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Effects of men's acute alcohol intoxication, perceptions of women's intoxication, and masculine gender role stress on sexual aggression perpetration: Findings from a laboratory analogue

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Abstract

Background: Although research has established an association between alcohol use and sexual assault, few studies have examined how characteristics of the perpetrator may influence sexual aggression depending upon whether alcohol is consumed by the perpetrator and/or the victim. As such, this laboratory-based investigation was designed to disentangle the effects of individual differences in masculine gender role stress and sexual aggression perpetration as a function of (1) men's acute alcohol intoxication and (2) whether a woman was consuming alcohol or not.

Method: A community sample of 156 men presented to two laboratory sessions, during which they completed a self-report measure of masculine gender role stress (Session 1) and completed a modified version of the sexual imposition paradigm after consuming an alcoholic or non-alcohol beverage (Session 2). In this paradigm, participants and a male friend were told that an ostensible female participant had consumed or not consumed alcohol. They were also told that she did not wish to view sexual content. Participants were then provided the opportunity to make the female confederate view a sexually or non-sexually explicit film. Sexual aggression was operationalized by selection of the sexually explicit film.

Results: A hierarchical logistic regression showed that men higher in masculine gender role stress who were (1) intoxicated were *more* likely than sober men to select the sexually explicit

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film when the woman was *intoxicated*, and (2) intoxicated, men were *less* likely than sober men to select the sexually explicit film when the woman was *sober*.

Conclusions: Findings suggest that sexual aggression perpetration is most likely among higher masculine gender role stress men when there is concordance in drinking (i.e., either the man and woman were both drinking or were both not drinking).

Keywords

masculinity; sexual assault; drinking; peer influence; alcohol

“Alcohol is not an excuse.... Is it a factor? Yes...We were both drunk; the difference is I did not take off your pants and underwear, touch you inappropriately and run away.”

— “Emily Doe” in the Brock Turner case (Baker, 2016)

Male-to-female sexual aggression is a significant and pervasive public health problem. Among the many identified risk factors for sexual aggression perpetration (for a review, see Tharp et al., 2013), alcohol use is among the most robust. Research indicates that binge drinking is robustly associated with men’s event-level alcohol-related sexual aggression perpetration after accounting for other evidence-based risk factors (Kingree and Thompson, 2015). However, most studies in this area fail to account for women’s alcohol consumption. Of course, women who consume alcohol are not responsible for sexual assault. However, research indicates that women’s alcohol use is associated with an increased risk of sexual victimization for various reasons, including that intoxicated women may be viewed as easy targets (Norris et al., 1996) and be less able to recognize risky cues (Parks et al., 2016) or that perpetrators may use alcohol as a tactic to force sex (Zinzow and Thompson, 2015). Indeed, over half of sexual assaults involve alcohol use by the perpetrator, victim, or both (Abbey, 2002). However, a dearth of research has aimed to elucidate differences in aggression when alcohol is consumed by either the perpetrator or victim (i.e., discordant use) or both parties (i.e., concordant use). This gap in the research may be in partially due to the difficulty in disentangling the unique effects of victim and perpetrator alcohol use in survey research, which is subject to recall bias and interpretation of another person’s alcohol use (e.g., perpetrator reporting of victim’s use). To this end, experimental methods where drinking status of potential perpetrators and ostensible victims can be manipulated allow for a direct test of alcohol intoxication on sexual aggression perpetration. The aim of the present study was to examine the effects of an established individual-level risk factor for sexual aggression (i.e., masculine gender role stress; MGRS), men’s acute alcohol intoxication, and perceptions of a women’s drinking on laboratory-based sexual aggression perpetration in the presence of a male peer.

Masculine Gender Role Stress as a Risk Factor of Sexual Aggression Perpetration

One known risk factor for sexual aggression perpetration is MGRS, or the tendency to experience psychological and physiological stress when failing to live up to one’s internalized manhood ideal, which often closely approximates traditional male role norms

(Eisler and Skidmore, 1987; Eisler et al., 1988). MGRS is associated with beliefs about masculinity; however, MGRS is a distinct construct that reflects the extent to which men appraise masculinity-relevant situations (e.g., being subordinate to a woman, failing at sex) as stressful or threatening (Walker et al., 2000). Research demonstrates that MGRS contributes to a hostile masculine profile that predicts men's sexual aggression perpetration over time (Malamuth et al., 1995). More recently, a study using a community sample of male social drinkers demonstrated that men's tendency to appraise as stressful situations in which they were subordinate to a woman (a facet of MGRS) was associated with past perpetration of sexual aggression via sexual dominance (i.e., feelings of control over one's partner motive sexually) (Smith et al., 2015). These authors theorized that men who feel threatened in situations where they must be subordinate to their female partners might be motivated to assert their dominance and authority via the perpetration of sexual aggression.

While attempts to meet gender-relevant standards may elicit some stress for any man, men high in trait MGRS may have a greater tendency to experience stress following situations they perceive as threatening to their masculinity. This is not surprising given precarious manhood theory that suggests manhood is difficult to earn and easy to lose (Vandello and Bosson, 2012). Men who experience high levels of stress in relation to masculinity-relevant threats are prone to take measures that demonstrate their masculinity. Indeed, experimental research indicates that men experience anxiety following masculinity-relevant threats (Vandello et al., 2008). Experiencing anxiety after a masculinity-relevant threat is associated with aggression, likely as a means to reestablish their masculinity (Bosson and Vandello, 2009).

While stress related to one's gender may be experienced in a variety of contexts, peers may represent a salient situational factor that elicits masculine-relevant stress given their role in gender intensification (Maccoby, 1998). Moreover, longitudinal data indicate perceived peer approval of sexual aggression is a predictor of one-time and repeated sexual aggression (Zinnow and Thompson, 2015) and mediates the relation between heavy drinking at baseline and severity of sexual aggression perpetration one year later (Thompson et al., 2011). Research also suggests that men's perception of their peers' attitudes about sexual aggression predicts men's own attitudes about violence towards women (Swartout, 2013). These data indicate that male peers can create a masculinity-relevant context that facilitates men to engage in sexual aggression. However, it is important to identify how other situational-factors, including acute alcohol intoxication, may interact with MGRS to predict sexual aggression perpetration.

Alcohol Use and Sexual Aggression Perpetration

Perpetrator alcohol consumption.

A host of empirical evidence has linked alcohol consumption to sexual aggression perpetration. For example, Parkhill and Abbey (2008) found that among men who reported perpetrating sexually aggressive acts, 48% reported only perpetrating while sober, 27% reported only perpetrating while intoxicated, and 25% reported perpetrating while both intoxicated and sober. Research also indicates that perpetrator alcohol consumption is associated with more severe sexual assaults (Abbey et al., 2004; Tjaden and Thoennes,

2000). Perhaps the best evidence of this relationship comes from a recent meta-analysis of experimental research that demonstrated a small effect ($d = .32$) of acute alcohol intoxication on male-to-female sexual aggression (Crane et al., 2016). However, these authors note that alcohol use is not a sufficient proximal explanation for aggression. Individual and situational level factors need to be considered that may interact with acute alcohol intoxication to contribute to sexual aggression perpetration.

Women's alcohol consumption.

Event-level data indicate that women who are intoxicated are more likely to be victimized (Neal and Fromme, 2007; Parks et al., 2008). Moreover, reports from male perpetrators of sexual aggression report that victim's alcohol consumption was positively and significantly associated with sexual aggression severity, such that the more victims drank, the more severe sexual assault they experienced (Abbey et al., 2003). The relation between alcohol consumption and victimization may be because some men use intoxication as a tactic to perpetrate sexual assault (Koss et al., 2007), such that they target women who are drinking alcohol. Indeed, alcohol's cognitive and motor impairments may lead certain men to view intoxicated women as easy targets for sexual aggression (see Abbey, 2011). A longitudinal study examining sexual aggression tactics (i.e., force, incapacitation, and verbal coercion) of college men indicated that 16% of perpetrators were classified as using incapacitation as their most severe tactic. Of the men who used forcible tactics, 88% also used incapacitation (Zinzow and Thompson, 2015). Further, retrospective research of college women's reports indicates that alcohol-facilitated sexual aggression is more common than forcible sexual aggression (Lawyer et al., 2010). Intoxicated women may be at a greater risk for sexual aggression victimization because men perceive them as more sexual (Abbey et al., 2000; George et al., 1995) and they are less able to resist sexual advances (Stoner et al., 2007). Further, experimental research has found that intoxicated women report more immobile resistance intentions (e.g., feeling paralyzed) in response to a hypothetical sexual assault vignette (Parkhill et al., 2016). A recent systematic review that applied social information-processing theory suggests that intoxicated women may be at a greater risk of sexual victimization because alcohol impairs their ability to recognize, interpret, and respond to risk cues (Melkonian and Ham, 2018).

Theoretical Framework

The present study invokes alcohol myopia theory (AMT) (Steele and Josephs, 1990), as it offers a parsimonious theoretical framework that explains how MGRS, acute alcohol intoxication, and perceptions of a women's alcohol consumption interactively predict men's sexual aggression perpetration. AMT purports that the pharmacological properties of alcohol facilitate aggression by narrowing attentional focus to the most salient cues in the environment. Thus, intoxicated individuals focus their attention in such a way that they perceive and process only the most salient cues of a situation (e.g., internalized pressure to perform masculinity) to the exclusion of less salient inhibitory cues (e.g., sexual disinterest of a female). AMT also posits that alcohol can decrease aggression in situations in which nonprovocative cues are most salient, leaving little room in working memory to focus on less salient provocative cues. Extant research supports this theoretical prediction and

has demonstrated that alcohol decreases aggression when attention is focused away from aggressive cues (Giancola and Corman, 2007; Gallagher and Parrott, 2011; Gallagher and Parrott, 2016).

The Present Study

The present study investigated the moderating effects of men's acute alcohol intoxication and perceptions of a women's level of intoxication on the relation MGRS between and sexual aggression perpetration. A laboratory analogue wherein participants had the option to subject a female confederate, who they were informed was either intoxicated or sober, to an unwanted sexual experience (i.e., non-contact act of a sexual nature) in the presence of a male peer was utilized to create a stressful peer context in which sexual aggression could occur. This laboratory analogue has been used in previous research to examine sexual aggression perpetration (for a review, see Davis et al., 2014) and measures one form of sexual aggression perpetration on the continuum of sexual violent behavior. Specifically, in line with the Center for Disease Control and Prevention's definition of sexual violence, this analogue assesses a non-contact act of a sexual nature (e.g., unwanted exposure to pornography), which is experienced by approximately one-third of women (Basile et al., 2014).

The reviewed literature suggests that MGRS is a risk factor for sexual aggression perpetration (Malamuth et al., 1995; Smith et al., 2015) and has independently linked acute alcohol intoxication to sexual aggression perpetration (e.g., Crane et al., 2016) and victimization (e.g., Parks et al., 2008; Melkonian and Ham, 2018). Thus, it follows that the pharmacological effects of alcohol should increase the likelihood that intoxicated men will perpetrate sexual aggression against a woman who is perceived to be intoxicated, compared to sober, because attention is focused on the social belief that an intoxicated woman is an "easy target" (salient cue) for sexual aggression. This may be especially salient among men high, compared to low, in MGRS because failure to engage in sexual activity in this context would be seen as unmasculine by peers. Thus, we hypothesized that MGRS would be positively associated with the likelihood of sexual aggression against an intoxicated woman when men are intoxicated, compared to sober (Hypothesis 1).

Conversely, the pharmacological effects of alcohol may lead intoxicated men to be less likely to perpetrate aggression against a sober woman, because attention may be focused on the ability of the woman to actively resist an unwanted sexual experience. In other words, a sober woman is likely not viewed as an "easy target" for intoxicated men. Again, this should be especially salient among men high in MGRS, as they are more likely to experience heightened stress in masculinity-relevant situations. To this end, We hypothesized that MGRS would be negatively associated with the likelihood of sexual aggression against a sober woman when men are intoxicated, compared to sober (Hypothesis 2).

Method

Participants

The distinct set of hypotheses tested herein utilized data that were drawn from a larger investigation on the effects of alcohol and peers on sexual aggression and bystander intervention, wherein no main or interactive effects of beverage condition and female beverage condition were detected (Parrott et al., 2012). An initial sample of 261 male drinkers aged 21–35 ($M = 24.9$, $SD = 3.6$) were recruited from the local metro Atlanta community via internet advertisements for a study on “Alcohol and Views About the Media.” Interested participants called the laboratory, and were provided information about the study, including that they had to participate in two separate study sessions with a “good friend.” In other words, respondents were only eligible if they could recruit a friend to also participate.

All participants completed a screening interview on the telephone. To be eligible, participants were required to consume at least three drinks per occasion at least twice per month and deny any past or present drug- or alcohol-related problems, serious head injuries, learning disabilities, or serious psychotic symptomatology. If one member of a dyad was not eligible to participate, the other participant was allowed to recruit another friend to complete the screening. Upon scheduling for their first study session, participants were told to not to drink alcohol or recreational drugs 24 hours prior to both sessions. They were also asked to not eat four hours before Session 2.

From the sample of 261 men who presented to Session 1, 53 participants did not meet the initial screening criteria and nine participants did not self-identify as heterosexual (assessed during Session 1). These participants were paid for their time and told they were ineligible for Session 2. In the event that one participant of the dyad was eligible, they were invited to complete Session 2 if they were able to recruit another eligible friend. Twenty-nine eligible participants were unable to find an eligible friend to participate. Additionally, four participants (two dyads), were lost to follow up. This resulted in a sample of 166 men (83 dyads) who presented Session 2, ten of which were removed from analyses (as detailed in the Participant Selection selection). A final sample of 156 men consisted of 55% African American/Black men, 33% white men, 1% Asian American men, 1% American Indian/Alaskan Native men, and 11% who identified as more than one race. On average, participants had 14.1 years of education, earned \$22,410 per year ($MED_{income} = \$15,000$), and had never been married (84%). This study was approved by the university’s Institutional Review Board.

Questionnaire Battery

Demographic Form.—This self-report form assessed age, self-identified sexual orientation, racial identity, relationship status, years of education, and yearly family income.

Alcohol Use.—This 6-item self-report form measures participants’ alcohol use during the past year using the National Institute on Alcohol Abuse and Alcoholism’s (NIAAA, 2003) recommended set of alcohol consumption questions. Three of these questions assessed for

alcohol use patterns in the past 12 months including: frequency of alcohol consumption, average drinks per drinking day (i.e., alcohol quantity), and frequency of heavy drinking (i.e., five or more drinks in a single day).

History of Sexual Aggression Perpetration.—To assess for lifetime perpetration of sexual aggression, participants responded to the Sexual Experiences Survey – Short Form Perpetration (Koss et al., 2007). Participants indicated their use of tactics to obtain, or attempt to obtain, non-consensual sexual activity, ranging from non-consensual sexual contact to penetration. Participants responded on a 0 (*never*) to 3 (*three or more times*) how often each sexual experience was used by tactic in the past year and since age 14. Sexual aggression perpetration was dichotomized (0 = *no history*, 1 = *history of sexual violence perpetration*).

Masculine Gender Role Stress Scale.—To assess MGRS, the 15-item Abbreviated Masculine Gender Role Stress Scale (Swartout et al., 2015) was used. Participants rate 15-items on a Likert-type scale from 0 (*not stressful*) to 5 (*extremely stressful*), with higher scores indicating more trait MGRS. Items ask participants to rate how stressful various situations would be (e.g., “Being perceived by someone as “gay”,” “Having others say that you are too emotional”). Standardization data indicate high alpha reliability coefficients ($\alpha = .90$), which was consistent with the present sample ($\alpha = .90$).

Participant and Female Confederate Beverage Manipulation

Upon arrival to the laboratory for Session 2, participants were randomly assigned to one of four experimental groups: (1) Alcohol, Female Alcohol ($n = 44$), (2) Alcohol, Female No-Alcohol ($n = 34$), (3) No-Alcohol Control, Female Alcohol ($n = 32$), and (4) No-Alcohol Control, Female No-Alcohol ($n = 46$). Participants in the alcohol beverage conditions were administered a dose of .99g/kg of 95% alcohol mixed at a 1:5 ratio with Tropicana orange juice. This dose, which ranges from 4–7 standard drinks for a 130–220 pound male, has been used in past studies of alcohol-related aggression and reliably produces breath alcohol levels between .08%–.12%. Participants in the no-alcohol control beverage condition received an isovolemic beverage consisting of only orange juice. Participants consumed their beverages in the same room as their friend, who were always assigned to the same beverage condition. All participants were allotted 20 minutes to consume their beverages. Prior to receiving their beverages, participants were explicitly informed whether or not their drink would contain alcohol and were informed whether or not the female confederate in the study was assigned to drink alcohol or not. The female confederate also stated whether or not she had consumed alcohol in a pre-recorded demographic interview that participants viewed (see “Deception Manipulation”). The experimental paradigm began when both participants in a dyad reached .08% on the ascending limb of the BrAC curve or immediately following beverage consumption for participants who did not receive

Laboratory Analog of Sexual Aggression

A well-validated sexual aggression paradigm (Hall and Hirschman, 1994) was utilized to measure sexual aggression. The computer software that controls the task was developed by Vibranz Creative Group (Lexington, KY). In this analog, participants complete a “media

rating task” with a female confederate and are informed that based on the woman’s ratings in this task, she has a strong dislike of sexual content in the media. Next, participants’ view two film clips that depict (1) nonsexually explicit or (2) sexually explicit content. Participants are told to randomly select one of the film clips to show the woman. The participant is informed he will be able to view the woman watch the film he picked on a closed-circuit television. Sexual aggression is operationalized by choosing to show a woman, who explicitly stated she does not like sexual content, a sexually explicit film clip.

Deception Manipulation

As described in detail elsewhere (see Parrott et al., 2012), participants were given a cover story to disguise the aims of the study. Participants were told they would engage in a “media rating task” with another participant, who was a female confederate (matched to participants’ race). In this task, participants were told they would first rate their media preferences, then rate a series of movie clips. To increase believability that the female confederate was a participant, participants recorded a demographic interview where they answered basic questions about themselves (e.g., first name, relationship status). They were told the other participant in the study (i.e., the female confederate) would view the video, and they would view hers, to learn about each other. Participants watched the woman’s 20-second video, where she stated she was single, prior to starting the media-rating task.

Procedure

This study took part on two separate days. Participants came to both sessions with their male friend. During Session 1, participants were separated in different rooms and provided informed consent individually to ensure neither participant was coerced into participation. Next, eligibility was reconfirmed and participants completed a questionnaire battery (previously described) using MediaLab 2000 software [Jarvis, 2006]. Participants completed questionnaires not pertinent to the aims to disguise the study aims.

During Session 2, participants were similarly separated to provide informed consent. Next, participants were taken to an experimental room for the study procedures. While on the way to this room, the experimenter gestured down the hall and stated, “the other participant will be completing the study in a room down the hall.” Upon entry to the room, each member of the dyad was seated at an adjacent desk with their own monitor and keyboard. Participants recorded their demographic interviews. Next, they received instructions verbal and written instructions about the media rating task, which was simultaneously presented on each participant’s monitor. As part of this task, they answered 15 questions that on their media preferences (e.g., “I am a fan of ‘reality TV shows’”) on a nine-point Likert-type scale from “1” strongly disagree to “9” strongly agree. Once complete, participants were informed that each participants responses to these questions would be summarized to form a “media profile.” The dyad was told they would view this summary, and that the female confederate would view their summary. Next, participants were presented the female confederate’s media profile that explicitly stated that she did not like to watch sexual content. Participants could not advance this screen for 20 seconds and were asked to press the spacebar after reading her media profile to move on to the next portion of the study. This procedure was utilized to increase the likelihood participants would fully read her profile without trying

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to skip ahead. Next, participants and female confederate watched a sexually explicit and a nonsexual explicit film clip (each two-minutes long, counterbalanced). Film clips were matched to participants' race. When participants were not of the same race or did not self-identify as white or Black/African American, the film clip was randomly determined. The four film clips used in this study were previously rated as equally arousing (Parrott et al., 2012).

After viewing the two film clips, the dyad was informed they were randomly selected to each select a video for the woman to watch. Participants were also told that their film choice, or their friend's film choice, would be randomly selected to show her. To ensure fidelity of their film choice, participants were offered an additional \$5 to not discuss their choice in any way with their friend. Each participant selected a video for the female confederate to watch by pressing a key corresponding to the film on his keyboard. After the remaining study procedures for the main aims of this study (Parrott et al., 2012)¹, participants were probed for deception separately (see below), debriefed, and compensated.

Results

Participant Selection

An experimenter individually probed participants in a separate testing room to verify deception. Six participants reported that they did not believe they were engaged in a media rating task with another person and were removed from analyses. In addition, two participants did not reach the target BrAC of .08 and two other participants had a technical error and were removed. This left a final sample of 156 men, all of whom correctly indicated that the female confederate was not currently involved in an intimate relationship.

Analytic Plan

A pairwise intraclass correlation coefficient of $-.03$ indicated that partners did not systematically influence one another's individual video choice. A hierarchical logistic regression was performed to test hypotheses in accordance with the procedures outlined by Aiken et al. (1991) and Dawson and Richter (2006). Step 1 included MGRS, beverage condition (alcohol, no alcohol control), and female beverage condition (alcohol, no alcohol control). Step 2 included the three possible two-way interaction terms between MGRS, beverage condition, and female beverage condition and the three-way interaction term. As prior behavior is the robust predictor of past behavior (Ouellette and Wood, 1998), including sexual aggression (Tharp et al., 2013), history of sexual aggression perpetration was controlled for in analyses.

Prior to computing regression models, scores for MGRS were manually z-transformed in order to reduce multicollinearity between the interaction term and its constituent lower-order terms and improve the interpretability of regression equations. Dummy coding was used to standardize the categorical variables (beverage condition: alcohol = 1, no alcohol control =

¹Following the individual selection of a video for the female confederate to watch, dyads were then asked to make a group decision on which video to show the woman.

0; female beverage condition: alcohol = 1, no alcohol control = 0). Interaction terms were then calculated by obtaining cross-products of pertinent first order variables.

Preliminary Analyses

Group differences.—Although random assignment should ensure equal distribution of pertinent demographic (i.e., age, education, yearly income) and dispositional variables (i.e., alcohol use, MGRS) across beverage and female beverage groups, a series of 2 (Beverage Condition) \times 2 (Female Beverage Condition) analyses of variance (ANOVAs) were confirmed this assumption. A chi-square analysis further confirmed that there were no racial or marital status differences in beverage or female beverage condition. As such, subsequent analyses did not control for these variables.

Frequencies and descriptive statistics.—Approximately 39% ($n = 61$) of men reported a history of sexual aggression behavior, and 47.5% ($n = 74$) of men selected the sexually explicit video to show the female confederate. Descriptive statistics and bivariate correlations of pertinent variables are displayed in Table 1. Notably, the bivariate association between MGRS and laboratory sexual aggression was not significant.

BrAC levels.—Upon arrival to both study sessions, all participants had BrACs of 0%. A repeated-measures ANOVA indicated that individuals in the alcohol beverage condition had a significantly higher mean BrAC at post-task ($M = .111\%$, $SD = .020$) than at pre-task ($M = .098\%$, $SD = .019$), $F(1, 77) = 45.44$, $p < .001$. Inspection of these data at the individual level confirmed that all intoxicated participants were on the ascending limb of the BrAC curve during the experimental procedures. Participants in the no-alcohol control condition had a mean BrAC of 0% before and after the experimental procedures.

Test of Hypotheses

Results are presented in Table 2. In Step 1, history of sexual violence perpetration was associated with likelihood of sexual aggression in the laboratory task ($\beta = 1.20$, $OR = 3.301$, $p = .001$). In Step 2, there was a conditional significant main effect of history of sexual aggression perpetration, that was qualified by a significant MGRS \times Beverage Condition \times Female Beverage Condition interaction ($\beta = 1.53$, $OR = 4.69$, $p = .047$). In line with Hypothesis 1 (see Figure 1a), examination of the simple slopes revealed men higher in MGRS were significantly more likely to perpetrate sexual aggression towards an ostensibly intoxicated woman when they were intoxicated ($\beta = .48$, $OR = 1.61$, $p = .224$) than when they were sober ($\beta = -.004$, $OR = .10$, $p = .990$). Additionally, in accordance with Hypothesis 2 (see Figure 1b) men higher in MGRS were significantly less likely to perpetrate sexual aggression against an ostensibly sober woman when they were intoxicated ($\beta = -.36$, $OR = .70$, $p = .310$) than when they were sober ($\beta = .70$, $OR = 2.01$, $p = .149$).

Discussion

The aim of the present study was to examine the effects of MGRS, men's acute alcohol intoxication, and women's intoxication on sexual aggression perpetration. Hypotheses were supported and indicate that men higher in MGRS (1) were more likely to perpetrate sexual

aggression towards an intoxicated female when they were intoxicated relative to when they were sober, and (2) were less likely to perpetrate sexual aggression against a sober woman when they were intoxicated relative to when they were sober. Graphical depictions of these effects indicate that MGRS positively predicted that likelihood of sexual aggression perpetration when there was concordance, but not discordance, in drinking (i.e., either the man and woman were both drinking or were both not drinking).

Results suggest that MGRS increases sexual aggression perpetration towards an intoxicated woman when men are intoxicated, but not sober. In line with alcohol myopia theory (Steele and Josephs, 1990), it may be that when men are intoxicated, compared to sober, the pharmacological effects of alcohol narrow attention on salient instigatory cues related to the social belief that an intoxicated woman is an “easy target” or the loss of masculine status if they do not engage in a sexual act in front of their peers via sexual aggression. These salient cues are to the exclusion of the woman’s uninterest in sexual content (non-salient, inhibitory cue). This attentional focus may contribute to the perpetration of sexual aggression, but only among men who tend to experience stress when failing to live up to their internalized manhood ideal, which may link masculinity and sexual behavior.

Conversely, results suggest that when women are intoxicated, men’s alcohol intoxication decreases sexual aggression likelihood among higher, compared to lower, MGRS men. In line with the alcohol myopia theory (Steele & Josephs, 1990), when intoxicated men have the opportunity to perpetrate against a sober female, their attention may be focused on the lack of alcohol consumption by the woman, who is less likely to be viewed as an “easy target” given the potential to actively and forcefully resist unwanted sexual advances (salient, inhibitory cue). This potential for resistance may be a risk to one’s masculine status in the presence of the male peer among higher MGRS men. Additionally, and consistent with prior research linking MGRS and sexual aggression (Malamuth et al., 1995; Smith et al., 2015), the present study found that when men are sober, MGRS is associated with greater sexual aggression likelihood towards a sober female.

Limitations

Several limitations of this work warrant discussion. First, this study had a small sample size and warrants replication. Second, although men reported on their tendency to experience MGRS, in-the-moment MGRS was not assessed and thus it remains unclear if men experienced stress in the moment. We aimed to induce state MGRS through the presence of their male friend in the laboratory task; however, it is unclear the extent to which this manipulation led to state MGRS. Third, there are a myriad of social contexts in which sexual aggression can occur, and this laboratory paradigm may not approximate these situational contexts. Fourth, the present study utilized a laboratory-based paradigm that is an analog for sexual aggression. While this well-established paradigm is shown to correlate with self-reported history of sexual aggression, including in the present study, it may not directly map onto real world perpetration or other forms of sexual perpetration (e.g., forcible rape). For example, the fear of possible rejection and the presence of an “easy target” are potentially less relevant within the confines of a laboratory task during which participants do not directly interact face-to-face with the female confederate for safety reasons. Finally,

it is important to acknowledge that data collection for this study occurred approximately ten years ago. It is unclear how findings may differ a decade later following the MeToo movement and replication is needed.

Future Directions

Limitations notwithstanding, the present work provides novel information about the unique intersection of MGRS, men's intoxication, and a potential victim's intoxication in predicting sexual aggression. Several future directions are recommended to build on the current study and further explore our interpretation of the results. Obtaining more information about the cues that are most salient for intoxicated individuals who are at heightened risk of sexual aggression would be highly beneficial. Self-report is one method to examine salience of potentially relevant factors. However, observational methods could also be useful to examine factors that could explain the links between intoxication and sexual aggression among men with high MGRS. Further, examination of the relationship between state MGRS and intoxication over time using ecological momentary assessment may provide a deeper understanding of the intersecting impact of these risk factors for sexual aggression. Finally, virtual reality paradigms (Abbey et al., 2018; Abbey & Wegner, 2015) may allow for further examination of situational-level factors (e.g., perceived level of women's interest) that interact with alcohol intoxication to predict sexual aggression.

Collectively, this study suggests that concordance in men and women's alcohol use may influence men's sexual aggression perpetration behavior, especially when men are higher in MGRS. Men higher in MGRS may experience pressure to engage in sexual behavior when there is a match in their drinking status despite a woman's lack of consent. Sexual aggression prevention efforts for men are beginning to target alcohol (Zinzow et al., 2018; Orchowski et al., 2018), and should also consider providing men proximal strategies to cope with MGRS to deter sexual aggression in drinking and non-drinking settings.

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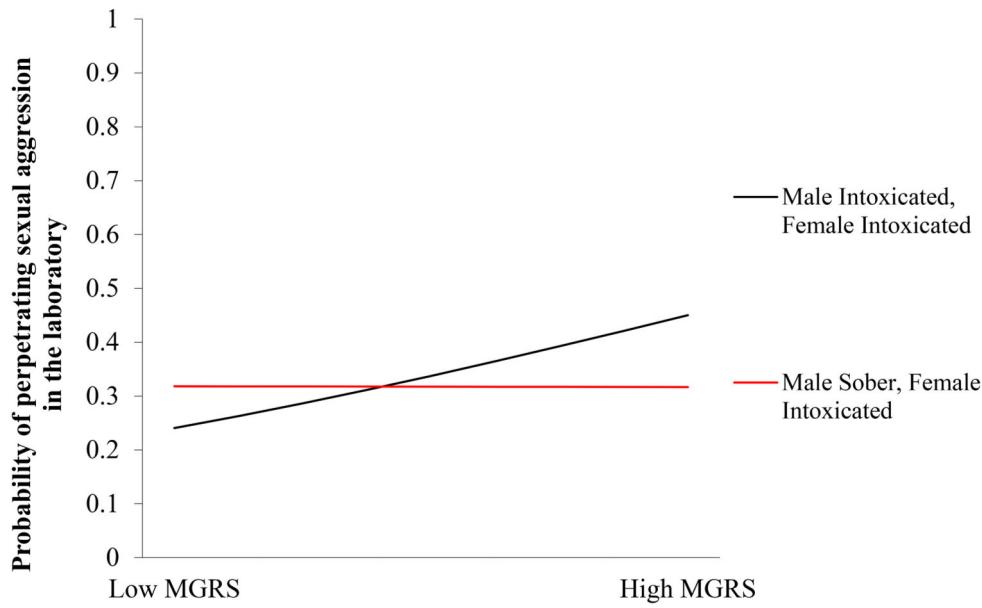
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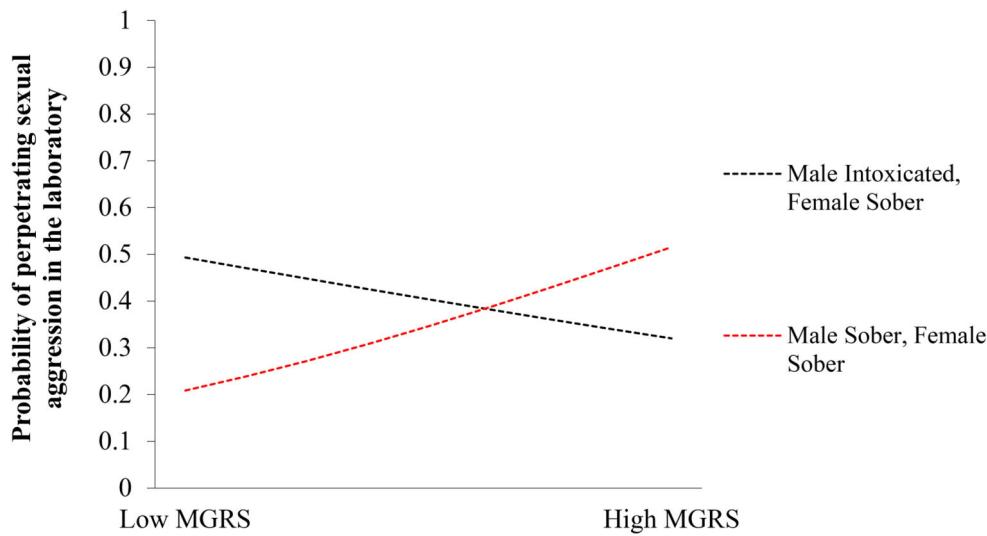
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a. The moderating effects of MGRS on the relation between acute alcohol intoxication and sexual aggression toward an ostensibly intoxicated female.



b. The moderating effects of MGRS on the relation between acute alcohol intoxication and sexual aggression toward an ostensibly sober female.

Figure 1.

Graphical depiction of the interactive effects of acute alcohol intoxication, female beverage condition, and MGRS on sexual aggression perpetration likelihood

Descriptive Statistics and Intercorrelations

Variable	Descriptives						Correlations					
	<i>M</i>	<i>SD</i>	Range	1.	2.	3.	4.	5.	6.	7.		
1. Beverage Condition	—	—	—	—	—	—	.16*	.07	—	—	.03	.000
2. Female Beverage Condition	—	—	—	—	—	—	—	.03	.04	—	—	.08
3. MGRS	1.66	.98	0-5	—	—	—	—	—	—	—	.05	.01
4. Alcohol Consumption	130.12	70.47	30-335	—	—	—	—	—	—	.01	.42**	—.03
5. Alcohol Quantity	5.05	3.12	2-23	—	—	—	—	—	—	.32**	.07	
6. Heavy Consumption	50.07	59.39	2-285	—	—	—	—	—	—	—	.04	
7. Laboratory Sexual Aggression	—	—	—	—	—	—	—	—	—	—	—	—

Note: *n* = 156; Beverage Condition: 0 = no alcohol, 1 = alcohol; Female Beverage Condition: 0 = no alcohol, 1 = alcohol; MGRS = masculine gender role stress; Alcohol Consumption = frequency of alcohol consumption in the past 12 months (in days); Alcohol Quantity = drinks per drinking day in past 12 months; Heavy Consumption = frequency of heavy consumption (5+ drinks) in the past 12 months

*
p < .05

**
p < .01

Table 1.

Table 2.

The interactive effects of acute alcohol intoxication, female beverage condition, and MGRS on sexual aggression perpetration likelihood.

	β	SE	OR	p	Lower Level 95% CI for OR	Upper Level 95% CI for OR
Step 1						
History of Sexual Aggression Perpetration	1.20	0.37	3.31	0.001	1.61	6.79
MGRS	0.11	0.18	1.12	0.528	0.79	1.59
Beverage Condition	0.16	0.35	1.18	0.639	0.60	2.33
Female Beverage Condition	-0.34	0.34	0.71	0.322	0.37	1.39
Step 2						
History of Sexual Aggression Perpetration	1.18	0.37	3.25	0.002	1.56	6.76
MGRS	0.70	0.48	2.01	0.149	0.78	5.18
Beverage Condition	0.25	0.53	1.28	0.639	0.46	3.58
Female Beverage Condition	-0.13	0.51	0.88	0.801	0.32	2.40
MGRS x Beverage Condition	-1.06	0.60	0.35	0.076	0.11	1.12
Beverage Condition x Female Beverage Condition	-0.16	0.72	0.86	0.828	0.21	3.49
MGRS x Female Beverage Condition	-0.70	0.56	0.50	0.21	0.17	1.48
MGRS x Beverage Condition x Female Beverage Condition	1.54	0.78	4.66	0.047	1.02	21.26

Note. MGRS=masculine gender role stress; Beverage Condition: 0 = no alcohol, 1 = alcohol; Female Beverage Condition: 0 = no alcohol, 1 = alcohol; Step 1: $\chi^2(4) = 15.07, p = .005$, Nagelkerke $R^2 = .12$, Step 2: $\chi^2(8) = 19.69, p = .012$, Nagelkerke $R^2 = .16$