Normative experience or taboo? Understating college women's drinking in the context of religiosity and social media

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Abstract

Excessive alcohol consumption imposes serious health riskson college women. Despite the harmful effects, more than half of the college women in the United States continue to drink and drink excessively. One contributor to the phenomenon lies in the college culture in the United States which perpetuates heavy alcohol consumption in peer interactions. Few studies linking social norms and collegiate drinking examined the influence of religiosity and social media. Drawing upon the Theory of Planned Behaviors, this study examined the impact of religiosity on college women's perceived drinking norms and self-disclosure of drinking on social media through a quantitative survey. The findings reveal that high levels of religiosity reduces female college students' perceived injunctive drinking norms. In addition, college women with all levels of religiosity uniformly perceived alcohol-related references as a taboo for their online representations, tentatively suggestingan enduring power of traditional gender roles. In addition, the major propositions of TPB regarding the effect of social norms was also evident in an online environment. Theoretical and practical implications are discussed.

Key Words: drinking, religiosity, social media, Theory of Planned Behavior, gender

Introduction

Alcohol abuse is a serioushealth risk for college women. Excessive alcohol consumptionin college women is associated with increased risks for physical injuries (Nolen-Hoeksema, 2004) and sexual assaults (Mouilso, Fischer, & Calhoun, 2012). In addition, mental health issues, such as anxiety, depression, and eating disorders, coincide with problematic alcohol use in female college students (Harrell & Karim, 2008; Substance Abuse and Mental Health Services Administration, 2014). Moreover, women are more susceptible than men to the negative health consequences of alcohol consumption, such as cognitive impairment and long-term changes in brain structure (Nolen-Hoeksema, 2004; Mann et al., 2005).

Despite the harmful effects, 58.2% of the college women in the United States continue to drink and drink excessively(SAMHSA, 2014). From a perspective of the Theory of Planned Behavior (TPB) (Ajzen, 1985), existing studies consistently found that perceived drinking norms in peers were a significant predictor for alcohol consumption in college students. As a result, a surge of social-norms based health campaigns were launched on American campuses to intervene risky alcohol consumptions in college students (Wechsler et al., 2003). However, mixed findings

regarding the effectiveness of social norms campaigns were reported in field studies (Schutz et al., 2007). Some studies supported the effectiveness of social norms campaigns (e.g. DeJong et al., 2006; Neighbors et al., 2004), while others failed to find significant changes in deleterious behaviors (e.g. Granfield, 2005; Russell, Clapp, & DeJong, 2005).

The majority of studies linking social norms and heavy drinking among college students did not takereligiosity into consideration. However, religiosity was found to be an important determinant in how much or if a person drinks or not (Patock-Peckham, Hutchinson, Cheong, Nagoshi, 1998). Moreover, in the context of alcohol consumption, the protective functions of religiosity have been consistently identified in both adolescents (e.g. Thompsen & Revke, 2003) and in adults (e.g. Drabble, Trocki, & Linger, 2016). As such, adding religiosity to the conceptualization of drinking norms has the potential to increase the effectiveness of social-norm based campaigns.

In addition, there is evidence that the normalization of drinking has been extended to social media (e.g. Ridout, Campbell & Ellis, 2012). For instance, representing oneself as a drinker becomes an important and desirable online identity for many students (Ridout et al., 2012). However, little is known about how

drinking norms on social media impact college students' perceived drinking norms and alcohol consumption. To address the gaps in the existing literature, this study draws upon the TPB to examine the effects of religiosity on college women's attitudes towards drinking, construction of alcohol-identity on social media, and perceived drinking norms in the real world and on social media.

Theoretically, this study extends the concept of social norms by adding the dimensions of social media, religiosity, and gender. In addition, answering the calls of National Institute on Drug Abuse to develop gender-specific health campaigns and interventions for alcohol abuse (NIDA, 2003), the findingscan inform future health campaigns and intervention programs targeting at young women about the effects of religiosity and the gendered perspectives about drinking.

Related Literature

The Theory of Planned Behavior (TPB), an extension of the Theory of Reasoned Action, is one of the most widely used social cognitive models in North America (Ajzen, 2011). The TPB posits that behavior is immediately determined by behavioral intention, which refers to the motivation or readiness to perform a behavior (Fishbein & Ajzen, 2010). Attitudes, subjective norm, and perceived behavioral control influence behavior indirectly by serving as the determinants of behavioral intention (Ajzen, 1985). In addition, perceived behavior control is a proximal determinant of behavior (Ajzen, 1991).

Attitudes refer to a person's overall positive or negative evaluation of a behavior (Fishbein & Aizen. 2010). Subjective norms are the perceived social pressure that influences a person's decision to engage and not to engage in a behavior (Ajzen, 1991). Perceived behavioral control reflects a person's perceived ability to perform a behavior (Ajzen, 2002). Among all the major constructs in TPB, subjective norms have attracted substantial attentions in the context of collegiate drinking(e.g. Orford et al., 2004). Consistent with the propositions of the TPB, perceived drinking norms about drinking have significant association with alcohol consumption among college students (Lewis & Neighbors, 2004; Thombs, Ray-Tomasek, Osborn, &Olds, 2005). Moreover, a meta-analysis revealed that subjective norms have large-sized correlations with behavioral intention and drinking behavior (Cooke, Dahdah, Norman, & French, 2014).

Two types of subjective drinking norms were found to impact drinking behaviorsamong college students: descriptive and injunctive norms (Bosari & Carey, 2003; Cialdini, Kallgren.&Reno, 1991).Descriptive norms concern with the quantity and frequency of

drinking and primarily derive from the observations of others' drinking behaviors (Borsari & Carey, 2003). However, perceptions about descriptive norms are generally biased and deviate from the actual norms (Borsari & Carey, 2003). Existing studies consistently reported an overestimation of the prevalence of peer drinking in college populations, which resulted in an increase in alcohol consumption (e.g. Borsari & Carey, 2003; Lewis & Neighbors, 2004). Moreover, the effects of descriptive drinking norms tend to be gender-specific. Comparing with opposite-sex norms, perceived samesex drinking norms have stronger correlation with actual drinking behaviors (Lewis & Neighbors, 2004).

Besides descriptive norms, injunctive norms also impact behaviors (Ajzen, 1985). Injunctive norms refer to the approval or the appropriateness of a behavior (Bosari & Carey, 2003; Cialdini et al., 1991).In the context of collegiate drinking, students with an overestimation of injunctive drinking norms are less likely to view their own alcohol use as problematic (Perkins, 2002), thus, are more likely to engage in heavy drinking (Larimer et al., 2011).

Religiosity and Female College Students' Drinking Behaviors

Religiosity may hold promise for improving the effectiveness of the social–norms based campaigns, as the majority of existing studies linking collegiate drinking culture and heavy drinking failed to take religiosity into consideration. Religiosity refers to a person's belief in divine existence and emphasizes on group identification and affiliation (Burris, Sauer, & Carlson, 2011). High levels of religiosity have been consistently found to bea protective factor for young adults' risk activities (Haber, Grant, Jacob, Koenig, & Heath, 2011), such as heavy drinking (Yonker, Schnabelrauch, & DeHaan, 2012), and cigarette smoking and waterpipe uses(Klassen, Smith, & Grekin, 2013).

In the context of college students' drinking, religiosity was found to impact the perceived descriptive drinking norms, which led to a decrease in alcohol consumption(Chawla et al., 2007). Moreover, gender differences were found in the protective effects of religiosity. For example, the protective function of religiosity is stronger in female adolescentsthan in their male counterparts (Pitel et al., 2012). One possible explanation is that female adolescents were generally more religious than male adolescents (Rew & Wong, 2006). As a result, examining the effects of religiosity in female college students may have important practical value. Hence, incorporating the main constructs of the TPB, two hypotheses regarding the relationship between religiosity and subjective drinking norms in college women are proposed:

H_{1a}: College women with higher levels of religiosity have lower estimations of the descriptive drinking norms than college women with lower levels of religiosity.

H_{1b}: College women with higher levels of religiosity have lower estimations of the injunctive drinking norms than college women with lower levels of religiosity.

Drinking Norms and Self-presentation on Social Media

Despite the differences in measurement of the major constructs of TPB, existing studies have providedsolid evidence for the theory's reliable predictability in the context of drinking behavior in student populations (French & Cooke, 2012). However, one limitation with the majority of the studies employing TPB is that few of them examined the influence of social media. Social media (e.g. Facebook, Instagram, Twitter, etc.)now play a potent role in forming and managing an individual'sidentity and self-presentation(Walther et al., 2008).

As drinking is a normative experience on U.S. college campus, it is not surprising that alcohol-related content is prevalent on social media (Beullens & Schepers, 2013). Moreover, portraying oneself as a drinker on social media becomes socially desirable (Ridout et al., 2012). For instance, college students showcase their risky drinking behaviors to align themselves with the established drinking culture (Ridout et al., 2011; Hebden, Lyons, Goodwin, & McCreanor, 2015).

In addition to the influence of social norms of drinking, sharing alcohol-related content have other utilities. For instance, sharing a night-out on Facebook leverages the pleasure of drinking by revealing a moment that is counteracting the banality of everyday life (Brown & Gregg, 2012). Drinking-related content on Facebook also extends the excitement of the social event, by memorializing the social gathering online (Brown & Gregg, 2012).

While drinking culture on social media normalizes and glorifies alcohol consumption, gender differences is conspicuous in the disclosure of alcoholidentity on social media. Although females use SMS more frequently than males in general (Duggan, 2013), theyare less likely than their male counterparts to postphotosdisplayingalcohol use and risky behaviors (Peluchette & Karl, 2008). In addition, as religiosity may impact the perceived drinking norms, high levels of religiosity may lead to low prevalence of self-disclosure of drinking on social media. Hence, it is hypothesized thatthe perceived drinking culture on social media and

the construction of alcohol-identity would differ based on levels of religiosity:

H₂: Female college students with higher levels of religiosity have lower estimations of prevalence of alcohol-related content on social media than female students with lower levels of religiosity.

H₃: Female college students with higher levels of religiosity postfewer alcohol-related referenceson social media than students with low levels of religiosity.

Method

Participants and Recruitment

Upon Institution Review Board approval, participants were recruited from student sample pool at a large public southern university. Undergraduate students enrolled in introductory mass communication classes were invited to voluntarily participate in the study. Participants received extra credit points in exchange for their participation. Female college students were targeted within this study.

Instrument

The instrument for this study was developed in the form of an online questionnaire. The questionnaire was anonymous and was published in the college's online survey system. Qualtrics was used to create, host, and store the data for the research. The students were asked to self-report the perceived descriptive drinking norms and injunctivedrinking norms(both on social media and in the real world), levels of religiosity, self-disclosure of drinking on social media, and basic demographic information, such as gender, ethnicity, residence type, etc.A detailed review of the instrument are included in the following sections.

Subjective drinking norms. As this study aims to examine college women's drinking behavior, participants were asked to report drinking behavior of a typical female student living in different types of residence. Subjective drinking norms weremeasured on two dimensions-descriptive drinking norms and injunctive drinking norms. A modified version of Drinking Norms Rating Form (DNRF;Baer,Stacy, & Larimer, 1991) wereusedto measure perceived descriptive drinking normsof two major groups: participants' close female friends and average female students. In addition, based on the residence type, average female students were grouped into four subcategories, including students living with their parents, living in sorority, in residence hall/dormitory, and in their own residence. The frequency of drinking was measured on a six-point Likert-type scale with 1 = "Less than once a month", 2 = "About once a month", 3 = "Two or three times a month", 4 = "Once a

week", 5 = "Three or four times a week", and 6 = "Nearly every day once a day". The perceived quantity of alcohol consumption was also measured on a six-point Likert-type scale with 1= "0 drinks", 2 = "1-2 drinks", 3 = "3-4 drinks", 4= "5-6 drinks", 5 = "7-8 drinks", 6 = "More than 8 drinks". The perceived quantity and frequencyofeach referentweremultiplied to represent the perceived descriptive drinking norms.

In terms of perceived injunctive norms, participants were asked to indicate their friends'level of approval and disapproval about four drinking-related behaviors, includingdriving after drinking, drinking on every weekend, drinking every day, and excessive drinking (Baer, 1994). Options ranged from 1= "Strongly disapproval" to 7= "Strongly approval". The scores of the four items were averagedand recorded for analysis.

Online drinking norms and alcohol identity. To measure the subjective drinking norms on social media (e.g. Facebook, Twitter, Instagram, etc.), participants were asked to self-report how often they saw alcohol-related references posted by their friends. Four aspects of the alcohol-related references were measured using the revised categories developed byvan Hoof, Bekkers, and Vuuren (2014). Analyzing the content of smoking and tobacco on Facebook in student populations, van Hoof, Bekkers, and Vuuren (2014) identified four major categories of alcohol-related references, includingposts of smoking behavior, display of tobacco, representations of tobacco-related items, and comments related to smoking. Adopting the four categories of references, participants were asked to selfreport the frequency of seeing smoking-related references on their friends' social media posts in this study. Options ranged from 1= "Never" to 5= "Always". The scores of the four items were averaged to represent the perceived norms of drinking on social media in college women.Likewise, self-disclosure of drinking on social media was measured based on the frequency of posting the four types of alcohol-related references on their own social media websites. The subscale consisted of four Likert-type scalewith 1= "Never" to 5= "Always". The scores of the four items were averaged to

represent the frequency of posting alcohol-references on their own social media websites.

Religiosity. The primary independent variable in this study was the levels of religiosity. Two scales were adopted from existing studies to assess the levels of religiosity: The Duke University Religion Index (DUREL) (Koenig & Büssing, 2010) and Daily Spiritual Experience Scale (DSES) (Underwood, & Tersi, 2002). DUREL is composed of five items measuring the public (e.g. "How often do you attend church or other religious meetings?") and private domains (e.g. "My religious beliefs are really what lie behind my whole approach to life of religiosity"). The two items assessing the public domain are in the form of six-point Likert scale from 1 = "Never" to 6 = "More than once a day/week". The three items measuring the private domain are in the form of five-point Likert-type scale from 1 = "Definitely not true" to 5 = "Definitely true of me".

DSES measures the extent to which an individual regularly feels the spiritual connection with God or transcendent religious beliefs (e.g. I find strength and comfort in my religion). The scale consists of six items assessing the frequency based on a six-point Likert scale from 1 = "Never or almost never" to 6 = "Many times per day". Two items measuring the frequency of religious activities attendance in DUREL were eliminated due to the repetitiveness with the items in Daily Spiritual Experience Scale. The internal reliability (Cronbach alpha) of the items adopted from DUREL was α =.93. The DSES achieved an internal reliability of α =.97. The scores of all items in the two scales were average to represent the levels of religiosity.

Results

The sample consisted of 147 female undergraduate students. The majority of the students were Caucasian (n=126, 85.7%), lived in dormitory and residence hall (n=66, 44.9%), and expected to live in their own residence in the following semester (n=97, 66%). A median split (Md=4.19) was used to categorize the participants into two groups based on their levels of religiosity. An overview of the demographics of the participants are reported in Table.

Table1 Demographic information of the participants

	High Religiosity (<i>n</i> = 72, 49.0%)	Low Religiosity (<i>n</i> = 75, 51.0%)	Full Sample $(N = 147)$
Ethnicity			
African-American	10(13.9%)	3(4.0%)	13(8.8%)
Asian	0	2(2.7%)	2(1.4%)
Caucasian	61(84.7%)	65(86.7%)	126(85.7%)
Latino	0	3(4.0%)	3(2.0%)
Other	1(1.4%)	2(2.7%)	3(2.0%)
Current Residence			
Dormitory/Residence Hall	34(47.2%)	32(42.7%)	66(44.9%)
Sorority	4(5.6%)	6(8.0%)	10(6.8%)
With Parents	3(4.2%)	2(2.7%)	5(3.4%)
Own Residence	30(41.7%)	33(44.0%)	63(42.9%)
Other	1(1.4%)	2(2.7%)	3(2.0%)
Expected Residence			
Dormitory/Residence Hall	13(18.1%)	13(17.3%)	26(17.7%)
Sorority	12(16.7%)	8(10.7%)	20(13.6%)
With Parents	1(1.4%)	1(1.3%)	2(1.4%)
Own Residence	45(62.5%)	52(69.3%)	97(66.0%)
Other	1(1.4%)	1(1.3%)	2(1.4%)

As the Table 1. confirms, there were 72 (49.0%) female students in the high-religiosity group; and 75 (51.0%) in the low-religiosity group. The majority of high-religiosity students lived in dormitory (n=34, 47.2%) and their own residence (n=30, 41.7%). Similarly, 33(44.0%) students in the low-religiosity group lived in their own residence and 32(42.7%) in their own residence.

H_{1a} posited that female students with higher levels of religiosity will have significantly lower estimations of the descriptive drinking norms than students with lower levels of religiosity. No significant differences were found in the estimations of descriptive drinking norms between the high-religiosity (μ =15.80. SD = 6.40) and low-religiosity groups ($\mu = 16.46$, SD =6.59), t(145) = -.62, p = .53. However, a set of further analysis documented significant differencesin subjective drinking norms regarding close friends between highreligiosity group (μ =13.79, SD=8.80) and low-religiosity group (μ =16.67, SD=6.76); t(145) = 2.78, p < .05. These findings suggest that the perceived drinking culture in average college women did not differ between these two groups. However, compared with students with lower levels of religiosity, the perceived descriptive drinking norms in close friends were significantly lower for female

student with high-religiosity. Thus, H_{1a} was partially supported.

 H_{1b} predicted thatfemale students with higher levels of religiosity have significantly lower estimation of theinjunctive drinking normsthan students with lower levels of religiosity. A significant difference was found in the mean scores of perceived injunctive drinking norms between high-religiosity group (M2.39, SD=1.12) and low-religiosity group(μ = 2.95, SD = 0.97), t(145) =3.19, p< .01. The results suggest that, compared with low-religiosity group, high-religiosity groupfound drinking less acceptable and less appropriate.Thus, H_{1b} was supported.

 H_2 posited that college women with higher levels of religiosity will have lower estimations of the overall drinking norms on social media than those with lower levels of religiosity. High-religiosity group scored μ =2.37 (SD = 0.86), while low-religiositygroup scored μ =2.39 (SD = 1.04), a non-significant difference (p = .92). Thus, H_2 was not supported.

 H_3 surmised thatcollege women with higher levels of religiosity will disclose less their drinking behaviors on social media than students with low levels of religiosity. Both groups scored fairly low regarding self-disclosure of drinking with high-religiosity group scored μ =1.92 (SD = 1.17) and low-religiosity μ =1.89 (SD

= 1.01), a non-significant difference (p = .85). Thus,H₃was not supported.In addition, further analysis was conducted to determine whether there is a correlation between perceived online drinking norms and self-disclosure of drinking on social media. Based on the results of the study, perceived drinking culture on social media is strongly related to the construction of online alcohol identity, r = .95, p < .001.

Discussion

Overall, the findings of the study supported the protective functions of high-level-religiosity and the major propositions of TPB on the effect of social norms. Specifically, high levels of religiosity were negatively associated with the perceived injunctive drinking norms in college women. In addition, the effect of subjective drinking norms was documented in an online environment, as perceived drinking culture on social media is strongly related to the construction of online alcohol identity. Additionally, while no significant differences were detected in the descriptive drinking norms in average female college students, college women with higher levels of religiosity reported significant lower estimations of their close friends' drinking behaviors than those with lower levels of religiosity.

While the protective functions of religiosity led to several significant differences within the study, some of the most noteworthy insights can be obtained from the domains in which differences were not significant, seemingly indicating that traditional gender identity played a more powerful role in shaping college women's perceptions about drinking. For instance, regardless of levels of religiosity, self-disclosure of drinking on social media was nearly a taboo for female college students. The findings of this study contrasted sharply with previous work reporting a normalization and glorification of binge drinking among college students on social media (e.g. Ridout et al., 2012). For example, Brown and Gregg (2012) found that sharing the risky and hedonistic alcohol consumption on Facebook is increasingly prevalent in young women.

The juxtaposition may be attributable to the impact of traditional gender identity. From a perspective of social constructionist theory,gender influences health behaviors profoundly (Courtenay, 2000). As a consequence, men and women adopt the perceptions about masculinities and femininities from their culture and behave in a way that is consistent with the perceived norms (Courtenay 2000). Drinking is socially constructed as a masculine behavior (Rahav, Wilsnack, Bloomfield, Gmel, & Kuntsche, 2006). Moreover, being able to drink excessively is a display of hegemonic

masculinity, which endorses traits of risk taking and aggression (de Visser &McDonnell, 2012).

By contrast, traditional femininity emphasizes the ability of self-control (Hey, 1986) and the domestic domain of women's body(Measham, 2002). For instance, domestic labor is commonly considered feminine (Lyons, 2009). In the context of college women's drinking, social media could bring a woman's alcohol identity into the public arena, challenging the socially desirablerepresentations of femininity. In addition, De Visser and McDonnell (2012) found that even the most gender egalitarian respondents were more judgmental of women's drinking. As such, the gendered discourse about drinking appeared to impose a durable regulative influence on college women's alcohol-related perceptions and behaviors. In addition, given that social media boosts creations of the "hopedfor-selves" (Yurchisin, Watchravesringkan, & McCabe, 2005, p.737), it seemed that a representation of traditional femininity was still a gender ideal worth striving for among female college students, regardless of levels of religiosity.

Intriguing findings can be detected in the discrepancy and similarity between the perceived drinking norms in average college students and that in close friends. The perceived descriptive drinking norms regarding average college students did not differ between high and low-religiosity group. However, students with high levels of religiosity believed that their close friends consumed significantly less alcohol than average college women. One possible explanation lies in the accuracy of the perceived drinking norms. Larimer et al.. (2011) reported that the perceived drinking norms became more accurate as individual's similarity to the reference group increased. It is possible that college women with high-religiosity misperceived the drinking norms in the distal reference group (average female college student) due to the lack of information and experience.

An additional explanation could be gleaned from a perspective of social identity theory (SIT) (Tajfel, 1982). As high religiosity group perceived drinking less socially acceptable, drinking was employed as a tool to differentiate us and others. SIT postulates that group identification impacts an individual's attitudes and behaviors (Tajfel, 1982; Turner, 2000). In this case, drinking norms seemingly became a socially constructed standard for group identification. Moreover, the discrepancy in the perceived subjective drinking norms implies downward evaluations of the out-group members (the average female college students), as the out-group members are commonly judged more negatively than ingroup members (Hogg & Abrams, 1988).

In addition, the major propositions of TPB regarding the effect of social norms was also evident in an online environment. The findings of this study suggested a correlation between the subjective drinking norms and displays of alcohol-references on social media. Specifically, as both groups reported low levels of subjective drinking norms on social media, college women with all levels of religiosity rarely or never posted alcohol-related content on social media.

It is important to note that this study has several limitations. First, the sample size of this study is relatively small. Future studies could use a more representative sample to investigate gendered attitudes and drinking norms. Second, this study used self-report data in exploringcollege women's perceptions about drinking. Future studies could adopt quantitative approaches, such as interview and ethnography, to reach a more in-depth and comprehensive understanding about women's interpretations of drinking and its social implications. Finally, contradictory to previous studies, the present study found that the selfdisclosure of drinking and the peers' disclose of drinking were both uncommon on social media. Multiple factors could play a role here, such as the publicity of social media, parent monitoring, a desire for gender ideal, etc. Further testing of these potential associations is warranted before drawing conclusions.

The findings of this study suggest several potential courses of actions. First, the findings of this

study urges future health campaigns to emphasize the health-related consequences of alcohol consumption. An alternative way is to downplay the social aspects of drinking. For instance, highlighting health-related consequences of drinking could equip women with an ability to counter-argue health-threating attitudes and norms. In addition, the concept of empowerment may hold promise for more effective health campaigns targeting at college women. The concept of social norms essentially associates conformity with social rewards, while transgression with social sanction. Empowerment would enable women to be more confident and self-assured in making their own decisions pertaining to alcohol consumption.

Conclusion

Thisstudy provided critical insights into the role of religiosity in shaping the perceived drinking norms and college women's self-presentations on social media. The findings suggested that religiosity-based attitudes about drinking served as an integral aspect of social norms influencing college women's identity construction both in the real world and on social media. As drinking could impose critical impact on women's health, continued investigations need to be ascertained to gain insight into the drinking patterns, perceptions, and interpretations ofdrinking in the female populations.

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