chinese would choose to “engage in frequent and excessive group-based alcohol drinking” (Chang, 2011, p. 104) in spite of the negative consequences associated with binge drinking (Hao et al., 2004). As such, drinking as a social activity takes on an additional meaning in Chinese society, which acts as an agent in an adolescent’s socialization process before they became an independent living young adult (Sohu News, 2013).

Empirical evidence shows that early onset of drinking is related to an individual’s frequency of drinking habit, binge drinking, and alcohol abuse and dependence in adulthood (Grant & Dawson, 1997; Pitkanen et al., 2005). Unintentional injuries due to drinking alcohol and use of drugs in adults have also been found to be associated with early onset of drinking (Flory et al., 2004; Hingson et al., 2000). This is why numerous nations such as the United States have enforced the legal age of drinking. For countries without a legal drinking age, such as China, “delaying the initiation of drinking” could be a policy worth consideration (Pitkanen et al., 2005, p. 652).

Although a large body of literature is available on youth drinking in Western countries, research on Chinese youth drinking remains limited. Understanding the factors that affect the drinking behavior of Chinese youth, especially those within the unique Chinese cultural context, could have considerable social and public health implications. This study aims to explore Chinese college students’ drinking onset by using event history analysis (EHA) within the Chinese cultural context. Specifically, guided by a culture-centered approach, this project introduced the concept of

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“drinking as preparation for adulthood” and tested it alongside other factors—such as perceived drinking norms, family environment of drinking, and school activity—to explain drinking behavior among Chinese college students. The objective of the study is to explore whether culturally unique factors can provide alternative explanations and expand the scientific validity of theories established in the West.

Literature Review

The Culture-Centered Approach in Health Communication

As a response to the growing emphasis on the role of culture in public health promotion, Dutta (2007) distinguished two approaches: cultural sensitivity and culture centered. Specifically, he conceptualizes the cultural sensitivity approach as focusing on “developing culturally appropriate health education efforts that would change individual attitudes, beliefs, and values of cultural participants by tailoring messages to culture characteristics of audience members,” and the culture-centered approach as emphasizing “attempts at changing social structures surrounding health through dialogues with cultural members that create spaces for marginalized cultural voices” (pp. 34–35).

Whereas the cultural sensitivity approach entertains the notion of culturally tailored messages, the culture-centered approach pushes further against the Eurocentric biases of individualism (Airhihenbuwa, 1995) by building theories and applications from within each marginalized culture. In the latter approach, culture is conceptualized as a web of meanings coconstructed by cultural participants (Dutta-Bergman, 2005). This approach emphasizes the interactions between structure, context, and agency embedded in each culture (Dutta & Basu, 2007). Structure is “the organization of social systems, the patterns of distribution of resources, and the patterns of control of these resources that are inherent in the production and reinforcement of social inequities” (Dutta, 2007, p. 319). Context refers to the local environments in which the meanings of health behaviors are created and negotiated. Agency is the capacity of individuals to engage with social structures in their daily actions in response to contexts (Basu & Dutta, 2007).

Drinking is a part of college culture in many countries. Researchers have identified influential factors of college drinking, including media influence, which was highlighted in youth-oriented TV series such as The OC (Van Den Bulck et al., 2008) or best-selling adolescent novels (Coyne et al., 2011). Other important factors facilitating drinking behaviors include different types of social norms (Park et al., 2009; Yanovitzky et al., 2006), peer dialogue about drinking (Real & Rimal, 2007), social motives (Corbin et al., 2011), family communication patterns (Koesten & Anderson, 2004), parental divorce (Jackson et al., 2016), and party-hosting skills (Lin et al., 2014). Although the bulk of extant research has been conducted mainly in Western societies, researchers and practitioners seeking to curb problematic college drinking behaviors in a non-Western context still need to better understand the factors that influence such behaviors in a different cultural setting.

Chinese Drinking Culture

In a historical sense, alcohol drinking has been “an indispensable part of Chinese relational culture” (Chang, 2011, p. 104). As the culture-centered approach suggests, the social structure, context, and agency associated with alcohol drinking have jointly shaped the drinking norms in Chinese culture. For instance, through the Jing Jiu ritual (respectfully offering one a drink) and Quan Jiu ritual (persuading one to drink), drinkers are expected to exhibit characters such as respect, modesty, and courage that are crucial in relationship building and maintenance (see a review in Chang, 2011). Within this culturally bound social drinking ritual, preserving “face” (Hwang, 1987) and social harmony (Gao & Ting-Toomey, 1998) are two communal social norms that are observed. Drunkenness in a Chinese drinking context is viewed as one of the ways to demonstrate courage and strength—but rarely as a form of recreational play—as it is with then Americans (Workman, 2001). As the alcohol consumed at Chinese social events is usually hard liquor, the ability to tolerate alcohol more than others is perceived as a reflection of an individual’s courage and strength, instead of a character weakness (Chang, 2011).

From the perspective of social convention, not unlike in the West, the Chinese society considers alcohol a social lubricant for establishing and maintaining interpersonal relationships, or Guan Xi, in various social settings. Nonetheless, whereas alcohol plays a formal and functional role in facilitating family, social, and business Guan Xi in Chinese society, alcohol consumption in Western societies across all occasions is primarily for personal enjoyment (Chang, 2011; Workman, 2001). In Chinese society, there is no social stigma associated with encouraging all parties at all occasions—where alcohol is served—to engage in heavy drinking (i.e., bottom-up shots or “gan bei”) as a gesture of hospitality and social trust (Chang, 2011). Hence, even though drinking alcohol appears to be a self-indulgent behavior, it in fact can be a burden on those who do not enjoy regular—or heavy alcohol use in various social contexts—for the sake of conforming to the Chinese social convention (Hao et al., 2005). This seemingly counterintuitive proposition is a unique aspect of alcohol consumption in Chinese society, compared with a Western society.

The social convention that considers binge drinking or drunkenness at social events socially acceptable is commonly practiced in China. For instance, bonding with superiors, coworkers, and professional peers through drinking outings after work or at formal gatherings is a fixture of workplace culture in East Asia (Kim & Hong, 2013). This
includes nightly drinking outings and karaoke singing after work to blow off steam and commiserate among company employees (Hagihara et al., 2000; Kim & Hong, 2013). Likewise, entertaining guests, visitors, and clients with meals and heavy alcohol consumption is also a widely practiced workplace norm to build Guan Xi or business relationships; the belief here is that alcohol is a social lubricant that can relax individuals to strike good business deals (Hao et al., 2005). Organizational newcomers usually believe drinking alcohol is an effective and legitimate means for improving job performance, as a response to the organizational norms signaled by veterans and clients (Liu et al., 2015).

A similar drinking convention also exists in celebratory social gatherings among friends and families. For instance, getting the brides and grooms drunk at a wedding banquet is the “obligation” of their best friends, in honoring the tradition of making the event memorable and fun (Zhao, 2015). It is notable that the Chinese culture puts a strong emphasis on reserving personal feelings to achieve long-term goals. As the cultural meaning of alcohol consumption is learned through the socialization process during childhood in China, those who do not enjoy alcohol or heavy drinking would still conform to the cultural norm that considers heaving drinking as an important social skill for maintaining good relationships with supervisors, employees, clients, colleagues, and the like (Hao et al., 1995).

**College Drinking Culture**

Within this cultural context, the Chinese college students are well aware of the social convention of drinking prior to attending college and beginning at a young age. Through the social learning process that enables them to observe drinking behaviors in society, college students understand the role of drinking in facilitating the establishment of informal and formal social relations or Guan Xi in the adult world. These observations primarily include celebratory events during social gatherings with their extended families and friends as well as the practice of Ying Chou (or business entertaining) in a workplace setting.

Traditionally, Eastern cultures tend to have a shorter period of emerging adulthood or no emerging adulthood at all (Nelson et al., 2004). In other words, those who reach the adult age are expected to act like adults, even if they are still in their late teens. This expectation is illustrated in the example below. A survey on Chinese college students yields some culturally specific criteria for attaining adult status in the Chinese culture. Specifically, although 30.0% of the respondents perceive alcohol consumption as a necessary criterion for adulthood, fewer than half (47.9%) of the males believe they should avoid becoming drunk overall (Nelson et al., 2004). These findings hence may reflect a belief about alcohol consumption among the Chinese college students, who might be motivated to consume alcohol to comply with their perception of what adulthood means in Chinese society.

Because activities within dormitories on campus are usually strictly regulated, student parties rarely involve alcohol consumption on campus. For this reason, college students tend to consume alcoholic beverages at diners, restaurants, bars, and clubs outside of campus. In particular, the visits to bars and clubs have skyrocketed in recent years, due to the lure of the lifestyle that these establishments project (X. Zhang & Liu, 2008; Zhou & Wang, 2013). On a different front, the alcohol drinking experience is also believed to be associated with a more casual attitude about sex, especially among young female students (F. Li et al., 2013).

Western college students claim the tradition of alcohol use and abuse as a rite of passage (Butler, 1993; Crawford & Novak, 2006). By comparison, Chinese college students appear to embrace the exercise of a similar rite of passage; however, they may also be practicing the drinking norms prevalent in their own society. In other words, they may utilize their drinking occasions to learn the skills and etiquette that are perceived as necessary to successfully function as an adult at the workplace, celebratory events, and other social occasions in society. Formally, the following hypotheses and research questions are proposed to empirically validate these cultural observations:

**Hypothesis 1 (H1):** College students with a stronger belief about drinking as preparation for adulthood will be more likely to start drinking early.

**Hypothesis 2 (H2):** College students with a stronger belief about drinking as preparation for adulthood will drink alcohol more frequently.

**Social Influence on Initiating Drinking**

An individual’s decision to engage in substance use is rarely an isolated life event. Family environment of drinking and perceived social norm about drinking are two types of commonly examined social influence. Family environment of drinking plays a significant role in one’s drinking behavior because family provides an environment for children to learn social conventions—and a pathway to develop behaviors associated with drinking—from a developmental perspective (Nash et al., 2005). Perceived campus drinking norm could also increase levels of alcohol consumption and initiation. Specifically, those college students who perceive that campus drinking is an acceptable activity have been found to consume more alcohol and initiate drinking earlier, compared with their peers (Crawford & Novak, 2006).

Scholars argue that the connection between individuals and some “social agency” or “person” plays an important role in forming one’s perception and attitude toward substance (Allen et al., 2009). Past research has extensively documented such influence in terms of a “person” (usually referred to “peer pressure” or “social norm”; see Borsari & Carey, 2003). Another unit of analysis involves “social agency” influences—such as the Greek system in college
involving fraternities and sororities—on adolescents and college students’ decision to consume alcohol (Workman, 2001). It should be noted that the Greek system does not exist in the Chinese university environment. Chinese students who wish to establish or enjoy a group identity on campus typically choose to participate in student organizations or club activities, such as student government or an intramural soccer team.

Because a social agency or organization (such as athletic team or social club) provides a sense of collective identity and values for them, group members tend to follow the existing behavioral norm prevalently adopted in the social agency (Seifried & Clopton, 2013). In that sense, Allen and colleagues (2009) argue that by establishing a sense of belonging and community, school activity organizations could generate protective environment against substance use. Their meta-analytic study reveals that adolescent participation in school activities is indeed associated with reduced substance use. In their study context, it is presumed that substance use such as alcohol use is considered a negative social activity for young people; hence, substance use could be reduced due to engagement with activities that do not condone alcohol use. However, studies investigating college students’ drinking pattern have painted a different picture as drinking culture is significantly different in college from in high school. For instance, Doumas and colleagues (2007) compared heavy drinking and alcohol-related consequences between student athletes and nonathletes in a U.S. university and found student athletes reported heavier drinking and higher levels of alcohol-related consequences than did nonathletes.

What if alcohol use behavior is viewed as a rehearsal for preparing emerging adults to adapt to an important aspect of Chinese adulthood? Will be participation in school activities correlated to alcohol use? The following research questions are proposed to explore this inquiry in the context of the Chinese college environment:

**Research Question 1 (RQ1):** Is more active participation in student club activities positively related to college students’ onset time of drinking behavior?

**Research Question 2 (RQ2):** Is more active participation in student club activities positively related to college students’ drinking frequency?

**Method**

**EHA**

Our conceptual framework concerns the impact of drinking-related perceptions and school activity participation on the onset time and frequency of college drinking behavior. Aside from performing a multiple regression analysis on predicting the frequency of drinking, an EHA was also conducted to test the hypotheses and research questions that investigate the time of onset of drinking. EHA, also known as survival analysis in medicine and actuarial science, is commonly used in social science for predicting the occurrence and timing of events (Allison, 2005; Westerik et al., 2007). Compared with alternative techniques for studying events situated in time, EHA has the advantage of measuring events and predictors in time flexibly (Snyder & O’Connell, 2008). For social science research that measures a longitudinal response, EHA could potentially provide more insights than other mainstream analytical approaches (Westerik et al., 2007).

Specifically, there are two types of EHA based on the measurement of time for an event: continuous-time event analysis and discrete-time event analysis (see a summary in Snyder & O’Connell, 2008). The analysis of continuous-time event data measures time as the elapsed length of time within the time period, starting with the beginning of experiencing an event. Alternatively, in an analysis of discrete-time event data, time to event is inferred from repeated observations at specific time points; the transition from one time point or state to another is indicated by the change in different time points or states between data collection waves. Each of these two analytical approaches has its own strengths and weaknesses. The continuous-time event analysis offers more data nuance, but the retrospective data are often subject to validity concerns. In contrast, in discrete-time event analysis, time-varying predictors can be measured at different waves (Snyder & O’Connell, 2008). This study chose to apply continuous-time event analysis to analyze the data.

**Procedure**

After securing approval by Academic Ethics Committee (equivalent to institutional review board), a paper-and-pencil survey was conducted at a large university in a southern territory of China, with a sample of undergraduate seniors in their last semester of college. Students enrolled in large public courses were invited to participate in this study. Written informed consent was obtained from the participants, prior to data collection, in which anonymity of the study was stressed. Students from this university are typically from families of mid- to high-socioeconomic strata. In particular, on average, the sample reported that their family monthly income is 15,001 to 20,000 RMB, which falls in the range of middle class. This university is located in an urban environment, with easy access to bars, clubs, and restaurants, where alcoholic beverage is commonly served.

After removing seven cases with a significant amount of missing data from the data set, 338 valid responses were used in data analysis. Of the total 338 respondents, 65.5% were females. The survey was administered in a regular classroom setting. Study participants were provided with information that explains the nature of voluntary participation, study procedure, and anonymity of their survey responses, before questionnaires were distributed to consented students. Extra
course credit was awarded to those students who participated in this study.

**Measures**

**Time of drinking onset.** To measure this key dependent variable, study respondents were first asked to indicate whether they have consumed alcohol beverages socially, up to the time of answering the survey questionnaire (their fourth year in college). If the answer to this filter question was “yes” (event), the respondents were further asked to recall the first time they had such a drinking experience and the frequency of drinking in the past 12 months. Because the recall of the exact date and time of their first drinking experience could be challenging to many respondents, the variable was operationalized to reflect school semester sequence, ranging from “before college” (marked as time point 1) to “the second semester of senior year” (marked as time point 16); other points in time (i.e., 2, 3, 4 . . . 15) include the first semester, winter break, and the second semester of each academic year, in addition to the annual summer break. Although this measurement sacrifices the continuousness of the time to a certain degree, it provides a useful approach to gain measurement accuracy. Time of drinking onset was reversely calculated as 17 minus their chosen time point. The frequency of drinking in the past 12 months was measured from (0) none to (4) 16 times and above.

**Alcohol use belief.** The concept of belief about drinking as preparation for adulthood was operationalized as the perception of one’s drinking ability as an important social skill for preparation to enter society. Based on Chang’s (2011) qualitative study, several aspects of this belief have been extracted: perceived importance of drinking alcohol in building relationships, acknowledging the role of drinking alcohol in social events, and necessity of practicing drinking to better fit social convention. Eight items were constructed to measure the different aspects of this concept. These eight items include the following: (a) Drinking is an indispensable part of social occasions; (b) drinking capability is a good social skill; (c) to face the challenges of society, I need to practice drinking; (d) I agree with the old saying “no alcohol no feast”; (e) I believe that when people drink alcohol together, they can develop a deeper affection toward each other; (f) drinking capability is one of the symbols of maturity; (g) drinking alcohol is cool; and (h) in general, a popular individual is someone who is capable of handling alcohol. All items were gauged on a 7-point scale, ranging from strongly disagree to strongly agree. Using a principal component analysis with varimax rotation, two factors were generated from those eight items. The first five items formed the first factor, which has a reliability coefficient of .86 and eigenvalue of 4.34; the last three items emerged as the second factor, which achieves a reliability coefficient of .83 and eigenvalue of 1.20. For the EHA, a composite variable that combines both factors was created. The reliability coefficient Cronbach’s alpha of the composite variable is .88.

**Family environment.** Jang et al.’s (2011) scale was adopted to measure this concept, also a time invariant independent variable, on the same 7-point scale described above. An example of this five-item measure is “In general, I can easily find alcoholic beverages (e.g., beer, wine, or hard liquors) at home.” The interitem reliability calculated through the Cronbach’s alpha across these five items is .87. This variable was used as a control variable in the EHA.

**Perceived drinking norm.** This variable was measured by asking the respondents to estimate the percentages of college students who have had drinking experience at social events, including students in their inner circle, other students at their university, and Chinese college students in general. The combined average percentage reflects the perceived social drinking norm among students in the sample. This variable was utilized as a control variable in the EHA.

**Student club activity.** The respondents were asked to indicate their participation in eight common student club activities at school, including (a) student union, (b) art club (e.g., traditional Chinese painting club), (c) sport club (e.g., fencing club), (d) academic club (e.g., traditional culture club), (e) professional club activity (e.g., campus radio station), (f) volunteer work on campus (e.g., being a volunteer in a ceremony on campus), (g) volunteer work off campus (e.g., being a volunteer in a local film festival), and (h) other. The answer was dichotomously coded as “yes” and “no.”

**Control variables.** Demographic variables, including sex, family income, and monthly allowance were gauged. These variables were utilized as control variables for the EHA.

**Results**

**Descriptive Results**

More than 90% (307) of the sample reported having drunk alcoholic beverages in the past; among them, slightly more than half (51.1%) were males. For those with drinking experience, 54.4% (or 184) had their first alcoholic drink in the company of parents or senior guardians. Moreover, 43.2% (or 146) of the respondents reported that they had consumed alcohol beverages at social occasions; among them, 19.2% had started drinking alcohol prior to entering college and the rest of them began consuming alcohol after entering college.

Based on the time of reported first drink, the responses were recoded into three categories: no consumption at all, first consumption before college, and first consumption after entering college. A series of analysis of variance (ANOVA) tests were conducted to detect potential differences of the key variables among those three categories of respondents.
Table 1. Means (SDs) of Key Variables Among Three Categories of Respondents.

| Variable   | Total (N = 338) | No consumption (n = 192) | First consumption prior to college (n = 65) | First consumption after entering college (n = 81) |
|------------|-----------------|--------------------------|-------------------------------------------|-----------------------------------------------|
| Sex        |                 | 35% males                | 29% males                                 | 47% males                                     |
| Income     | 5.63 (1.94)     | 5.43 (1.94)\(^a\)       | 6.51 (1.40)\(^b\)                        | 5.34 (2.11)\(^a\)                             |
| Allowance  | 3.47 (1.44)     | 3.26 (1.47)\(^a\)       | 3.62 (1.34)\(^ab\)                       | 3.84 (1.35)\(^b\)                             |
| Environment| 3.61 (1.57)     | 3.44 (1.50)\(^ab\)      | 3.74 (1.47)\(^ab\)                       | 3.89 (1.76)\(^b\)                             |
| Norm       | 57.90 (21.97)   | 53.74 (22.71)\(^a\)     | 65.39 (18.11)\(^b\)                      | 61.86 (20.87)\(^b\)                          |
| Belief     | 3.54 (1.17)     | 3.26 (1.14)\(^a\)       | 3.80 (1.16)\(^b\)                        | 3.99 (1.08)\(^b\)                             |
| Times      | 1.07 (1.43)     | 0 (0)\(^a\)              | 2.82 (1.20)\(^b\)                        | 1.84 (1.14)\(^c\)                             |

Note. Income = household income, on a 9-point scale; allowance = monthly allowance, on a 5-point scale; environment = family environment of drinking; norm = perceived drinking norm, measured by the estimated percentage; belief = belief about drinking as preparation for adulthood; times = number of times of consuming alcohol at bars or clubs.

\(^a,b\) Significantly different groups.

\(p \leq 0.05 \quad \text{or} \quad \text{See Table 3.}\)

Significant differences were found in the respondents’ family income, monthly allowance, family environment, perceived drinking norm among college students, belief about drinking as preparation for adulthood, and drinking frequency (see Table 1).

Hypotheses and Research Questions

To test H1 and RQ1, a Cox regression that predicts continuous-time hazards \(h(t)\) in SPSS was conducted. Because the effects of predictor variables on the hazards are assumed to be constant across time (Cox, 1972), the complete Cox regression model is shown below: \(h_0\) represents the intercept or baseline hazard.

\[
\ln \left( h(t) \right) = \ln \left( h_0(t) \right) + \beta_1 \left( \text{control variables: demographics, family environment, perceived drinking norm} \right) + \beta_2 \left( \text{drinking belief} \right) + \beta_3 \left( \text{school activity} \right)
\]

Results of the three hierarchical models are reported in Table 2. Based on the complete model (Model 3), belief about alcohol use for adulthood preparation was positively related to the time of onset of drinking, \(b = 0.26\), and the Wald test was significant, \(Wald(1) = 7.38, p < .01\). The exponentiation of \(b\) provides the estimated hazard ratio for 1.30, with the 95% confidence interval = \([1.08, 1.57]\). Because the odds ratio for hazard is above 1.0, the hazard of drinking onset is higher among those with a stronger belief of drinking alcohol for adulthood preparation. These results supported H1.

Among the eight different types of student club activities, only off-campus volunteer activity was positively related to the time of drinking onset, \(b = .60\), and the Wald test was significant, \(Wald(1) = 4.75, p < .05\). The exponentiation of \(b\) provides the estimated odds ratio for hazard at 1.83, with the 95% confidence interval = \([1.06, 3.13]\) (to keep the results parsimonious, only this significant predictor of school activity was included in Table 2). These results provided the answer to RQ1; they indicate that those who participated in volunteer work outside of campus had nearly twice the risk of initiating drinking relative to those who did not.

To test H2 and RQ2, a multiple regression analysis was conducted. After controlling for demographic characteristics, family environment of drinking, and perceived drinking norm, belief about alcohol use for adulthood preparation was found to be a significant predictor of the drinking frequency \((\beta = .21, p < .01; \text{see Table 3})\). Hence, H2 was supported. Results for RQ2 show that participation in student club activities was not relevant to drinking frequency (see Table 3).

Discussion

The current study proposed and tested a unique and culturally based belief about alcohol use among Chinese college students. Study finding shows that cultural belief about drinking alcohol as a rehearsal for embracing adulthood is a strong motivator for college students to engage in alcohol consumption. Specifically, the belief about drinking as preparation for adulthood was found to be a significant predictor of early drinking onset in college. This belief increases the risk of early onset alcohol consumption by 30%. The impact of this belief on the frequency of drinking is also statistically significant.

Although parental influence has been identified as crucial in forming school children’s alcohol expectancy (Chen et al., 2011), the influence of family environment on students’ drinking behavior is not a significant predictor of initiating drinking behavior in the current study. A closer look at Chinese adolescents’ growth trajectory may shed some light on this inconsistency. In particular, Chinese children and adolescents are overburdened with schoolwork and generally
### Table 2. Continuous-Time Event History Analysis for Onset of Drinking Alcohol.

| Variable   | Model 1 |          |          |          |          | Model 2 |          |          |          | Model 3 |          |          |          |
|------------|---------|----------|----------|----------|----------|---------|----------|----------|----------|---------|----------|----------|----------|
|            | b       | SE       | Wald (df) | $e^b$    | 95% CI ($e^b$) | b       | SE       | Wald (df) | $e^b$    | 95% CI ($e^b$) | b       | SE       | Wald (df) | $e^b$    | 95% CI ($e^b$) |
| Sex        | 0.00    | 0.20     | 0.00 (1)  | 1.00     | [0.68, 1.49] | 0.11    | 0.21     | 0.30 (1)  | 1.12     | [0.75, 1.68] | 0.13    | 0.21     | 0.38 (1)  | 1.14     | [0.76, 1.71]   |
| Income     | −0.02   | 0.06     | 0.13 (1)  | 0.98     | [0.88, 1.09] | −0.02   | 0.06     | 0.17 (1)  | 0.98     | [0.88, 1.09] | −0.04   | 0.06     | 0.42 (1)  | 0.96     | [0.86, 1.08]   |
| Allowance  | 0.18    | 0.08     | 5.47 (1)* | 1.19     | [1.03, 1.38] | 0.13    | 0.08     | 2.84 (1)* | 1.14     | [0.98, 1.32] | 0.17    | 0.08     | 4.17 (1)* | 1.18     | [1.01, 1.39]   |
| Environment| 0.07    | 0.07     | 1.21 (1)  | 1.07     | [0.95, 1.22] | 0.01    | 0.07     | 0.01 (1)  | 1.01     | [0.88, 1.15] | −0.01   | 0.07     | 0.04 (1)  | 0.99     | [0.86, 1.14]   |
| Norm       | 0.01    | 0.01     | 2.79 (1)* | 1.01     | [1.00, 1.02] | 0.01    | 0.01     | 1.33 (1)  | 1.01     | [1.00, 1.02] | 0.00    | 0.01     | 0.60 (1)  | 1.00     | [0.99, 1.01]   |
| Belief     | 0.24    | 0.09     | 6.63 (1)* | 1.27     | [1.06, 1.52] | 0.26    | 0.10     | 7.38 (1)**| 1.30     | [1.08, 1.57] | 0.60    | 0.28     | 4.75 (1)* | 1.83     | [1.06, 3.13]   |
| Volunteer  |         |          |          |          |          |         |          |          |          |          |         |          |          |          |
| Model $\chi^2$(df) | 11.73 (5)* |           | 18.73 (6)** |           | 33.94 (14)** |         |          |          |          |          |         |          |          |          |
| Block      | 12.26 (5)* |           | 6.48 (1)* |           | 14.47 (8)* |         |          |          |          |          |         |          |          |          |
| Deviance (-2LL) | 1,082.95 |           | 1,076.47 |           | 1,062.00 |         |          |          |          |          |         |          |          |          |

Note. Volunteer = volunteer work outside of campus, measured by “yes” or “no.” CI = confidence interval. 

$\# 0.05 < p \leq 0.10$, $^* p < 0.05$, $^{**} p < 0.01$. 

*This indicates a significant relationship at the 0.05 level.**This indicates a significant relationship at the 0.01 level.
The effect of student club activity on drinking behavior exhibits an opposite similar pattern from that found in the United States, as participation in off-campus volunteer work increases instead of decreases the risk of early college drinking. In China, college students who are more active in student organizations also tend to be those who are more outwardly social. It is possible that the students who spend more time off campus also have more opportunities to drink alcohol and to polishing their drinking skills, which could help prepare them for adulthood at the workplace.

In sum, the current study findings show that study participants appear to embrace the unique cultural meaning of alcohol consumption in Chinese society, and some of them chose to exercise such meaning in practice. As alcohol is an integral part of social events, celebrations, and festivals in Chinese culture (Cochrane et al., 2003), drinking alcohol during culturally sanctioned occasions is both subtly and explicitly encouraged. In essence, in Chinese society, drinking behavior that leads to building, maintaining, and enhancing interpersonal and business relationships (or Guan Xi) is expected to have rewarding personal benefits to self and others in various social contexts (Hao et al., 2005). As reflected in the two factors of alcohol use belief found in this study, this type of socialization process—starting at a young age during family gatherings—could then help facilitate an internalization of drinking norms in society. Hence, through social learning, students may develop a belief about alcohol drinking as an important social skill that comes with adulthood. Eventually, this type of internalized belief could lead to compliance with the established social drinking norm, which is exhibited in the collective action (Gavrilets & Richerson, 2017) in drinking behavior among Chinese college students. This finding highlights the need for prevention and early intervention before these students’ drinking habit begins to cause them psychological and physical harm.

The findings of this study have far-reaching theoretical and practical implications. Consistent with Dutta’s (2007) culture-centered approach for health communication, this research proposed and tested a culturally based factor to examine college drinking behavior in China. Future research should consider further developing the measures of cultural belief and social convention factors that can influence drinking behavior in non-Western contexts. It would also be useful to study the relations between drinking practices of emerging adults such as college students and working adults by testing the criterion validity of the culturally contextualized theoretical approach explored here. Furthermore, additional research should also aim to develop a theory or theoretical framework that could explain the relations between indigenous cultures and health behaviors in non-Western societies (Lwin & Salmon, 2015).

Equally importantly is the need for health practitioners and public policy makers to address the long-neglected alcohol abuse problem in Chinese society. A recent WHO report shows the average alcohol consumption in China has increased from 4.1 L in 2005 to 7.2 L in 2016; and 6% of Chinese males and 1% of females die from alcohol-related diseases (Sothu News, 2018). A national survey conducted in 2012 shows that 23.6% of men and 6.3% of women aged 18 to 59 years abuse alcohol (Li et al., 2014). Even so, there is little public health policy that aims to curbing the disordered alcohol use problems in China to date, except a “national rationally drinking day” campaign launched by the Chinese Alcoholic Drinks Association in 2015 (Sina News, 2015). This campaign promotes anti–drunk driving

### Table 3. Predicting the Frequency of Social Drinking

| Variable                  | β    | ΔR²   |
|---------------------------|------|-------|
| Block 1                   |      |       |
| Sex                       | −.06 | .15***|
| Family income             | .04  |       |
| Monthly allowance         | .06  |       |
| Family environment        | .15* |       |
| Perceived drinking norm   | .15* |       |
| Block 2                   |      |       |
| Alcohol use belief        | .22**| .04** |
| Block 3                   |      |       |
| Student union             | −.02 | .06   |
| Art club                  | −.07 |       |
| Sport club                | .01  |       |
| Academic club             | −.07 |       |
| Professional club         | −.11 |       |
| Volunteer on campus       | .08  |       |
| Volunteer off campus      | .13  |       |
| Other                     | .11  |       |

Note. Adjusted R² = .19. 
*p < .10. **p < .05. ***p < .01. ****p < .001.
messages across the country. It is time for Chinese society to contemplate a shift in her social paradigm away from the “bottom up” or “gan bei” culture to a more moderate social drinking culture. Such a shift in social convention could be just as productive, if not more productive, in achieving the hospitality and trust dynamics at various celebratory and corporate business events when fewer individuals are subject to the negative short- and long-term consequences of excessive alcohol consumption.

The findings of this project should be interpreted with the following limitations. First, this study sample came from a single university located in an urban area of Southern China. The campus culture at this university could be different from those schools where social drinking locations such as bars and pubs are not within easy access, even though most colleges and universities in China are typically located in large metropolitan areas. Those who reported heavier drinking behavior might have been partially motivated to project a “cool” image or family wealth, which is not uncommon among individuals who have recently acquired wealth due to China’s rapid economic growth. Moreover, as 65.5% of the sampled respondents were males, the findings of this study may not be generalized to the overall college student population due to the possible gender difference in drinking behavior. Third, this study was subject to the common problems of cross-sectional studies, such as the inaccuracy of recall. Hence, their drinking onset was measured at ordinal level, not at higher interval or ratio level. Although one of EHA’s strengths is it “tolerates uneven time intervals for individuals in the sample” (Snyder & O’Connell, 2008, p. 132), time recorded in the smallest possible unit would be ideal. Fourth, this study focused on examining cultural, family environment, and extracurricular activity factors to explain college students’ drinking behavior, without considering other psychological factors such as depression or developmental factors such as transition to adulthood. Lastly, original items were constructed to measure the variable, belief about drinking as preparation for adulthood. The reliability of this measure will need to be further validated in future studies.

Authors’ Note
The original data of this study can be freely accessed through the online publication site associated with the article.

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