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## Zimbardo's Time Perspective and Binge Drinking Patterns in Alcohol Consumption among Black African International University Students in China

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### Cover Page Footnote

We are deeply grateful to the students who took part in this research. Our sincere thanks to the Psychological Research on Urban Society for providing an assistant who helped with language help, article editing, and proofreading. Further, our acknowledgment goes to the research assistant whose assistance was instrumental in the success of this study. Funding: This work was supported by the 2021 Chongqing Educational Science "14th Five-Year Plan" key project and 2021 Chongqing.

# Zimbardo's Time Perspective and Binge Drinking Patterns in Alcohol Consumption among Black African International University Students in China

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## Abstract

Addictive alcohol use among university students in China is a growing public health concern. This study examines Binge drinking and time perspective among Black African students from Southwest University in China. While the Time Perspective focuses on the past, present, or future that may predict alcohol abuse, its relationship with Binge drinking among Black Africans in China remains unexplored. Among 370 participants, data was gathered using the Time Perspective Inventory and Alcohol Use Disorders Identification Test. Regression analysis indicated a positive association between the present (fatalistic, hedonistic), future, and past-positive TP and binge drinking, while the Future time frame showed an indirect correlation. Age and Sex also correlated with Past Positive and Future time frames. These findings might inform interventions to mitigate heavy drinking on campuses, given students' concerns about future uncertainties.

## Keywords

Time perspective, Alcohol abuse, Binge drinking, Black African students

Studying abroad provides numerous benefits; however, there is increased attention to the issues foreign students experience and their health effects (Aresi, 2019). Many African foreign students transferring to Chinese colleges, especially those located in urban areas, may struggle with the ubiquitous availability and endorsement of binge drinking. The dense urban environments, characterized by a plethora of entertainment venues and a fast-paced lifestyle, can amplify the exposure and pressure to indulge in such behaviors (Im et al., 2019). Moreover, these urban settings might present a contrast to what many African stu-

dents are accustomed to in their native backgrounds. The majority of international students are young people who have recently reached the legal drinking age and now find themselves in an urban drinking culture that is both pervasive and socially accepted. Binge drinking among university students has several detrimental consequences, especially for young individuals (Jernigan, 2001). Binge drinking, often viewed as both a social activity and a stress reliever, emerges as a significant behavioral response in these metropolitan contexts.

Binge drinking among international students, a subject previously understudied, offers a unique lens on the intersections of urban pressures, cultural exchanges, and health behaviors in China's bustling cities (Kim and Cronley, 2020). Urban environments in China may shape the lifestyles and behaviors of international students uniquely, amplifying both the attractions

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and the potential perils of certain choices, such as binge drinking (Bhat et al., 2021).

Binge drinking is defined as five or more drinks consumed in one session by males and four or more drinks consumed in a similar fashion by women (Kim and Cronley, 2020). However, the novelty of binge drinking among international students is debatable, as it is based on several factors such as cultural norms, social pressure, and a general lack of knowledge about the risks of binge drinking. Some studies suggest that international students are more likely to engage in binge drinking than domestic students; for instance, Kim and Cronley (2020) reported that 63.4% of participants surveyed reported binge drinking at least once in the previous 30 days while others suggested that levels of binge drinking are lower or similar among both groups. Many international students, who come from cultures that value moderation or abstinence, may be effectively barred from attending alcohol-related gatherings (Humfrey, 1999), and this may exacerbate the well-documented dearth of interaction between international and domestic students (Montgomery, 2010). For instance, Rosenthal et al. (2008) reported that African students binge drink to fit in with American culture. African students are unfamiliar with American drinking culture since they do not drink socially and binge drinking may then be used as means to integrate into American society as they try to blend in with their peers. Equally, African international students are among the most prone to alcohol-related health complications. Delker et al. (2016) reported that African students experience more alcohol-related health and behavioral consequences than their peers of other ethnicities. For example, white students are reported to mature out of binge drinking, whereas African students tend to drink more as they age and thereby experience disproportionate alcohol-related consequences (Jackson et al., 2010). Pascarella et al. (2007) noted considerably poorer academic performance after binge drinking among the African foreign students sampled.

One of the latest scientific investigations of psychological theory that can explain why individuals struggle to maintain healthy behavioral habits is the time perspective (TP) (Merrill, 2020). It is an effective indicator of the transition

from healthy to unhealthy behaviors when it comes to substance abuse (Henson et al., 2006; Davies and Filippopoulos, 2016) as time has a cognitive, emotional, and motivating influence on decision-making and behavior (Merrill, 2020). Indeed, there is evidence that TP is linked to addictive behaviors such as alcoholism, cigarette smoking, or other drug use. There is, however, less evidence that TP is linked to non-addictive but “binge” drinking (Beenstock et al., 2011). Adelabu (2007) discovered that among non-Westerners, timeframes have been understudied. For example, Van Lill and Naude (2014) showed that characteristics linked to timeframe views such as the past, present, and future can be less prevalent in certain cultures than they are in others. Specifically, Shirai and Beresneviciene (2005) found that people from cultures that emphasize group conformity and collectivism tend to have less of a tendency to think about time in terms of the past, present, and future. Instead, they have a more holistic view of time, which does not necessarily differentiate between the three timeframes.

As defined by Zimbardo and Boyd (2014), TP is a crucial component of psychological time, which is the result of the cognitive process of classifying past, present, and future human occurrences. Many life situations can be addressed by understanding your perspective on time. According to Zimbardo and Boyd (2008), a timeframe is a specific (past, present, or future) orientation to time within a given situation. The scale splits TP into the past (positive and negative), the present (hedonistic and fatalistic), and the future, which is called the five dimensions of TP.

### *Past focus*

There are two types of past TPs: negative and positive. Students with past-negative TP are more likely to exhibit addictive behaviors such as binge drinking and addiction (Liniauskaitė and Kairys, 2009). For example, Chavarria et al. (2015) indicated that the past-negative frame was connected with increased alcohol use as a way of coping with unpleasant effects, whereas a past-positive individual tends to look back fondly and maintain close ties with their relatives (Bonniwell and Zimbardo, 2004). A study by Laghi et al. (2012) found past-positive TPs were

linked with decreased binge drinking among Italian adolescents.

### *Present oriented*

The present-oriented focus their attention on the present. Present-hedonistic individuals were found to be more likely to binge drink and take greater risks (Zimbardo et al., 2014). They tend to be more impulsive, preferring immediate rewards and ignoring future consequences (Cosenza et al., 2017; Zimbardo et al., 2014). Individuals who hold a present-fatalistic time perspective (PFTP) involving feelings of hopelessness and powerlessness in the face of the events unfolding around them are observed to engage in heavier and more frequent binge drinking (Keough et al., 1999). Feelings of helplessness may result in anxiety, depression, post-traumatic stress disorder, and engaging in reckless behavior (Zimbardo et al., 2014).

### *A future frame*

Lyu et al. (2019) stated that future-focused refers to thinking and planning to achieve long-term goals in the future. This timeframe is understood as a protective factor against problematic alcohol use (Wagner et al., 2020). One study with a very small sample size ( $n = 79$ ) suggested that thinking about the future may impact binge drinking problems (Wagner et al., 2020).

### *Time perspective and alcohol consumption abuse*

In recent years, researchers have paid more attention to the causes and inner workings of addictive behaviors. They have also explored effective ways to prevent and stop them. According to Nashria and Indirasari (2021), the TP is a crucial factor in individual differences that can help us understand and prevent addictive behaviors effectively. This is because TP is related to risky behaviors, and binge drinking is an example of risky behavior. A TP may serve as a therapeutic intervention similar to other therapies such as art therapy and cognitive behavior therapy that enhance cognitive performance, thereby facilitating the resolution of conflicts and challenges, development of interpersonal skills, reduction of stress, and enhancement of self-esteem and self-awareness (Nguni et al., 2019).

Investigating the relationship between binge drinking and an individual's TP is key. Binge drinking impacts the brain's structure and function. It can cause damage to the hippocampus, which is important for learning and memory, and it can also lead to a decrease in the volume of gray matter in the brain. Moreover, binge drinking can cause changes in the white matter of the brain, which can affect communication between the different parts of the brain (Jones et al., 2018). Beenstock et al. (2011) reported a substantial inverse association between future TP and alcohol use. Keough et al. (1999) found that students who scored higher on the present TP reported more substance use. In addition, Chavarria et al.'s (2015) research expresses the view that hedonism predicts alcohol consumption and the consequences of drug use significantly. Laghi et al. (2012) discovered a substantial positive association between teenagers' past negative, PFTP, and binge drinking. McKay (2020) further demonstrates that an unpleasant retrospective and present hedonism is predictive of increased alcohol use.

### *Timeframes and alcohol consumption abuse*

Several studies have found direct links between TP, as measured by the Zimbardo TP Inventory (ZTPI), and substance use. However, inconsistencies and facets exist in the findings of these studies on the association between TP frames and binge drinking. Regarding the present orientation, findings reveal that TP is linked with hazardous conduct, and emphasis on the present is associated with higher alcohol use. Individuals linked to a risk-taking propensity are involved in increased alcohol use, and higher present-fatalistic individuals are more likely to use alcohol more frequently and in greater quantities. Such individuals tend to exhibit greater health-harming behavior. Laghi et al. (2012) found a significant positive correlation between PFTP and binge drinking in adolescents. Similarly, Suneja et al. (2015) demonstrated that there is a significant positive correlation between present hedonistic and present-fatalistic behavior and substance abuse. This suggests that individuals who are more present-oriented have a higher likelihood of engaging in excessive alcohol consumption. This study is inconsistent with Keough et al. (1999) who found that those with a high orientation to fu-

ture orientations are more likely to take part in planning and accomplish their objectives.

An increasing corpus of research on past orientation has revealed that the role of past TPs (past positives and past negatives) was not found to be connected significantly to frequency and was viewed as weaker than other orientations (Apostolidis et al., 2006). Despite this, Chavarria et al. (2015) asserted that higher past negative TP was associated with worse alcohol use effects using a sample of people from the general community. In addition, Pluck et al. (2008) emphasized certain data that suggested that a lower past positive TP was linked to increased alcohol consumption and that a higher past positive TP was linked to decreased alcohol use.

People who frequently dwell on unpleasant memories in the face of their current circumstances sometimes describe themselves as pessimistic and have higher alcohol use (Shipp et al., 2009). People who exhibit a predisposition to focus more on their future aspirations or who have a positive past TP report increased optimism and lower alcohol use (Beenstock et al., 2011). For instance, future-oriented students can see the link between current efforts and distant future outcomes (McInerney, 2004). Studies have shown a strong inverse relationship between alcohol use and future TP (Beenstock et al., 2011; Fieulaine and Martinez, 2010; Keough et al., 1999). In one study, the use of hierarchical regression analysis found no indication that a future orientation predicted problematic alcohol intake. (Barnett et al. 2013).

The existing body of research pertaining to TP indicates that those who possess a higher present TP are more prone to substance use (Keough et al., 1999; Petry et al., 1998; Wills et al., 2001). Specifically, binge drinking and more frequent alcohol use were associated with present hedonism (Fieulaine and Martinez, 2010; Henson et al., 2006). In addition, to being linked to increased alcohol use among economically disadvantaged young people, present fatalism has been reported to be more prevalent among binge drinkers (Laghi et al., 2012). Stolarski et al. (2013) and van Beek et al. (2011) observed that people with a past-negative TP reported higher levels of distress and tension, which may enhance the likelihood of substance abuse

(Rutledge and Sher, 2001). Researchers need to understand the function of past-negative TP in drug use consequences since it has been established that higher rates of substance use are linked with a greater number of outcomes connected to substance use. Lastly, research on alcohol use (Beenstock et al., 2011; Henson et al., 2006; Wills et al., 2001; Zimbardo et al., 2012) suggests that a future orientation reduces problematic alcohol use. Equally, research shows that people with a stronger past-positive orientation are more likely to have a sense of well-being (Boniwell et al., 2010; Zimbardo and Boyd 1999), less likely to use alcohol (Laghi et al., 2012; McKay et al., 201), and less likely to develop mental health issues. Furthermore, these particular TPs have been found to serve as a protective factor against psychopathological conditions and substance use (Barnett et al., 2013; Beenstock et al., 2011; Zimbardo and Boyd, 2008). The current study, therefore, aims to examine the relationship between the dimension of TP and binge drinking and its related demographic variables (age and sex) among African students in China. Given previous research findings, the study hypothesis is listed below. Given the results of prior studies, the study hypothesized that there is a positive correlation between higher scores on past negative, hedonistic, and fatalistic TPs and increased binge drinking, while conversely, a negative correlation is observed for past positive and future TPs. We hypothesized that binge drinking would be positively linked with age and sex, with younger students binge drinking more and men binge drinking more than women.

## **Methods**

A cross-sectional design was employed. Snowball sampling of 370 students was carried out with African students of Chongqing Universities. According to Cohen's method, a sample size of at least 337 people would be needed to obtain  $\alpha = 0.05$ ,  $\text{power} = 0.8$ ,  $\text{DIFF} = 0.02$ ,  $\text{SIGMA} = 0.02$ , and  $M = 0.024$  to detect a modest effect size.

## **Measure**

Before answering any questions related to alcohol consumption, participants were informed that "drinking" does not encompass consuming church wine for religious ceremonies or

**Table 1.** Demographic data, binge drinking characteristics, and TP Scores

Variables		<i>f</i>	%
Sex	Males	240	64.9
	Females	130	35.1
Age	18-25	177	47.8
	26-35	135	36.5
	36-40	58	15.7
Binge drinking levels (AUDIT)	Low Hazardous	83	22.4
	Risky Hazardous	53	14.3
	Alcohol problems	32	8.6
	Alcohol dependence	202	54.6
Variables		<i>M</i>	<i>SD</i>
Time perspectives	Past Negative	6.75	1.28
	Present Hedonistic	6.86	1.09
	Future	6.91	1.26
	Past Positive	7.00	1.20
	Present Fatalistic	5.17	1.38

taking small quantities, such as those taken for tasting or ceremonial purposes, when responding to alcohol-related queries. The questionnaire known as the Alcohol Use Disorders Identification Test (AUDIT) was used to gather information on the frequency of alcohol use. It is a 10-question survey including three questions regarding alcohol intake, four on signs of alcohol dependency, and three issues otherwise related to alcohol. As it has been validated for use in a variety of situations and demographics and has strong sensitivity and specificity for detecting hazardous and harmful drinking, it was thought to be effective in identifying problematic alcohol consumption. A score of eight points or higher overall indicated risky drinking habits.

We used the Zimbardo Time Perspective Inventory (ZTPI), a 56-item survey measuring one's time preferences and time zone. It assesses individual variations in past, present, and future temporal features. There are five subscales in the measurement: (1) Past Negative, including 10 items such as "I think about the bad things that have happened to me in the past," (2) Present Hedonistic, including 15 items such as "Taking risks keeps my life from becoming boring," (3) Future, including 13 items such as "I complete projects on time by making steady progress," (4) Past Positive, including nine items such as "it gives me pleasure to think about the past," and (5) Present Fatalistic, including nine items such as "Often luck pays off better than hard work." Each statement was assigned a rating on a Likert

scale reflecting the respondent's perception of its pertinence ranging from one "very uncharacteristic" to five "very characteristic").

#### *Demographic variables, dependent variables, and independent variables*

Binge drinking is the primary outcome measure (dependent variable) among university students. The independent variables were TP (past, present, and future), age (18-40), and sex (female or male).

#### *Ethical considerations*

The university's Institutional Technical Review Board gave their approval for this project. Participants consented individually to take part in the study by completing informed consent forms. The study only accepted voluntary, anonymous participation. The names of the students were not noted and data collecting and analysis processes were kept private.

#### *Data analysis*

The information was analyzed using SPSS 26.0 a statistical program developed by IBM. Demographics, alcohol-related behaviors, and risk factors were analyzed using descriptive statistics (frequency and percentage), averages, and statistical dispersion (SD) for numerical variables like counts and percentages (%) for qualitative ones. Multiple regression and intercorrelations, where appropriate, were applied.

**Table 2.** Intercorrelations among variables of study among variables (N=370)

Variables	1	2	3	4	5	6
Binge drinking	1					
Past Negative	-0.082	1				
Present Hedonistic	-0.127**	0.494**	1			
Future	-0.441**	0.075	0.059	1		
Past positive	0.213	0.119*	0.081	0.346**	1	
Present fatalistic	0.410**	0.350**	0.330**	-0.519**	-0.107*	1

\*\* . Correlation is significant at the 0.01 level (2-tailed)

\* . Correlation is significant at the 0.05 level (2-tailed)

## Results

Descriptive statistics for the main variable are presented in Table 2. Binge drinking rates (AUDIT  $\geq 8$  scores) and the time perspective (TP) frames (ZTPI subscales and scores) in subgroups. The sample consisted of 256 males (69.2%) and 114 females (30.8%). The students in this study were 18–40 years old and the majority of participants were males between the ages of 18 and 25 years (Table 2). The overall mean score of age for both males and females was  $1.65 \pm 0.72$  while the mean score of sex was  $1.29 \pm 0.46$ . The majority of students were experiencing dependence issues. In terms of sex variables, the descriptive statistics for ZTPI revealed timeframes across subgroups that showed the same pattern as for mean ZTPI scores, with relatively high overall mean scores among males ( $3.42 \pm 0.36$ ) (Table 2). Despite a higher rate among females seen on the Audit score (Table 2) however, a t-test did not reveal a significant difference  $t(-1.620 = 351, p = 0.96)$  in binge drinking between males and females.

A correlation analysis between variables was conducted to determine the degree to which the variables under examination were interrelated. Table 3 provides a summary of the zero-order correlations between the research variables age, Sex, TP (past positive, past negative, present hedonistic, present fatalistic, and future), and binge drinking. Sex was not related to age ( $r = 0.08; p > 0.05$ ), past negative ( $r = -0.83; p > 0.05$ ), past positive ( $r = -0.12; p > 0.05$ ), present hedonistic ( $r = 0.12; p > 0.05$ ), present fatalistic ( $r = 0.59; p > 0.05$ ) and binge drinking ( $r = .080; p > 0.05$ ) but it was negatively correlated with future ( $r = -0.23; p > 0.05$ ).

Age was not significantly associated with past negative ( $r = 0.53; p > 0.05$ ), present hedonistic ( $r = 0.05; p > 0.05$ ), or present fatalistic ( $r = -0.08; p > 0.05$ ), but it was significantly associated with future TP ( $r = 0.24; p > 0.05$ ), past positive ( $r = 0.22; p > 0.05$ ), and negatively correlated with binge drinking ( $r = -0.17; p > 0.05$ ). Further studies suggested that four temporal perspective factors predicted binge drinking. Future TP was negatively correlated ( $r = -4.41; p > 0.05$ ) with present hedonism ( $r = -0.127; p > 0.05$ ), positively correlated with fatalistic attitudes ( $r = 0.410; p > 0.05$ ) and past-positive TP ( $r = 0.213; p > 0.05$ ).

Multiple regression analysis investigated further how several factors, including the TP and individual demographics, may each independently and together predict substance abuse. Multiple regression results are shown in Table 4. Binge drinking was jointly predicted by several factors ( $r = 0.53; f = 19.21; p < 0.01$ ) accounting for about 28% of the variance in binge drinking. Independently, sex ( $\beta = 0.54; p < 0.01$ ), age ( $\beta = -1.69; p < 0.01$ ), past negative ( $\beta = -0.77; p < 0.01$ ), past positive ( $\beta = 0.213; p < 0.01$ ), present hedonistic ( $\beta = -3.85; p < 0.01$ ), present fatalistic ( $\beta = 5.26; p < 0.01$ ), and future ( $\beta = -3.60; p < 0.01$ ), were found to be significantly associated with binge drinking.

## Discussion

The primary aim of this study was to understand how various dimensions of time perspective influence binge drinking behaviors, particularly focusing on the roles of age and gender as demographic variables. In our pursuit of this objective, we sought to replicate findings from previous research, directing our investigation



**Table 3.** Multiple regression of sex, age, and the time perspective (Present hedonistic, Present fatalistic, past negative, past positive and future) on binge drinking

Variable	B	SE. B	$\beta$	t	Sig.
(Constant)	31.247	5.519		5.660	0.000
Past Negative	-1.737	0.938	-0.105	-1.852	0.135
Past positive	2.240	0.850	0.131	2.635	0.041
Present Hedonistic-	3.826	1.041	-0.200	-3.675	0.042
Present fatalistic	5.200	0.940	0.352	5.531	0.000
Future	-3.617	1.030	-0.221	-3.513	0.001
Age Group	-1.715	0.708	-0.116	-2.425	0.016
Sex	1.240	1.099	0.054	1.120	0.260

towards African students in China. The subsequent sections will address the specific answers to our research hypothesis based on the data collected.

#### *Time perspective and binge drinking*

The main aim regarding TP was confirmed, that students with a present (fatalistic, hedonistic), future, and past-positive TP were more prone to binge drinking, therefore, the relationship was supported (Merrill, 2020; Keough et al., 1999). This aligns with our hypothesis that an individual's perception of time can influence their propensity to engage in binge drinking. This was contrary to previous studies (Henson et al., 2006; Poon, 2018) which reported a correlation between binge drinking and TP dimensions (present hedonistic, present fatalistic, and past negative).

It was hypothesized that greater present (hedonistic, fatalistic) and negative past TPs scores would be associated with more binge drinking.

The study found that greater present-fatalistic scores predict binge drinking, indicating that students with higher current fatalism binge drink more. This validates Merrill's (2020) and Johnson's (2010) findings that people with present-fatalistic TP feel all events are predetermined and, therefore, have little influence over their future. Given that literature has demonstrated that blacks are more external or fatalistic than whites with few exceptions, Lefcourt (2014), this is not surprising. This is inconsistent with Chkhaidze et al. (2019). The present-fatalistic TP may be linked to binge drinking be-

cause it encourages impulsivity. People with a present-fatalistic orientation believe that the future is uncertain and feel they have little control over it. This mindset may lead them to prefer immediate incentives over delayed rewards, as described by Johnson (2010). Such a preference could increase their likelihood of binge drinking as a coping mechanism for their feelings of hopelessness.

Unlike a present-fatalistic TP, a negative correlation was found between a higher present-hedonistic TP and binge drinking, suggesting that students with higher present-hedonistic TP were less prone to binge drinking, and may not prioritize immediate pleasure-seeking. However, Chavarria et al. (2015) found this to be inconsistent. A negative correlation shows that the two variables may be more complicated than previously anticipated and involve additional aspects. Present-hedonistic people may be more prone to seeking instant fulfillment through physical exercise or socializing with friends rather than binge drinking (Apostolidis et al., 2006). Our findings may contradict the literature due to personality factors, social support, or cultural variations that may affect them. For instance, cultural differences may affect binge drinking. Some cultures consider drinking social, while others consider it forbidden.

It was hypothesized that TP (past positive and future) scores would likely be associated with lower levels of binge drinking alcohol or act as a protective factor.

The study discovered that future TP was strongly adversely correlated with binge drinking. These findings show that young people

with a higher future TP may be less likely to binge drink. Future TP acted as a protective factor against binge drinking and had a substantial indirect relationship with binge drinking through its impact on peer influence. Future-oriented people focus on long-term objectives and achievements, which helps reduce dangerous behaviors such as binge drinking. Those with a future-time view may also be more self-controlled and able to resist peer temptation to drink excessively (Fieulaine & Martinez, 2010; Beenstock et al., 2010; Smart, 1968). The present study contrasts with Barnett et al. (2013), who found no association between future TP and alcohol use.

Unexpectedly, the present study found that past-positive TP increases the risk of binge drinking. Students scoring higher on past-positive TP, indicating an increase in binge drinking, despite previous studies (Chavarria, 2015; Laghi et al., 2012; Keough et al., 1999) show that a past-positive perspective reduced binge drinking. This may be because binge drinking is different from other alcohol use (Patrick & Schulenber, 2014). Moreover, these individuals with a past-positive TP may be more likely to focus on positive and rewarding experiences from their past, which leads to the desire to recreate and relive those experiences, including those associated with alcohol use, so binge drinking as a way to enjoy those experiences may not be seen as a dangerous activity. A large body of research demonstrates that binge drinking is a way to cope with negative emotions or stress, which can lead to excessive drinking (Zimbardo & Boyd, 2014).

#### ***Regarding the demographic factors***

Age was identified as a significant predictor of bingeing behaviors. However, sex showed no significant relationship with binge drinking. Previous research on age showed strong predicted relationships regarding binge drinking with adolescents and young adults overusing alcohol at higher rates (Gilvarry, 2000). In our study, the youngest students indulged heavily in binge drinking. Despite sex not showing significant findings, the proportion of females who binge drink was slightly higher. This finding is not surprising given the fact that females in this study showed significantly lower future TP

scores indicating that females may be more likely to engage in binge drinking behaviors. Recently, women have achieved comparable degrees of drunkenness and report comparable levels of the majority of alcohol-related issues (Keyes et al., 2019).

#### ***Limitations***

Our sample is limited to students of African descent. Future research should explore the generalizability of our results to various other communities and age groups. The association we see may vary in younger people without persistent alcohol brain damage. A further constraint is self-reported alcohol consumption. Thus, educators and policymakers should consider African students' and temporal perspectives while establishing academic programs and initiatives to help them succeed and grow. Forward-thinking students may attain their academic and personal objectives by using future-oriented goal-setting methodologies and career development opportunities. Students with a present-oriented temporal perspective may also learn self-regulation and concentrate on their academic objectives with assistance and supervision. African students should consider the TP since it might affect their academic performance, goal achievement, and well-being. Finally, future studies could explore other demographic factors that may influence the TP among African students in China.

#### ***Conclusion***

Based on the research findings, it appears that there is a relationship between TP and binge drinking among African students in China. The study indicates that hedonistic and fatalistic TPs are associated with higher levels of binge drinking, while a future TP is a protective factor against binge drinking. Additionally, age is a predictor of future TP, past-positive TP, and binge drinking. This study examines this 'community's alcohol use to shed new light on binge drinking tendencies. In the alcohol study, the link between time perception and binge drinking behaviors and its cultural relevance must be acknowledged. This discovery helps explain the cultural impacts of binge drinking. The research also underlines how age and sex affect the temporal perspective and binge drinking behaviors. This study may help analyze sex-

and age-related behavior differences. Finally, these results benefit from expanded representation. This increases generalizability and lets us handle cross-cultural issues. Culture influences time perception.

### Acknowledgments

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