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Short Communication

Frequency of drinking games participation and alcohol-related problems in a multiethnic sample of college students: Do gender and ethnicity matter?

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HIGHLIGHTS

- High-risk nature of gaming can be a function of typical/heavy alcohol use.
- Overall, men who play are at risk for experiencing alcohol-related problems.
- Black women who play are at risk for experiencing alcohol-related problems.

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ABSTRACT

Introduction: A drinking game (DG) is a high-risk, social drinking activity that consists of certain rules (i.e., when to drink and how much to consume) designed to promote inebriation and that requires each player to perform a cognitive and/or motor task (Zamboanga et al., 2013). Research suggests that non-White or female students who play DGs are at an increased risk of experiencing alcohol-related problems. Thus, this study examined whether the associations between DG participation and alcohol-related problems were similar for men and women and across ethnic groups.

Method: College students (N = 7409; 73% women; 64% White, 8% Black, 14% Hispanic, 14% Asian) from 30 U.S. colleges/universities completed self-report questionnaires. Results: Controlling for age, site, Greek membership (i.e., membership in a fraternity or sorority), and typical alcohol consumption, results indicated that the association between DG participation and alcohol-related problems was stronger for men compared to women. With respect to ethnicity, the association between these variables was stronger among Black women than Black men.

Conclusions: Findings from this large-scale study highlight the need to closely investigate how gender and ethnicity moderate the associations between DG participation and alcohol-related problems. College intervention efforts designed to address high-risk drinking behaviors such as DG participation might consider paying close attention to ethnic minority populations, perhaps particularly Black women.

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1. Introduction

A drinking game (DG)[1] is a high-risk, social drinking activity that has certain rules (i.e., when to drink and how much to consume) designed to promote intoxication and requires participants to perform a cognitive and/or motor task (Zamboanga et al., 2013). DGs are unlike other high-risk drinking activities (e.g., prepartying, or drinking before going out) because by following the rules, certain players may be targeted to drink more than others, leading to their more rapid intoxication.

DGs are prevalent among college students; for instance, Grossbard, Geisner, Neighbors, Kilmer, and Larimer (2007) found that nearly half of the students across both of their study samples had participated in DGs at least once in the past year (see also Zamboanga et al., 2014, for a review). However, findings regarding gender or ethnic prevalence rates have been inconsistent. Some studies suggest that men and women participate in DGs at equal rates (e.g., Grossbard et al., 2007; Pedersen & LaBrie, 2006), whereas other work has found higher rates of DG involvement among men (e.g., Cameron et al., 2010; Polizzotto, Saw, Tjhung, Chua, & Stockwell, 2007). With respect to ethnicity, one study (Pedersen & LaBrie, 2006) found higher rates of DG participation among Whites than non-Whites. However, another study (Haas, Smith, Kagan, & Jacob, 2012) found a very modest (albeit significant), positive bivariate correlation between non-White ethnicity and rates of DG participation on prior drinking occasions.

College students are aware of the health risks associated with heavy drinking, but this knowledge does not appear to deter them from playing DGs (Polizzotto et al., 2007). Although research has found positive associations between DG participation and alcohol-related problems (e.g., Grossbard et al., 2007; Hone, Carter, & McCullough, 2013; Polizzotto et al., 2007), some questions regarding this association require further investigation. Because women metabolize alcohol more slowly than men, women who participate in DGs and consume similar amounts of alcohol as men are likely to achieve higher levels of inebriation, which can increase their risk for alcohol-related problems (Cameron, Leon, & Correia, 2011; Cameron et al., 2010; Correia & Cameron, 2010). Indeed, Pedersen and LaBrie (2006) found that although men and women participate in DGs at comparable rates, the association between frequency of DG participation and alcohol-related problems was stronger among women compared to men.

Pedersen and LaBrie (2006) also found the association between DG participation and alcohol-related problems to be higher among non-White students than White students. Because non-White students in their sample had lower rates of DG participation than White students, they noted that lack of familiarity with DGs among non-White students may help explain their increased risk for alcohol-related problems. Although these findings are informative, collapsing students from different ethnic minority backgrounds into a single "non-White" group makes it difficult to ascertain how the association between DG participation and alcohol-related problems might differ across different ethnic groups. Collapsing across minority groups can also mask which ethnic groups may be at greater risk and in need of targeted intervention. Research also suggests that there are differences in alcohol metabolism enzyme activity across racial groups, which could affect the pattern of negative consequences experienced across ethnic groups (U.S. Department of Health & Human Services, 2007).

Using a multisite, multiethnic college sample, the present study builds on prior research by examining the association between frequency of DG participation and alcohol-related problems and by testing whether such relationships are similar across gender and ethnic groups. Based on prior research (Cameron et al., 2010), we controlled for typical alcohol consumption to isolate the unique association between DG participation and alcohol-related problems. We also controlled for age because younger students tend to report higher DG participation rates than older students (Nagoshi, Wood, Cote, & Abbit, 1994; Polizzotto et al., 2007). Finally, we controlled for Greek membership given that (a) students who are members of fraternities or sororities are generally at high risk for heavy alcohol consumption and related problems (Borsari, Hustad, & Capone, 2009; Mallett et al., 2013), and (b) Haas et al. (2012) found a positive (albeit modest) bivariate correlation between Greek affiliation and rates of DG participation on prior drinking occasions.

Based on prior research, we hypothesized that the associations between DG participation and alcohol-related problems would be stronger for women than men. However, given the mixed findings in the literature, we did not advance any a priori hypotheses regarding ethnic differences in these associations.

2. Method

2.1. Participants and procedures

Participants were derived from the Multi-Site University Study of Identity and Culture (Weisskirch et al., 2013). The data analytic sample consisted of 7409 college attending emerging adults (18–25 years; 13% reported membership in a fraternity or sorority; see Table 1 for descriptives) from 30 U.S. colleges and universities who answered most if not all questions pertaining to DG and alcohol behaviors. Researchers recruited participants through flyers and e-mail announcements. In exchange for course credit or entries to win a prize, respondents completed an online survey that took 1–2 h to complete. All procedures were approved by the Institutional Review Board at each site.

2.2. Measures

2.2.1. Frequency of DG participation[2]

Participants indicated how often they played DGs using an 8-point scale: 0 = *I Don't Play Drinking Games* (38.7%), 1 = *Less than Once a Month* (19.3%), 2 = *Once a Month* (10.3%), 3 = *Two to Three Times a Month* (14.2%), 4 = *Once a Week* (8.7%), 5 = *Two to Three Times a Week* (6.4%), 6 = *Four to Five Times a Week* (0.5%), and 7 = *Daily or Nearly Daily* (0.3%) (1.6% did not respond to this question). This was similar to a response scale used in another college DG study (Ham, Zamboanga, Olthuis, Casner, & Bui, 2010).

2.2.2. Alcohol-related problems

Participants completed the Alcohol Use Disorders Identification Test (AUDIT; Saunders, Aasland, Babor, de la Fuente, & Grant, 1993). The AUDIT is a well-validated, standardized 10-item instrument that measures hazardous alcohol use. Based on our findings[3] and previous work on the AUDIT (e.g., Peng, Wilsnack, Kristjanson, Benson, & Wilsnack, 2012; Shields, Guttmannova, & Caruso, 2004), we used the two-factor model in this study (Factor 1: typical alcohol consumption, items 1–3; $\alpha = .85$; Factor 2: alcohol-related problems, items 4–10; $\alpha = .81$).

3. Results[4]

3.1. Structural equation modeling

To test our first research question, we regressed the latent variable for alcohol-related problems on a manifest variable measuring the

[1] Drinking game is abbreviated as DG throughout the manuscript.

[2] We examined the association between the typical amount of alcohol consumed while playing DG and alcohol-related problems (controlling for school site, age, Greek membership, and typical alcohol consumption), and the results were not meaningful and difficult to interpret.

[3] We conducted confirmatory factor analysis on the AUDIT. These results are available upon request.

[4] Analyses were conducted using Mplus (Muthén & Muthén, 2006). Missing data were handled in Mplus using Full Information Maximum Likelihood (FIML).