

Examining the Moderating Role of Heavy Drinking Behaviors and Precarious Masculinity on Sexual Aggression Among Young Adult Men

TIFFANY L. MARCANTONIO,^{a,b,*} KRISTEN N. JOZKOWSKI,^{b,c} DOMINIC J. PARROTT,^{d,e} & LINDSAY S. HAM^f

^aDepartment of Health Sciences, University of Alabama, Tuscaloosa, Alabama

^bKinsey Institute for Research in Sex, Gender, and Reproduction, Indiana University, Bloomington, Indiana

^cDepartment of Applied Health Science, School of Public Health–Bloomington, Indiana University, Bloomington, Indiana

^dCenter for Research on Interpersonal Violence, Georgia State University, Atlanta, Georgia

^eDepartment of Psychology, Georgia State University, Atlanta, Georgia

^fDepartment of Psychological Sciences, University of Arkansas, Fayetteville, Arkansas

ABSTRACT. Objective: Men's heavy drinking behaviors are related to their engagement in sexual aggression and may be amplified by other factors, such as precarious masculinity (i.e., perceiving masculinity as tenuous in nature). Yet, researchers' understanding of how alcohol consumption, in combination with precarious masculinity, may increase risk of sexual aggression is lacking. The goal of this study was to assess if precarious masculinity moderated the relationship between men's heavy drinking and their sexual aggression. **Method:** Young adult men (958 men, *M* age = 21.1 years, *SD* = 3.1) completed a web-administered questionnaire assessing sexual aggression, heavy drinking, and precarious masculinity. **Results:** We ran a logistic regression examining the association between heavy drinking, precarious masculinity, and their interac-

tive effect on men's engagement in sexual aggression. Heavy drinking (odds ratio [OR] = 1.17) and precarious masculinity (OR = 1.73) were independently and positively associated with men's sexual aggression; however, the interaction was not significant. **Conclusions:** In line with prior research, men's heavy drinking behaviors continue to be positively associated with sexual aggression. Building on masculinity literature, men viewing their masculinity as precarious and vulnerable appears to be associated with sexual aggression, potentially because engaging in sexual aggression can offset men's masculinity insecurities. Collectively, results suggest that both alcohol consumption and masculinity should be targeted in sexual assault prevention programs. (*J. Stud. Alcohol Drugs*, 84, 921–927, 2023)

SEXUAL AGGRESSION is defined as nonconsensual sexual acts in which perpetrators use coercion, force, or other means (e.g., purposeful intoxication) to obtain sex from victims (Cantor et al., 2017). There is strong evidence documenting the relationship between alcohol consumption and sexual aggression (Abbey, 2002; Abbey et al., 2014; Davis, 2010; Testa, 2002). Yet, research examining factors that may moderate this relationship is more limited (Abbey et al., 2014; Benbouriche et al., 2019; Giancola et al., 2011; Kirwan, Lanni, et al., 2019; Norona et al., 2021). This is somewhat surprising because men's alcohol consumption is thought to be related to different personality characteristics commonly associated with sexual aggression (Abbey et al., 2011; Norona et al., 2021; Tharp et al., 2013) such as

masculinity (Davis et al., 2015; Gallagher & Parrott, 2011; Leone et al., 2022; Norris et al., 1999). As such, the goal of this study was to assess the relationship between heavy drinking and precarious masculinity (i.e., perceiving masculinity as tenuous in nature) on men's likelihood to have been sexually aggressive.

Heavy drinking and sexual aggression

Heavy drinking is defined as consuming five or more drinks in one sitting (National Institute on Alcohol Abuse and Alcoholism [NIAAA], 2020) and is positively related to men's engagement in sexual aggression (Abbey, 2011; Crane et al., 2016; Kirwan, Parkhill, et al., 2019; Shorey et al., 2014, 2015). The relationship between men's heavy drinking and sexual aggression may be explained by alcohol myopia theory (AMT; Steele & Josephs, 1990). AMT posits that alcohol consumption impairs in-the-moment higher order cognitive functioning, which creates disruptions in people's ability to plan and manage their response inhibition. Intoxicated individuals also tend to focus on the most salient and provocative cues in a situation rather than distal or less provocative cues (Abbey, 2002). Given that sexual aggression can begin with consensual sexual activity (Flack et al., 2016), men's alcohol consumption may cause them to (a) focus more on their desire for sex and

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*Correspondence may be sent to Tiffany L. Marcantonio at the Department of Health Sciences, University of Alabama, Tuscaloosa, Alabama, or via email at: tlmarcantonio@ua.edu.

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initial consent cues they may have interpreted from their partner, (b) focus less on distal cues, particularly those signaling refusal, and (c) decrease their response inhibition, resulting in them using aggressive tactics to obtain sex without their partner's consent. In addition, the relationship between heavy drinking and men's sexual aggression may be explained by characteristics associated with both behaviors, such as alcohol expectancies, impulsivity, or masculinity (Abbey et al., 2022; Kirwan et al., 2023; Testa & Cleveland, 2017).

Precarious masculinity and sexual aggression

Alcohol consumption facilitates aggression to a greater extent among those who have risk factors for aggressive behaviors (Gallagher & Parrott, 2016; Tharp et al., 2013), such as precarious masculinity. Precarious masculinity is men's cognitive appraisals of their masculinity as tenuous in nature (Bosson et al., 2009; Vandello et al., 2008). According to precarious masculinity, because men's masculinity is vulnerable, men may feel threatened or challenged in gender-relevant situations (e.g., approaching someone for sex), which creates gender role stress and results in a defensive response or need to reaffirm their masculinity (Gallagher & Parrott, 2016; Smith et al., 2015; Vandello et al., 2008). Men may engage in traditional heterosexual masculine behaviors such as drinking alcohol to affirm masculinity. Specifically, compared with men who did not have their masculinity threatened, those who did consume more alcohol (Fugitt & Ham, 2018). Further, men high in precarious masculinity and who experience stress associated with their masculinity may be at greater risk to sexually aggress (Leone et al., 2022; Smith et al., 2015) because sexual aggression provides a clear example of "manhood" (i.e., having sex with women; Seabrook et al., 2018).

Heavy drinking, precarious masculinity, and sexual aggression

Men's heavy drinking is positively associated with their engagement in sexual aggression (Crane et al., 2016; Kirwan, Parkhill, et al., 2019). However, the extent to which precarious masculinity influences this effect is less well understood (Leone & Parrott, 2018; Smith et al., 2015). The reviewed literature indicates that alcohol is associated with aggression via heightened focus on salient, aggression-promoting cues. The need to reaffirm one's masculinity is highly salient to men who are high in precarious masculinity; as such, heavy alcohol use should heighten the focus on the precariousness of their masculinity and the need to reaffirm it for these men. Thus, the positive association between heavy alcohol use and sexual aggression should be strongest among men who endorse high, relative to low, precarious masculinity.

Current study

The goal of this study was to assess how men's heavy drinking and precarious masculinity relate to their engagement in sexual aggression. We hypothesized that higher levels of heavy drinking would increase the likelihood of sexual aggression perpetration to a greater extent in men who reported high, relative to low, levels of precarious masculinity.

Method

Participants

Young adult men (18–30 years old) were recruited through the University of Arkansas's Psychology Department's SONA System ($n = 552$) and Prolific—a sample aggregator ($n = 521$). We removed 114 people for failing reading checks, not completing measures, or not being attracted to women. The total analytical sample included was 958 men. Participants predominantly identified as White, and most men identified as heterosexual or bisexual and were single at the time of the study. Educational background and experience were diverse across the groups (Table 1).¹

Procedure

Men reviewed an informed consent and completed a battery of assessments focused on masculinity, drinking behaviors, and sexual aggression. Men who completed the study through the SONA system received course credit. Men recruited through Prolific earned credits that were redeemed for cash value.

Measures

Heavy drinking. Heavy drinking was assessed using an adapted and modified version of NIAAA's (2022) recommended item, "During the past 3² months, how often did you have 5 or more drinks containing any kind of alcohol within a 2-hour period?" Response options are listed in Table 2.

Precarious masculinity. Men's tendency to cognitively appraise situations that involve traditional male gender norms as stressful was assessed using the Abbreviated Masculine Gender Role Stress Scale (AMGRS; Swartout et al., 2015).

¹There were demographic differences between the SONA and Prolific samples. Men recruited from Prolific were older, more racially and ethnically diverse, and had more diverse relationship statuses than college men. College men had more diverse sexual orientations and were at greater likelihood to have involvement with campus fraternity systems.

²The original NIAAA item assesses participants' alcohol use over 12 months. We adjusted the time frame for this item because this study was part of a larger alcohol administration project and was used as a screener tool to assess participants' eligibility for the alcohol administration study.

TABLE 1. Demographics

Variable	College sample (<i>n</i> = 466) <i>n</i> (%) or <i>M</i> (<i>SD</i>)	Prolific sample (<i>n</i> = 492) <i>n</i> (%) or <i>M</i> (<i>SD</i>)	Total (<i>N</i> = 958) <i>n</i> (%) or <i>M</i> (<i>SD</i>)	χ^2/t
Age, in years	19.4 (1.6)	22.7 (3.2)	21.1 (3.1)	-20.69**
Race/ethnicity ^a				
White	398 (85.4%)	325 (66.1%)	723 (75.5%)	48.40**
Black	19 (4.1%)	93 (18.9%)	112 (11.7%)	50.94**
Latino	46 (9.9%)	58 (11.8%)	104 (10.9%)	0.91
Asian American	26 (5.6%)	13 (2.6%)	39 (4.1%)	5.28*
American Indian/Alaska Native	13 (2.8%)	0 (0.0%)	13 (1.4%)	13.91**
Middle Eastern American	6 (1.3%)	3 (0.6%)	9 (0.9%)	1.18
Native Hawaiian or Pacific Islander	4 (0.9%)	0 (0.0%)	4 (0.4%)	4.24*
Other racial/ethnic identity	0 (0.0%)	15 (3.0%)	15 (0.6%)	14.43**
Sexual orientation				8.97*
Heterosexual	450 (96.6%)	486 (98.8%)	936 (97.7%)	
Bisexual	8 (1.7%)	6 (1.2%)	14 (1.5%)	
Unsure	6 (1.3%)	–	6 (0.6%)	
Other	2 (0.4%)	–	2 (0.2%)	
Relationship status				21.79**
Single	306 (65.6%)	255 (51.8%)	561 (58.5%)	
In a relationship	153 (32.8%)	216 (43.9%)	369 (38.5%)	
Engaged or married	6 (1.3%)	19 (3.9%)	25 (2.6%)	
Other	1 (0.2%)	2 (0.4%)	3 (0.3%)	
Year in school				
First year	235 (50.4%)	–	235 (24.5%)	
Second year	136 (29.2%)	–	136 (14.1%)	
Third year	56 (12.0%)	–	56 (5.8%)	
Fourth year	39 (8.4%)	–	39 (4.1%)	
Fraternity involvement				139.16**
Yes	144 (30.9%)	13 (2.6%)	157 (16.4%)	
No	322 (69.1%)	478 (97.4%)	800 (83.6%)	
Education level				
High school or less	–	179 (36.4%)	179 (18.6%)	
Associate’s degree or some college	–	132 (26.8%)	132 (13.7%)	
Bachelor’s degree	–	141 (28.7%)	141 (14.7%)	
Graduate degree	–	40 (8.1%)	40 (4.1%)	
Income				
\$19,999 or less	–	256 (52.0%)	256 (26.7%)	
\$20,000 to \$39,000	–	112 (22.8%)	112 (11.6%)	
\$40,000 to \$59,999	–	63 (12.8%)	63 (6.5%)	
\$60,000 to \$79,999	–	30 (6.1%)	30 (3.1%)	
\$80,000 to \$99,999	–	18 (3.7%)	18 (1.8%)	
\$100,000 or more	–	13 (2.6%)	13 (1.3%)	

^aParticipants could select one or more racial and ethnic categories; thus, percentages sum to larger than 100.
p* < .05; *p* < .001.

The AMGRS includes 15 items on a scale from 0 (*not at all stressful*) to 5 (*extremely stressful*), with higher scores reflecting greater endorsement of viewing masculinity as stressful and representative of precarious masculinity. Examples include “Being perceived as gay” and “Losing in a sports competition.” The AMGRS had high internal consistency in this study ($\alpha = .870$) and has shown similar reliability in other studies with similar samples (Leone et al., 2022; Swartout et al., 2015).

Sexual aggression. Men were presented a list of 53 different strategies they used to obtain sex (oral, vaginal, or anal) from a nonconsenting woman in their lifetime (Sexual Strategies Scale–Revised; Strang et al., 2013). The strategies

included varying levels of sexual aggression, as well as “fillers” that described consensual behavior. An example item is, “After she initially says no to sex, acting angry, upset, or withdrawn until she gives into sex.” Sexual aggression was dichotomized into *ever engaging in sexual aggression* (1) or *not* (0).

Analysis plan

First, using chi-square and independent sample *t* test, we assessed if heavy drinking, precarious masculinity, and sexual aggression differed between the two samples. Second, to examine the relationship between heavy drinking, pre-

TABLE 2. Descriptives of variables of interest

Variable	College sample <i>n</i> (%) or <i>M</i> (<i>SD</i>)	Prolific sample <i>n</i> (%) or <i>M</i> (<i>SD</i>)	Total <i>N</i> (%)
Sexual aggression			
Any history of sexual aggression	68 (14.6%)	165 (33.5%)	233 (24.5%)
Heavy drinking frequency			
I have not had a drink in 3 months	148 (31.8%)	113 (23.0%)	261 (27.2%)
1 or 2 days in the past 3 months	93 (20.0%)	116 (23.6%)	209 (21.8%)
3–11 days in the past 3 months	15 (3.2%)	35 (7.1%)	50 (5.2%)
1 day a month	31 (6.7%)	54 (11.0%)	85 (8.9%)
2–3 days a month	40 (8.6%)	71 (14.4%)	111 (11.6%)
1 day a week	33 (7.1%)	35 (7.1%)	68 (7.1%)
2 days a week	65 (13.9%)	44 (8.9%)	109 (11.4%)
3–4 days a week	37 (7.9%)	22 (4.5%)	59 (6.2%)
5–6 days a week	3 (0.6%)	2 (0.4%)	5 (0.5%)
Every day	1 (0.2%)	0 (0.0%)	1 (0.1%)
Heavy drinking average	3.6 (2.5)	3.5 (2.2)	3.5 (2.4)
Precarious masculinity average	2.4 (0.6)	2.4 (0.7)	2.3 (0.7)

Notes: Heavy drinking average is in days per week, with “I have not had a drink in the past 3 months” being numerically counted as a 1 and “every day” being counted as 10. Precarious masculinity average is on a scale of 0 (not at all stressful) to 5 (extremely stressful).

carious masculinity, and sexual aggression we ran a logistic regression. Heavy drinking was mean centered and entered on Step 1, precarious masculinity was mean centered and entered on Step 2, and the interaction of heavy drinking and precarious masculinity was entered on Step 3.

Results

Rates of sexual aggression and alcohol consumption

Across our study, 24.3% ($n = 233$) of men reported a history of sexual aggression (Table 2). Men recruited through Prolific had a greater likelihood of reporting a history of sexual aggression compared with the sample of college men: $\chi^2(1, 958) = 46.66, p < .001$, Cramér's $V = .221$. A quarter of the sample (25.3%, $n = 242$) reported heavy drinking at least once per week and men reported experiencing slight levels of stress associated with precarious masculinity ($M = 2.4, SD = 0.69$; Table 2). Heavy drinking and precarious masculinity were positively correlated ($r = .16, p < .001$). We found no difference between the samples on heavy drinking ($p = .513$) or precarious masculinity ($p = .411$). Because the samples differed in their sexual aggression history, we included sample type as an independent variable in our final model.

Multivariate model

In Step 1, we entered the sample type. Men recruited through Prolific had a greater likelihood to report a history of sexual aggression than men recruited from the college campus. In Step 2, we entered heavy drinking and found that as men's frequency of heavy drinking increased, so did their odds of engaging in sexual aggression; sample

type remained significant at Step 2. In Step 3, we included precarious masculinity and found that as men's precarious masculinity increased, their odds of being sexually aggressive increased; sample type and heavy drinking remained significant at Step 3. Finally, at Step 4, we entered the interaction between heavy drinking and precarious masculinity. We did not find a significant interaction effect; however, the main effects of sample type, heavy drinking, and precarious masculinity remained (Table 3).

Discussion

The goal of this study was to assess the relationship between heavy drinking, precarious masculinity, and men's sexual aggression. Our results suggest that heavy drinking frequency and precarious masculinity exert independent effects on sexual aggression; however, an interactive effect was not present. Men's heavy drinking frequency may relate to their engagement in sexual aggression because men may be experiencing the cognitive deficits brought on by alcohol more regularly (Abbey, 2002), which may cause them to focus on their desire for sexual activity and block attention to inhibitory cues (George et al., 2000). Consequently, when the perceived opportunity for sexual activity presents itself, men who are intoxicated and focused on obtaining sex may not focus on cues that disconfirm their beliefs (i.e., a refusal).

Second, men who engage in heavy drinking more frequently may also visit bars or parties more frequently—such settings can facilitate sexual aggression by providing men access to potential victims (Testa & Cleveland, 2016). Relating these findings to our study, heavy drinking may increase men's likelihood to be sexually aggressive because when men drink heavily, they are more likely to be in environments that facilitate their aggressive behaviors. Moving

TABLE 3. Results of logistic regression examining the relationship between masculinity, heavy drinking, and sexual aggression

Variable	Model 1 OR [95% CI]	Model 2 OR [95% CI]	Model 3 OR [95% CI]	Model 4 OR [95% CI]
Sample	2.95** [2.14, 4.05]	3.18** [2.29, 4.41]	3.30** [2.37, 4.60]	3.30** [2.37, 4.61]
HD		1.20** [1.12, 1.28]	1.17** [1.10, 1.25]	1.17** [1.09, 1.26]
PM			1.72** [1.37, 2.13]	1.73** [1.37, 2.16]
HD × PM				0.98 [0.92, 1.08]
Nagelkerke R ²	.073	.120	.153	.153

Notes: OR = odds ratio; CI = confidence interval; sample = college students as reference group; HD = heavy drinking; PM = precarious masculinity; HD × PM = interaction between heavy drinking and precarious masculinity
***p* < .01.

forward, researchers may consider measuring men’s heavy drinking behaviors and their attendance in different drinking environments to assess both constructs’ relationship with sexual aggression.

Precarious masculinity was also significantly associated with sexual aggression, potentially because sexual aggression may function to attenuate men’s insecurities about masculinity (Cowan & Mills, 2004; Gallagher & Parrott, 2011) and men’s need to address those insecurities (Moore & Stuart, 2004). In line with our findings, sexual aggression may be an effective masculine behavior to reestablish masculinity because sexual aggression is a clear example of what it means to be a “man” (Seabrook et al., 2018). In fact, men who perceived less sexual interest from a sexual partner reported using more verbal persuasion and physical force against her (Testa et al., 2019). Men may have used these sexually aggressive tactics against a woman because they perceived her lack of interest as a challenge to their masculinity.

We did not find a relationship between heavy drinking and precarious masculinity potentially because precarious masculinity theory suggests that aggression is more likely to occur when men view their masculinity as precarious and those cognitions are activated via a stressful gender-relevant situation (Vandello et al., 2008). In addition, if intoxicated during this stressful gender-relevant situation—AMT (Steele & Josephs, 1990) would suggest that men may become myopically focused on their precarious masculinity and reaffirming it—potentially through sexual aggression. Therefore, to assess how alcohol consumption and precarious masculinity increase the risk of sexual aggression and test this theoretical connection, researchers may need to use experimental or laboratory methods that challenge masculinity and isolate the pharmacological effects of alcohol to assess how these two constructs, in the moment, increase the risk of sexual aggression.

Limitations and future directions

First, our data include convenience samples collected via a psychology pool at one university and a sample ag-

gregator. In addition, our samples primarily comprised men who identified as White. Continued efforts are needed to examine sexual aggression and risk factors among diverse groups. Second, our study is focused on men who aggress against women; however, there is a need to examine sexual aggression rates among sexual and gender minority people and associated risk factors. Sexual violence research with sexual and gender minority people is particularly needed as this group experiences comparable, if not elevated, rates of sexual violence and there is less research examining how alcohol or masculinity relates to sexual and gender minorities’ experience of sexual violence (Parrott et al., 2023). Third, our findings are cross-sectional and correlational, creating concerns with recall biases and temporal associations. Given time differences between our variables (drinking in the past 3 months and lifetime sexual aggression), our findings should be taken with caution. Our findings should be complemented by more advanced methodologies such as alcohol administration studies that could examine the acute causal effects of alcohol intoxication and threats to masculinity on men’s risk of sexual aggression (Leone & Parrott, 2018). Longitudinal studies would also be beneficial to detect temporal effects of alcohol use and masculinity on men’s likelihood to be sexually aggressive to complement our correlational findings.

Implications

We found that heavy drinking and precarious masculinity were associated with men’s sexual aggression. Despite alcohol consumption being consistently associated with sexual aggression, alcohol is rarely a focus in sexual assault interventions (DeGue et al., 2014; Denhard et al., 2020). Given the shared relationship between alcohol and sexual aggression, developing integrative interventions for both behaviors is warranted. Within these integrated programs, interventionalists should use effective tools that help reduce drinking behaviors (e.g., motivational interviewing, social norms approaches; Gilmore et al., 2015; Morean et al., 2021; Orchowski et al., 2018). Interventionalists should also be working to challenge maladaptive norms surrounding alco-

hol environments (e.g., bars/parties) that may normalize and condone men's heavy drinking and sexual aggression.

Finally, in-person interventions, but also larger social norms and media interventions, should address precarious masculinity—with an emphasis on reaching wider audiences. Masculinity is a learned social construct, suggesting that men are taught, through societal norms and encounters, to feel precarious about their masculinity. Because men are taught these ideals we can also restructure and alter them (Dworkin et al., 2015; Gupta et al., 2008; Leone & Parrott, 2018). Thus, intervention initiatives at the individual and larger societal level can focus on addressing precarious masculinity norms and teaching positive conceptualizations of masculinity to all men, not just those attending college (Leone & Parrott, 2018).

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