

# Linking Masculinity to Negative Drinking Consequences: The Mediating Roles of Heavy Episodic Drinking and Alcohol Expectancies

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**ABSTRACT. Objective:** This study extends previous research on masculinity and negative drinking consequences among young men by considering mediating effects of heavy episodic drinking (HED) and alcohol expectancies. We hypothesized that masculinity would have a direct relationship with negative consequences from drinking as well as indirect relationships mediated by HED and alcohol expectancies of courage, risk, and aggression. **Method:** A random sample of 1,436 college and university men ages 19–25 years completed an online survey, including conformity to masculine norms, alcohol-related expectancies, HED, and negative drinking consequences. Regression analyses and structural equation modeling were used. **Results:** Six of seven dimensions of masculinity and the alcohol expectancy scales were significantly associated with both HED and negative consequences. In multivariate re-

gression models predicting HED and negative consequences, the playboy and violence dimensions of masculinity and the risk/aggression alcohol expectancy remained significant. HED and the risk-taking dimension of masculinity were also significant in the model predicting negative consequences. The structural equation model indicated that masculinity was directly associated with HED and negative consequences but also influenced negative consequences indirectly through HED and alcohol expectancies. **Conclusions:** The findings suggest that, among young adult male college and university students, masculinity is an important factor related to both HED and drinking consequences, with the latter effect partly mediated by HED and alcohol expectancies. Addressing male norms about masculinity may help to reduce HED and negative consequences from drinking. (*J. Stud. Alcohol Drugs*, 75, 510–519, 2014)

YOUNG MEN ARE MORE LIKELY than young women to engage in a wide range of health-risk behaviors, including excessive alcohol use, risky sexual behavior, aggression, and violence, resulting in enormous social and financial costs to individuals and communities (Courtenay, 2000a, 2000b; Patrick et al., 1997). Heavy episodic drinking (HED), in particular, occurs significantly more often among young men than young women (Adlaf et al., 2005; Engs et al., 1996; Fergusson et al., 1996; Komro et al., 1999; Swahn and Donovan, 2004; Wechsler et al., 1994, 1998) and results in considerable individual and social harms (Adlaf et al., 2005; Dahlberg, 1998; Fenzel, 2005; Hingson et al., 2002; Johnson, 1996; Mercy et al., 2003).

A social constructionist theory of gender provides a framework for understanding men's greater tendency to engage in health-risk behaviors compared with women (Cour-

tenay, 2000a). Courtenay (2000b) argues that “women and men think and act in the ways they do not because of their role identities or psychological traits but because of concepts about femininity and masculinity that they adopt from their culture” (p. 5). From a social constructionist standpoint, appropriate gender roles are learned and reinforced through social, cultural, and structural mechanisms. Men and women play an active role in shaping and reinforcing dominant gender norms. In this way, men and women “do gender” by demonstrating normative gender roles through their interactions with others (West and Zimmerman, 1987).

Masculine ideologies, defined as the internalization of cultural beliefs and attitudes about “maleness” and men's roles (Levant and Richmond, 2007), vary by cultural context and by social location according to race, social class, and sexual orientation (Brittan, 2001; Connell, 2005). Despite this diversity, there exists an idealized and dominant form of masculinity in Western societies, known as hegemonic masculinity, which underlies prevailing stereotypes and expectations of men (Connell, 2005; Courtenay, 2000a; Levant, 1996; Levant and Richmond, 2007; Pleck, 1995).

David and Brannon (1976) identified four dimensions of masculinity norms: (a) “no sissy stuff”—that men should reject “feminine” behaviors and beliefs; (b) “the big wheel”—

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that men should seek out success and achievement; (c) “the sturdy oak”—that men should be strong and not show weakness; and (d) “give ‘em hell”—that men should pursue adventure, even if it requires violence. These domains appear to remain relevant today. For example, a recent conceptualization of masculinity norms developed by Mahalik et al. (2003) (i.e., the Conformity to Masculine Norms Inventory [CMNI]) comprises the domains of emotional control (i.e., suppression of emotions), winning (i.e., drive to win), “playboy” (i.e., desire for multiple sexual partners and noncommittal relationships), violence (i.e., tendency to engage in physical confrontations), self-reliance (i.e., aversion to asking for help), risk taking (i.e., tendency to engage in risk behaviors), power over women (i.e., belief that men should control women), dominance (i.e., desire to control situations), primacy of work (i.e., work viewed as major part of life), pursuit of status (i.e., desire to be viewed as important), and heterosexual presentation (i.e., aversion to being viewed as gay).

In men’s efforts to adhere to these masculine norms, they may engage in practices that are harmful to themselves and to others (Courtenay, 2000b). Consistent with this argument, a growing body of evidence suggests that men who embrace traditional constructions of masculinity are more likely to engage in health-risk behaviors that increase the likelihood of illness, injury, and death (McCreary et al., 1999; Santana et al., 2006; see also Courtenay, 2000a, 2000b; Mahalik et al., 2006, 2007; Steers, 2010; White, 2004).

#### *Masculinity and alcohol consumption*

Alcohol consumption, in particular, has been found to be linked to masculinity. It has been shown to represent a symbol of male toughness and dominance (Capraro, 2000; Hunt and Laidler, 2001; Lemle and Mishkind, 1989; West, 2001) and provides a means by which men affirm and enact their masculinity—that is, show they are “real men” (Campbell, 2000; Capraro, 2000; Lemle and Mishkind, 1989; Pyke, 1996; West, 2001). For example, Peralta (2007) found that alcohol consumption and heavy drinking were interpreted by the majority of a sample of university students (68% of male and 73% of female participants) as masculine behaviors. Young men referred to getting drunk with their peers as a badge of male honor and reported pride in excessive alcohol consumption, which they interpreted as evidence of their power as men (Peralta, 2007). In an ethnographic study of pub drinking in New Zealand, Campbell (2000) found that enactment of masculinity involved consuming large quantities of beer, maintaining an appearance of bodily self-control to demonstrate their “drinking fitness,” and competitive interaction characterized by “conversational cockfighting.” These findings suggest that alcohol consumption in general, and public drinking in particular, may serve as a stage for the construction of masculinity.

Empirical evidence demonstrates an important link between

masculine norms and alcohol use. For example, Chomak and Collins (1987) found that self-reported scores of traditional masculine behavior among college men were positively correlated with alcohol consumption. Likewise, McCreary et al. (1999) found that endorsement of traditional attitudes about men (relating to status, toughness, and antifemininity) predicted higher scores on a combined measure of drinking quantity, drinking frequency, and frequency of intoxication. A study of Asian American college students found that three dimensions of the CMNI—namely, less emotional control, risk taking, and power over women—were associated with greater alcohol consumption and/or HED (Liu and Iwamoto, 2007). Finally, a recent study of college men found that being a playboy, risk taking, and the importance of winning were associated with an increased likelihood of drinking to intoxication (Iwamoto et al., 2011). On the other hand, the dimensions of primacy of work and heterosexual presentation were found to be negatively associated with intoxication.

#### *Masculinity and drinking consequences*

Evidence also suggests that masculine norms are linked to negative consequences from drinking (Iwamoto et al., 2011; Locke and Mahalik, 2005; McCreary et al., 1999). For example, using a shorter version of the original CMNI (Mahalik et al., 2003) developed by Parent and Moradi (2009; CMNI-46), Iwamoto et al. (2011) found that the dimensions of risk taking, playboy, and self-reliance were positively associated with the frequency of experiencing negative consequences (e.g., getting into fights) because of drinking. Locke and Mahalik (2005) found that eight dimensions of the CMNI (i.e., winning, risk taking, violence, power over women, dominance, playboy, self-reliance, and heterosexual presentation) were positively associated with sexual aggression among college men.

Both direct and indirect links between masculinity and drinking consequences are possible. A direct link might reflect that the enactment of masculinity entails adverse consequences, regardless of the level of drinking, with, for example, acts of risky sexual behavior or aggression being physical demonstrations of masculinity. An indirect effect through HED is also likely; that is, masculinity may increase the likelihood of engaging in HED, and, in turn, HED may increase the likelihood of experiencing adverse consequences, as has been shown for a variety of negative consequences including high-risk sexual behaviors, aggression, personal injuries, and trouble with the law (Giancola, 2002; Hingson et al., 2002, 2003; O’Hare, 1990; Roche and Watt, 1999; Strunin and Hingson, 1992; Wells and Graham, 2003; Wells et al., 2000). For example, McCreary et al. (1999) found that men’s traditional attitudes about men were positively associated with heavier drinking, which, in turn was linked to alcohol problems. However, these authors did not formally test for mediation.

*Masculinity and alcohol expectancies*

Alcohol expectancies, defined as people's beliefs about the effects of alcohol (Goldman et al., 1991), may be relevant to an examination of the links among masculinity, HED, and adverse drinking consequences. According to cognitive and social learning theories (Bandura, 1977, 1986), alcohol expectancies emerge through both observed and personal experiences with alcohol. With these learned expectations about the effects of alcohol, people engage in drinking behaviors to experience alcohol's expected effects (Brown et al., 1980; Goldman et al., 1987; Jones et al., 2001). Based on a gendered social learning perspective (Addis et al., 2010), men's experiences with alcohol, and thus their alcohol expectancies, are likely framed within the context of dominant constructions of masculinity. This may be especially true for alcohol expectancies that reflect stereotypically masculine characteristics, such as becoming courageous, aggressive, or willing to take risks. Alcohol expectancies have been shown to be associated with heavy drinking among college students (e.g., Fromme et al., 1993; Neighbors et al., 2003; Read et al., 2004; Sher et al., 1996; Wood et al., 1996). Studies have also found that men's heavier alcohol consumption is associated with "masculine" alcohol expectancies, including the notion that drinking will lead to aggressive behavior (Brown et al., 1980) and social assertiveness (Kidorf et al., 1995). Additionally, alcohol expectancies may be linked to adverse consequences. For example, although findings are mixed and may depend on individual characteristics (see Bushman and Cooper, 1990; Chermack and Giancola, 1997; Chermack and Taylor, 1995; Giancola and Zeichner, 1995), some evidence indicates that the expectancy that alcohol makes a person aggressive is associated with aggressive behavior when drinking (Leonard et al., 2003; Quigley et al., 2002). Thus, the relationship between masculinity and HED as well as adverse consequences may be explained, at least partly, by alcohol expectancies that are specifically related to masculinity concerns.

Overall, to our knowledge, no studies have examined the linkages among masculinity, HED, alcohol expectancies, and adverse drinking consequences. Only one study was found that examined the associations of masculine norms, alcohol expectancies, and drinking behavior (Iwamoto et al., 2014). This study found that the CMNI-46 (i.e., short version of the original CMNI) dimensions of playboy, winning (both positive associations), and power over women (an inverse association) were indirectly associated with alcohol use, with positive alcohol expectancies (i.e., comprising sociability, liquid courage, sexuality, risk, and aggression) mediating these associations. When alcohol expectancies were controlled for, direct positive associations with alcohol use were found for playboy and risk taking, whereas negative associations were found for emotional control and heterosexual presentation. Of note, the outcome variable used

in Iwamoto et al.'s (2014) analyses was a latent construct comprising drinking quantity, frequency, and HED, and the authors did not examine adverse drinking consequences. As well, their study sample was obtained through university subject pool and classroom recruitment. Therefore, it is important to examine associations for HED and drinking consequences in a random sample of young adult male college and university students.

*Study aims*

The aim of the present study was to assess the direct and indirect influence of masculinity on HED, alcohol expectancies, and negative drinking consequences among male college and university students. First, we investigated the associations between specific dimensions of the CMNI-46 with HED, alcohol expectancies, and negative drinking consequences. Second, we used structural equation modeling (SEM) to test a number of hypotheses about the associations between masculinity, alcohol expectancies, HED, and negative consequences. In the proposed model, masculinity was expected to have a direct association with HED. Masculinity was also expected to influence negative consequences both directly and indirectly, with the indirect link mediated by both HED and alcohol expectancies relating to courage, risk, and aggression.

**Method***Participants*

A random sample of 4,000 men ages 19–25 years registered at a community college or at a university in a midsized city in southwestern Ontario (2,000 at each institution) was invited to participate in an online survey. Participants were paid \$20 for completing the questionnaire and had the opportunity to win one of two cash prizes of \$500 and five cash prizes of \$200. A total of 1,637 students participated (response rate = 41%). The final sample of 1,436 excludes 186 participants who did not complete the masculinity inventory (i.e., CMNI-46) and 15 invalid cases (i.e., highly inconsistent responses, large number of missing responses). About half of the final sample was from each institution (48.3% from the college and 51.7% from the university). Study methods and measures were reviewed and approved by the research ethics boards at the community college, the university, and the Centre for Addiction and Mental Health.

*Measures*

*Heavy episodic drinking.* Participants were asked, "During the past month, on a single occasion, how many times did you have 5 to 7 drinks, 8 to 11 drinks, and 12 drinks or more?" The responses to the latter two questions were used

to form a variable indicating number of occasions in the previous month in which the respondent consumed eight or more drinks. A cutoff of eight or more drinks was selected because evidence suggests that higher cutoffs than the traditional five or more drinks may be more useful in predicting alcohol-related harms, particularly among male college students (Jackson, 2008), who tend to consume large amounts per occasion (O'Malley and Johnston, 2002). Because of the skewed distribution of this variable, it was dichotomized to distinguish respondents who reported less than one HED occasion per week versus those who reported one or more HED occasions per week.

*Negative drinking consequences.* A list of seven negative consequences (see list in Table 1) associated with drinking was adapted from an instrument used in a national survey of Canadian university students (Adlaf et al., 2005), with the addition of one item on physical aggression. The consequences measured correspond to the research literature on drinking problems, particularly research on college populations (e.g., Wechsler and Nelson, 2001). Participants were asked if they had experienced these consequences in the previous 12 months (coded as 0 = no and 1 = yes for each consequence). The total number of consequences was used in multivariate models.

*The Conformity to Masculine Norms Inventory-46 (CMNI-46).* The CMNI-46 (Parent and Moradi, 2009) is a short form of the CMNI (Mahalik et al., 2003) consisting of nine dimensions. Seven dimensions most relevant to the present study were used, namely: (a) winning (six items, e.g., "In general, I do anything to win"); (b) emotional control (six items, e.g., "I tend to keep my feelings to myself"); (c) risk taking (five items, e.g., "I frequently put myself in risky situations"); (d) violence (six items, e.g., "Sometimes violent action is necessary"); (e) power over women (four items, e.g., "In general, I control the women in my life"); (f) playboy (four items, e.g., "If I could, I would frequently change sexual partners"); and (g) heterosexual presentation (six items, e.g., "I would be furious if someone thought I was gay"). Participants responded to items with 4-point Likert scales ranging from 0 (*strongly disagree*) to 3 (*strongly agree*). Cronbach's  $\alpha$  for these scales based on the current data ranged from .77 to .88.

*Comprehensive Effects of Alcohol.* We used two scales from the Comprehensive Effects of Alcohol (CEOA; Fromme et al., 1993) that reflected concepts linked to masculinity: liquid courage and risk/aggression. Participants were asked the extent to which they agreed with statements about how they would feel or behave when under the influence of alcohol (e.g., for the risk and aggression subscale, "I would take risks" and "I would act tough," and for the liquid courage subscale, "I would feel brave and daring" and "I would feel powerful"). Items are presented on a 4-point Likert scale (1 = *disagree*, 4 = *agree*). The CEOA and its subscales have been shown to have good construct validity and internal con-

sistency reliability (Fromme and D'Amico, 2000; Fromme et al., 1993). Cronbach's  $\alpha$  for the current sample was .79 for both the liquid courage and the risk/aggression subscales.

*Demographic variables.* The demographic variables of interest were age, institution type (college, university) and residence (with family [reference group], off campus but not with family, on campus).

### Analyses

First, descriptive statistics and correlations among all study variables were produced. Second, multiple logistic and Poisson regression analyses were performed to investigate the associations of individual CMNI-46 dimensions with HED and number of negative drinking consequences (specified as a count variable), respectively. Third, SEM was used to test associations among masculinity, alcohol outcome expectancies, HED, and negative consequences in a two-step SEM approach (see Kline, 2011) consisting of an initial analysis of the measurement model (i.e., how well the latent variables are defined by the indicator variables) followed by an analysis of the full structural equation model. Refinements to the models were performed by modifying one parameter at a time and re-investigating the model. Analyses were performed with Mplus Version 6.12 (Muthén and Muthén, 1998–2012) using a weighted least squares estimation (WLSMV in Mplus) to account for outcome variables that were not measured on a continuous scale but on binary or ordered scales (i.e., negative consequences and HED). This estimator uses probit regressions. Missing values were estimated based on the available data using a maximum likelihood approach in Mplus. In the SEM analysis, masculinity was conceptualized as one latent variable encompassing the seven domains of the CMNI-46 that were assessed. Negative consequences were also conceptualized as a latent variable depicting the likelihood of experiencing negative consequences. The two alcohol outcome expectancies (liquid courage and risk/aggression) were combined to form one latent expectancy variable. Development of a structural equation model allowed for direct and indirect (mediated) effects to be tested simultaneously.

## Results

### Descriptive statistics

Table 1 provides descriptive statistics for all variables included in the present analyses. Almost one fifth of participants reported consuming eight or more drinks on a single occasion at least once per week. The most common negative consequences attributable to drinking were doing something you regretted (46.6%), getting into a serious argument (30.3%), having unplanned sex (29.5%), getting injured or hurt (26.0%), and having unsafe sex (23.2%). The means and



standard deviations for the CMNI-46 dimensions are also shown in Table 1. These results closely mirror those found by Iwamoto et al. (2011) in their study of male undergraduate university students in Southern California.

Pearson correlations among all of the study variables were examined. With the exception of the emotional control dimension of the CMNI-46, all masculinity domains were significantly ( $p < .01$ ) and positively associated with HED ( $r = .09-.28$ ), negative drinking consequences ( $r = .13-.35$  for number of consequences), and the two alcohol expectancy scales ( $r = .15-.29$  for risk/aggression and  $r = .11-.26$  for liquid courage), with the largest correlations found for the playboy, risk-taking, and violence dimensions of the CMNI-46. HED was positively associated with each of the eight negative drinking consequences ( $r = .21-.32$ ). The two alcohol expectancy scales were positively associated with HED ( $r = .25$  and  $.16$  for risk/aggression and liquid courage, respectively) and all negative drinking consequences ( $r = .13-.34$  and  $.10-.21$  for risk/aggression and liquid courage, respectively).

#### *Associations of masculinity dimensions with heavy episodic drinking and number of negative drinking consequences*

As shown in Table 2, in a multivariate logistic regression model, the violence and playboy dimensions of the CMNI-46 remained significantly associated with HED after all other dimensions of the CMNI-46, alcohol expectancies, age, residence, and institution were controlled for. As well, the risk/aggression alcohol expectancy scale remained significantly associated with HED. Age was negatively associated with HED, and living off campus (not with family) was associated with a greater likelihood of engaging in HED compared with living with family. Institution was also associated with HED, with those attending college more likely to report HED compared with university students.

As also shown in Table 2, a multiple Poisson regression model of negative consequences regressed onto the explanatory variables (including HED) revealed significant associations for the emotional control (negative association), risk taking, violence, and playboy subscales of the CMNI-46. Also significant were HED, the risk/aggression alcohol expectancy scale, age (negative association), residence (students living off campus and living on campus at higher risk for negative consequences than those living with family), and institution (students attending community college more likely to experience negative consequences than university students).

#### *Structural equation model linking masculinity, heavy episodic drinking, alcohol expectancies, and drinking consequences*

The final structural equation model is presented in Figure 1. Prior SEM analyses included testing an initial measure-

TABLE 1. Descriptive statistics for HED, negative drinking consequences, masculinity, alcohol expectancies, and demographics

Variable	<i>M</i> or %	<i>SD</i>	Range
HED ( $\geq 8$ drinks)	19.2%		
Negative drinking consequences			
Drink and drive	8.7%		
Did something regretted	46.6%		
Unplanned sex	29.5%		
Unsafe sex	23.2%		
Trouble with police	9.8%		
Injured or hurt	26.0%		
Serious argument	30.3%		
Physical fight	16.5%		
Masculinity (CMNI-46)			
Winning	9.50	3.24	0–18
Emotional control	8.57	3.44	0–18
Risk taking	6.98	2.31	0–15
Violence	9.88	3.45	0–18
Power over women	3.51	2.33	0–12
Playboy	4.93	2.89	0–12
Heterosexual presentation	9.75	4.08	0–18
Alcohol expectancies (CEOA)			
Risk/aggression	12.31	2.86	5–20
Liquid courage	13.43	2.66	5–20
Age	20.64	1.60	18–25
Institution			
Community college	48.3%		
University	51.7%		
Living arrangement			
On-campus residence	14.7%		
With family	23.8%		
Off campus not with family	61.6%		

Notes: HED = heavy episodic drinking; CMNI-46 = Conformity to Masculine Norms Inventory-46; CEOA = Comprehensive Effects of Alcohol.

ment model. Specifically, inspection of the loadings led to a decision to remove the emotional control indicator variable from the model because its loading on the masculinity latent variable was too small (standardized loading was .12). This finding is consistent with the low correlation between emotional control and all other variables. No other measurement modifications were required. The final model had good fit with  $\chi^2(162) = 608.54$ ,  $p < .001$ , and comparative fit index = .94, Tucker–Lewis index = .93 and root mean square error of approximation = .04. All the indices support the model as a close fit to the data. All parameters in the final model in Figure 1 were statistically significant with the exception of the correlation between masculinity and age. The model in Figure 1 shows that masculinity was directly associated with HED (.46) and with negative drinking consequences (.28). An indirect link between masculinity and negative drinking consequences was found through both alcohol expectancy and HED. These two indirect effects have standardized regression coefficients of .19 and .12 respectively, and both were significant at  $p < .001$  (based on bootstrapped standard errors associated with the unstandardized coefficients). Given that the total effect of masculinity on negative drinking consequences was .62, the two mediated effects account for 30.5% (.189 / .619) and 20.0% (.124 / .619) of the total effect, respectively. The mediated effect of expectancy in

TABLE 2. Multivariate logistic and Poisson regression models showing the associations of dimensions of masculinity with heavy episodic drinking (HED) and number of negative drinking consequences controlling for other variables

Explanatory variable	HED ( $\geq 8$ drinks)		No. of negative consequences	
	OR	[95% CI]	OR	[95% CI]
HED	–	–	1.18***	[1.14, 1.21]
Masculinity (CMNI-46)				
Winning	1.03	[0.97, 1.08]	1.01	[0.99, 1.02]
Emotional control	1.02	[0.97, 1.06]	0.98***	[0.97, 0.99]
Risk taking	1.02	[0.95, 1.10]	1.04***	[1.02, 1.06]
Violence	1.10***	[1.04, 1.16]	1.03***	[1.02, 1.05]
Power over women	1.00	[0.93, 1.07]	1.00	[0.98, 1.02]
Playboy	1.21***	[1.13, 1.28]	1.07***	[1.05, 1.08]
Heterosexual presentation	1.01	[0.96, 1.05]	1.01	[0.99, 1.02]
Alcohol expectancies (CEOA)				
Risk/aggression	1.20***	[1.11, 1.29]	1.10***	[1.08, 1.12]
Liquid courage	0.98	[0.91, 1.06]	1.01	[0.99, 1.03]
Age	0.85**	[0.77, 0.95]	0.96**	[0.94, 0.99]
Residence (off campus vs. with family)	2.25***	[1.45, 3.50]	1.43***	[1.27, 1.61]
Residence (on campus vs. with family)	1.34	[0.75, 2.38]	1.39***	[1.20, 1.62]
Institution	0.62**	[0.46, 0.85]	0.78***	[0.71, 0.85]

Notes: No. = number; OR = odds ratio; CI = confidence interval.

\*\* $p < .01$ ; \*\*\* $p < .001$ .

the relationship between masculinity and HED had a standardized coefficient value of .07 (representing 12.9% of the total effect of masculinity on HED) but was not statistically significant ( $p = .070$ ). Finally, we tested the mediated effect for masculinity through alcohol expectancy to HED and then through HED to drinking consequences, but this was found to be nonsignificant ( $p = .069$ ).

## Discussion

Our findings support previous research indicating that men who endorse traditional constructions of masculinity are more likely to drink heavily and to experience negative drinking consequences (Chomak and Collins, 1987; Iwamoto et al., 2011; Liu and Iwamoto, 2007; McCreary et al., 1999). Six of the seven dimensions of masculinity as measured by the CMNI-46 (winning, risk taking, violence, power over women, playboy, heterosexual presentation) were found to be positively associated with both HED and negative drinking consequences. Thus, the findings suggest that, for young adult male college and university students, HED and drinking consequences are embedded within a culture largely defined by concerns about masculinity.

The findings are consistent with those of Iwamoto et al. (2014) who found that winning, risk taking, violence, power over women, and playboy were positively correlated with HED. In the present study, the playboy and violence dimensions of the CMNI-46 were most strongly associated with HED and remained significantly associated with HED in a multivariate model that controlled for the other CMNI-46 dimensions as well as for institution, age, and living arrangement. The playboy dimension of the CMNI-46 reflects the extent to which men enjoy having multiple sexual partners

and prefer sexual relationships without emotional attachment. A common perception among young men is that heavy drinking and sexual activity go hand in hand. As Kimmel (2008) notes, young men believe that their sexual encounters are facilitated by the consumption of large amounts of alcohol. Thus, the present results suggest that, for young adult men, finding casual sexual partners may be a motivating factor for engaging in HED. Moreover, young men who endorse traditional masculine norms may engage in HED with the expectation that alcohol will facilitate sexual encounters or promote sexual risk taking.

The link between the violence dimension of the CMNI-46 and HED is consistent with evidence that drinking is linked to violence (Bushman, 1997) and aggressive disposition (Tremblay and Ewart, 2005). Moreover, given that this aspect of masculinity captures the extent to which violence is considered to be acceptable, necessary, and justified, this finding is also consistent with evidence that young men's attitudes about the normality and acceptability of male-to-male aggression in bars is linked to HED (Wells et al., 2013) and suggests that normative attitudes play a large role in young men's drinking behavior and alcohol-related consequences. Interestingly, Iwamoto et al. (2014) found that the violence dimension of the CMNI-46 was positively associated with HED but not with drinking frequency or quantity per occasion. Thus, violence may be an important predictor of HED but less important as a factor for other drinking patterns.

All of the CMNI-46 dimensions included in this study were also significantly associated with negative drinking consequences, with the exception of emotional control, with the largest correlations found for the risk-taking, violence, and playboy dimensions. These dimensions remained significant in a multiple regression model that included the

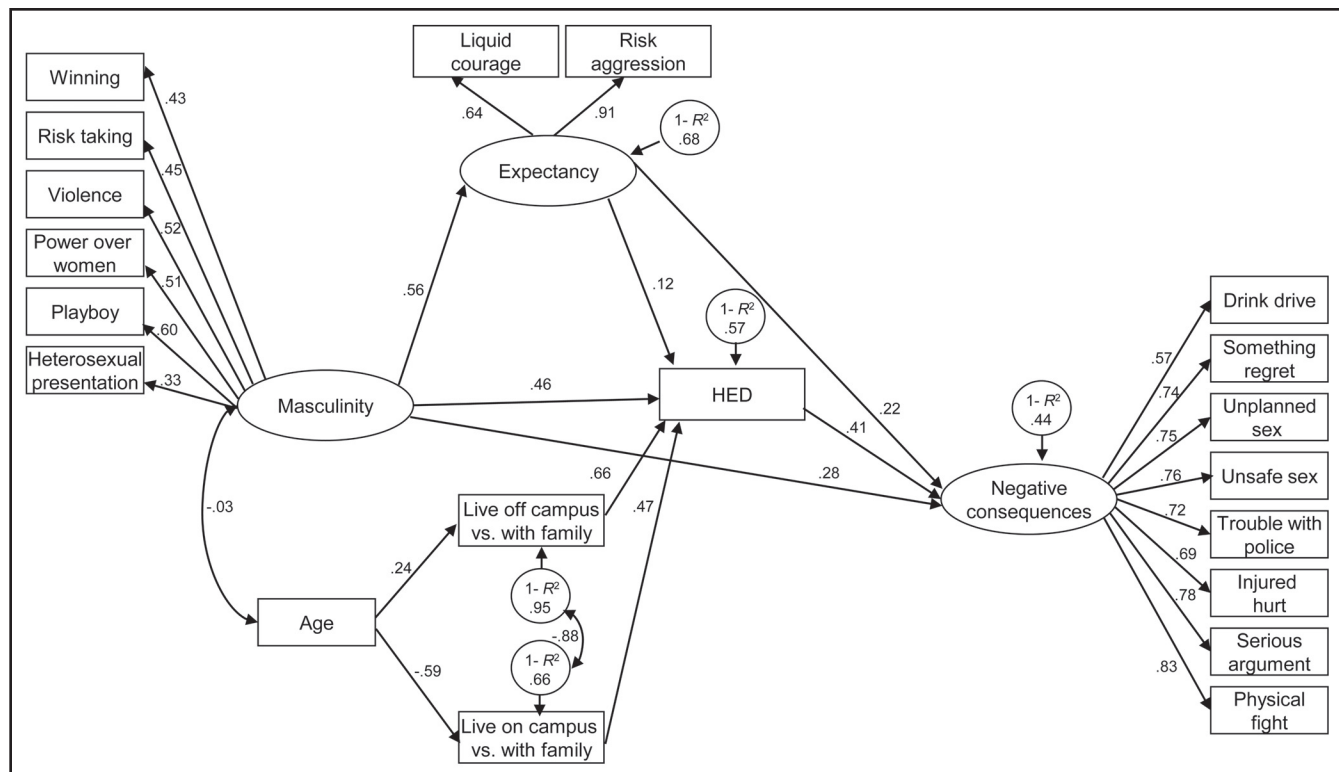


FIGURE 1. Structural equation model for associations among masculinity, heavy episodic drinking (HED), alcohol expectancies, and negative drinking consequences. *Note:* All coefficients (standardized) are significant at  $\alpha = .001$  except the effect of expectancy on HED, which is significant at  $p < .05$ , and the correlation between masculinity and age, which is nonsignificant.

CMNI-46 variables, alcohol expectancies, HED, and control variables. These findings indicate that masculine norms independently influence adverse drinking consequences over and above the effect of HED, especially norms related to the risk taking, violence, and playboy dimensions, consistent with findings by Iwamoto et al. (2011). The association of risk taking with negative drinking consequences is consistent with evidence that impulsivity and risk-taking behavior are linked to alcohol-related problems (e.g., von Diemen et al., 2008). However, such research has not conceptualized impulsivity/risk taking as being a specific component of masculine norms. Therefore, further research is needed that examines the link between masculinity and risk taking/impulsivity, as also suggested by Iwamoto et al. (2011).

The link between the playboy dimension of the CMNI-46 and adverse drinking consequences likely reflects the relation between this aspect of masculinity and consequences resulting from sexual promiscuity, as indicated by correlations found between playboy and unplanned ( $r = .20$ ) and unsafe sex ( $r = .29$ ). Similarly, the link between the violence dimension of the CMNI-46 and overall negative consequences may partly reflect the correlations of violence with arguments ( $r = .22$ ) and fights ( $r = .23$ ). The significant negative correlation between emotional control and negative consequences in the multivariate model may be a spurious effect attributable to

significant associations between this variable and other dimensions of the CMNI-46 (Cohen and Cohen, 1983), given the close to zero bivariate correlation between emotional control and negative consequences.

The present findings extend the literature by identifying important mediating pathways between masculine norms, HED, alcohol expectancies, and negative drinking consequences. Masculinity was linked directly to negative consequences as well as being indirectly linked through HED and alcohol expectancies. The results suggest that men who embrace traditional constructions of masculinity are not only more likely to experience harms from drinking as a consequence of their masculine norms, they may also develop expectations regarding the effects of alcohol that match their masculine ideals, such as believing alcohol will make them become more aggressive, courageous, or more likely to take more risks. In turn, these alcohol expectancies may further influence the likelihood that they will engage in behaviors when drinking that put them at risk for adverse consequences. Additionally, as hypothesized, HED was also found to partially mediate the link between masculinity and negative drinking consequences, suggesting that men who conform to traditional constructions of masculinity tend to drink heavily. In turn, drinking heavily puts them at higher risk for adverse consequences.

Although Iwamoto et al. (2014) found evidence that the relation between masculinity and HED was mediated by alcohol expectancies, the present findings only suggest a trend toward this effect, with the mediating effect approaching significance ( $p = .070$ ). Differences in results may be attributable to a number of factors, including differences in measurement of alcohol expectancies and alcohol use. In addition, inclusion of adverse consequences in the present structural equation model may have reduced associations among masculinity, alcohol expectancies, and HED, thereby attenuating this mediating effect. Overall, further research is needed to test whether alcohol expectancies mediate the link between masculinity and men's drinking behavior.

A limitation of the present study is that the data are based on a sample of college and university students. The response rate, although comparable to other studies of college populations, was less than desirable. However, the pattern of findings was very similar to those of Iwamoto et al.'s (2011) research on male undergraduate university students in Southern California, confirming a general pattern of findings among postsecondary students. Another limitation is that the study was cross-sectional. Longitudinal research on male adolescents and their journey into young adulthood could provide more precise information about the interplay between adherence to masculinity ideology, alcohol expectancies, heavy drinking, and drinking consequences. Finally, because of small group sizes, it was not possible to examine racial/ethnic differences as well as differences in sexual orientation in terms of relationships among masculine norms, alcohol expectancies, and alcohol outcomes. Although Iwamoto et al. (2014) found no evidence that these associations operated differently for Asian Americans compared with Whites, future research is needed on constructions of masculinity and drinking behavior in different cultures and subcultures.

Overall, the present findings suggest that concerns about masculinity among young adult men are strongly linked to their drinking behavior and expectancies about the effects of alcohol, putting them at greater risk for negative consequences from drinking. Thus, it is imperative that we gain a better understanding of this culture of masculinity to shed light on men's drinking behavior and reduce the associated health and social harms. The importance of masculinity in young men's drinking and experiences of alcohol-related harm suggests that programs are needed that challenge traditional constructions of masculinity. For example, evidence suggests that the connection between alcohol consumption and masculinity is reinforced through media portrayals of alcohol use as a manly activity (Hill, 1999; Law, 1997; Smith, 2005; see also Hill and Casswell, 2004). Thus, media literacy programs that educate young people on how to recognize and be critical of messages about alcohol conveyed in popular media may be needed. Additionally, prevention initiatives may need to focus on particular aspects of masculinity found to be associated with HED and alcohol-related harm. For

example, given that young men who valued sexual promiscuity and having multiple sexual partners (as reflected in the playboy dimension of the CMNI-46) tended to engage in HED and experienced more adverse drinking consequences, prevention initiatives may be needed that address men's perceptions (and misperceptions) about alcohol and sexual behavior. In addition, expectancies about aggression and risk-taking behavior when drinking were found to partially mediate the relationship between masculinity and negative drinking consequences, suggesting that focusing on perceptions about the effects of alcohol, especially as they relate to masculine norms, may be an important area for future research and prevention programming.

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### References

- Addis, M. E., Mansfield, A. K., & Syzdek, M. R. (2010). Is "masculinity" a problem?: Framing the effects of gendered social learning in men. *Psychology of Men & Masculinity, 11*, 77–90.
- Adlaf, E. M., Demers, A., & Gliksman, L. (2005). *Canadian Campus Survey 2004*. Toronto: Centre for Addiction and Mental Health. Retrieved from [http://www.camh.ca/en/research/research\\_areas/community\\_and\\_population\\_health/Documents/CCS\\_2004\\_report.pdf](http://www.camh.ca/en/research/research_areas/community_and_population_health/Documents/CCS_2004_report.pdf)
- Bandura, A. (1977). *Social learning theory*. Oxford, England: Prentice-Hall.
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall.
- Brittan, A. (2001). Masculinities and masculinism. In S. M. Whitehead & F. J. Barrett (Eds.), *The masculinities reader* (pp. 51–55). Cambridge, England: Polity Press.
- Brown, S. A., Goldman, M. S., Inn, A., & Anderson, L. R. (1980). Expectations of reinforcement from alcohol: Their domain and relation to drinking patterns. *Journal of Consulting and Clinical Psychology, 48*, 419–426.
- Bushman, B. J. (1997). Effects of alcohol on human aggression: Validity of proposed explanations. In M. Galanter (Ed.), *Recent developments in alcoholism* (Vol. 13, pp. 227–243). New York, NY: Plenum Press.
- Bushman, B. J., & Cooper, H. M. (1990). Effects of alcohol on human aggression: An integrative research review. *Psychological Bulletin, 107*, 341–354.
- Campbell, H. (2000). The glass phallus: Pub(lic) masculinity and drinking in rural New Zealand. *Rural Sociology, 65*, 562–581.
- Capraro, R. L. (2000). Why college men drink: Alcohol, adventure, and the paradox of masculinity. *Journal of American College Health, 48*, 307–315.
- Chermack, S. T., & Giancola, P. R. (1997). The relation between alcohol and aggression: An integrated biopsychosocial conceptualization. *Clinical Psychology Review, 17*, 621–649.
- Chermack, S. T., & Taylor, S. P. (1995). Alcohol and human physical aggression: Pharmacological versus expectancy effects. *Journal of Studies on Alcohol, 56*, 449–456.
- Chomak, S., & Collins, R. L. (1987). Relationship between sex-role behaviors and alcohol consumption in undergraduate men and women. *Journal of Studies on Alcohol, 48*, 194–200.
- Cohen, J., & Cohen, P. (1983). *Applied multiple regression/correlation analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Erlbaum Associates.



- Connell, R. W. (2005). *Masculinities* (2nd ed.). Berkeley, CA: University of California Press.
- Courtenay, W. H. (2000a). Constructions of masculinity and their influence on men's well-being: A theory of gender and health. *Social Science & Medicine*, 50, 1385–1401.
- Courtenay, W. H. (2000b). Engendering health: A social constructionist examination of men's health beliefs and behaviors. *Psychology of Men & Masculinity*, 1, 4–15.
- Dahlberg, L. L. (1998). Youth violence in the United States: Major trends, risk factors, and prevention approaches. *American Journal of Preventive Medicine*, 14, 259–272.
- David, D., & Brannon, R. (1976). The male sex role: Our culture's blueprint for manhood, and what it's done for us lately. In D. David & R. Brannon (Eds.), *The forty-nine percent majority: The male sex role* (pp. 1–45). Reading, MA: Addison-Wesley.
- Engs, R. C., Hanson, D. J., & Diebold, B. A. (1996). The drinking patterns and problems of a national sample of college students, 1994. *Journal of Alcohol and Drug Education*, 41, 13–33.
- Fenzel, L. M. (2005). Multivariate analyses of predictors of heavy episodic drinking and drinking-related problems among college students. *Journal of College Student Development*, 46, 126–140.
- Fergusson, D. M., Lynskey, M. T., & Horwood, L. J. (1996). Alcohol misuse and juvenile offending in adolescence. *Addiction*, 91, 483–494.
- Fromme, K., & D'Amico, E. J. (2000). Measuring adolescent alcohol outcome expectancies. *Psychology of Addictive Behaviors*, 14, 206–212.
- Fromme, K., Stroot, E. A., & Kaplan, D. (1993). Comprehensive effects of alcohol: Development and psychometric assessment of a new expectancy questionnaire. *Psychological Assessment*, 5, 19–26.
- Giancola, P. R. (2002). Alcohol-related aggression during the college years: Theories, risk factors and policy implications. *Journal of Studies on Alcohol, Supplement 14*, 129–139.
- Giancola, P. R., & Zeichner, A. (1995). An investigation of gender differences in alcohol-related aggression. *Journal of Studies on Alcohol*, 56, 573–579.
- Goldman, M., Brown, S., & Christiansen, B. (1987). Expectancy theory: Thinking about drinking. In H. Blane & K. Leonard (Eds.), *Psychological theories of drinking and alcoholism* (pp. 181–26). New York, NY: Guilford Press.
- Goldman, M. S., Brown, S. A., Christiansen, B. A., & Smith, G. T. (1991). Alcoholism and memory: Broadening the scope of alcohol-expectancy research. *Psychological Bulletin*, 110, 137–146.
- Hill, L. (1999). What it means to be a Lion Red Man: Alcohol advertising and Kiwi masculinity. *Women's Studies Journal*, 15, 65–85.
- Hill, L., & Casswell, S. (2004). Alcohol advertising and sponsorship: Commercial freedom or control in the public interest? In N. Heather & T. Stockwell (Eds.), *The essential handbook of treatment and prevention of alcohol problems*. Chichester, England: John Wiley & Sons Ltd.
- Hingson, R., Heeren, T., Zakocs, R., Winter, M., & Wechsler, H. (2003). Age of first intoxication, heavy drinking, driving after drinking and risk of unintentional injury among U.S. college students. *Journal of Studies on Alcohol*, 64, 23–31.
- Hingson, R. W., Heeren, T., Zakocs, R. C., Kopstein, A., & Wechsler, H. (2002). Magnitude of alcohol-related mortality and morbidity among U.S. college students ages 18–24. *Journal of Studies on Alcohol*, 63, 136–144.
- Hunt, G. P., & Laidler, K. J. (2001). Alcohol and violence in the lives of gang members. *Alcohol Research and Health*, 25, 66–71.
- Iwamoto, D. K., Cheng, A., Lee, C. S., Takamatsu, S., & Gordon, D. (2011). “Man-ing” up and getting drunk: The role of masculine norms, alcohol intoxication and alcohol-related problems among college men. *Addictive Behaviors*, 36, 906–911.
- Iwamoto, D. K., Corbin, W., Lejuez, C., & MacPherson, L. (2014). College men and alcohol use: Positive alcohol expectancies as a mediator between distinct masculine norms and alcohol use. *Psychology of Men & Masculinity*, 15, 29–39.
- Jackson, K. M. (2008). Heavy episodic drinking: Determining the predictive utility of five or more drinks. *Psychology of Addictive Behaviors*, 22, 68–77.
- Johnson, H. (1996). *Dangerous domains. Violence against women in Canada*. Toronto, Ontario: Nelson Canada.
- Jones, B. T., Corbin, W., & Fromme, K. (2001). A review of expectancy theory and alcohol consumption. *Addiction*, 96, 57–72.
- Kidorf, M., Sherman, M. F., Johnson, J. G., & Bigelow, G. E. (1995). Alcohol expectancies and changes in beer consumption of first-year college students. *Addictive Behaviors*, 20, 225–231.
- Kimmel, M. (2008). *Guyland: The perilous world where boys become men*. New York, NY: HarperCollins Publishers.
- Kline, R. B. (2011). *Principles and practice of structural equation modeling* (3rd ed.). New York, NY: Guilford Press.
- Komro, K. A., Williams, C. L., Forster, J. L., Perry, C. L., Farbachsh, K., & Stigler, M. H. (1999). The relationship between adolescent alcohol use and delinquent and violent behaviors. *Journal of Child & Adolescent Substance Abuse*, 9, 13–28.
- Law, R. (1997). Masculinity, place, and beer advertising in New Zealand: The Southern Man campaign. *New Zealand Geographer*, 53, 22–28.
- Lemle, R., & Mishkind, M. E. (1989). Alcohol and masculinity. *Journal of Substance Abuse Treatment*, 6, 213–222.
- Leonard, K. E., Collins, R. L., & Quigley, B. M. (2003). Alcohol consumption and the occurrence and severity of aggression: An event-based analysis of male to male barroom violence. *Aggressive Behavior*, 29, 346–365.
- Levant, R. F. (1996). The new psychology of men. *Professional Psychology: Research and Practice*, 27, 259–265.
- Levant, R. F., & Richmond, K. (2007). A review of research on masculinity ideologies using the male role norms inventory. *Journal of Men's Studies*, 15, 130–146.
- Liu, W. M., & Iwamoto, D. K. (2007). Conformity to masculine norms, Asian values, coping strategies, peer group influences and substance use among Asian American men. *Psychology of Men & Masculinity*, 8, 25–39.
- Locke, B. D., & Mahalik, J. R. (2005). Examining masculinity norms, problem drinking, and athletic involvement as predictors of sexual aggression in college men. *Journal of Counseling Psychology*, 52, 279–283.
- Mahalik, J. R., Burns, S. M., & Syzdek, M. (2007). Masculinity and perceived normative health behaviors as predictors of men's health behaviors. *Social Science & Medicine*, 64, 2201–2209.
- Mahalik, J. R., Lagan, H. D., & Morrison, J. A. (2006). Health behaviors and masculinity in Kenyan and U.S. male college students. *Psychology of Men & Masculinity*, 7, 191–202.
- Mahalik, J. R., Locke, B. D., Ludlow, L. H., Diemer, M. A., Scott, R. P. J., Gottfried, M., & Freitas, G. (2003). Development of the Conformity to Masculine Norms Inventory. *Psychology of Men & Masculinity*, 4, 3–25.
- McCreary, D. R., Newcomb, M. D., & Sadava, S. W. (1999). The male role, alcohol use, and alcohol problems: A structural modeling examination in adult women and men. *Journal of Counseling Psychology*, 46, 109–124.
- Mercy, J. A., Krug, E. G., Dahlberg, L. L., & Zwi, A. B. (2003). Violence and health: The United States in a global perspective. *American Journal of Public Health*, 93, 256–261.
- Muthén, L. K., & Muthén, B. O. (1998–2012). *Mplus user's guide* (7th ed.). Los Angeles, CA: Authors.
- Neighbors, C., Walker, D. D., & Larimer, M. E. (2003). Expectancies and evaluations of alcohol effects among college students: self-determination as a moderator. *Journal of Studies on Alcohol*, 64, 292–300.
- O'Hare, T. M. (1990). Drinking in college: consumption patterns, problems, sex differences and legal drinking age. *Journal of Studies on Alcohol*, 51, 536–541.

- O'Malley, P. M., & Johnston, L. D. (2002). Epidemiology of alcohol and other drug use among American college students. *Journal of Studies on Alcohol, Supplement 14*, 23–39.
- Parent, M. C., & Moradi, B. (2009). Confirmatory factor analysis of the Conformity to Masculine Norms Inventory and development of the Conformity to Masculine Norms Inventory-46. *Psychology of Men & Masculinity, 10*, 175–189.
- Patrick, K., Covin, J. R., Fulop, M., Calfas, K., & Lovato, C. (1997). Health risk behaviors among California college students. *Journal of American College Health, 45*, 265–272.
- Peralta, R. L. (2007). College alcohol use and the embodiment of hegemonic masculinity among European American men. *Sex Roles, 56*, 741–756.
- Pleck, J. H. (1995). The gender role strain paradigm. An update. In R. F. Levant & W. S. Pollack (Eds.), *A new psychology of men* (pp. 11–32). New York, NY: Basic Books.
- Pyke, K. D. (1996). Class-based masculinities: The interdependence of gender, class, and interpersonal power. *Gender & Society, 10*, 527–549.
- Quigley, B. M., Corbett, A. B., & Tedeschi, J. T. (2002). Desired image of power, alcohol expectancies, and alcohol-related aggression. *Psychology of Addictive Behaviors, 16*, 318–324.
- Read, J. P., Wood, M. D., Lejuez, C. W., Palfai, T. P., & Slack, M. (2004). Gender, alcohol consumption, and differing alcohol expectancy dimensions in college drinkers. *Experimental and Clinical Psychopharmacology, 12*, 298–308.
- Roche, A. M., & Watt, K. (1999). Drinking and university students: From celebration to inebriation. *Drug and Alcohol Review, 18*, 389–399.
- Santana, M. C., Raj, A., Decker, M. R., La Marche, A., & Silverman, J. G. (2006). Masculine gender roles associated with increased sexual risk and intimate partner violence perpetration among young adult men. *Journal of Urban Health, 83*, 575–585.
- Sher, K. J., Wood, M. D., Wood, P. K., & Raskin, G. (1996). Alcohol outcome expectancies and alcohol use: A latent variable cross-lagged panel study. *Journal of Abnormal Psychology, 105*, 561–574.
- Smith, T. (2005). Pumping irony: The construction of masculinity in a post-feminist advertising campaign. *Advertising & Society Review, 6*(3), E-ISSN 1154-7311.
- Steers, W. D. (2010). Masculinity is dangerous to your health. *Journal of Urology, 184*, 2229–2230.
- Strunin, L., & Hingson, R. (1992). Alcohol, drugs, and adolescent sexual behavior. *International Journal of the Addictions, 27*, 129–146.
- Swahn, M. H., & Donovan, J. E. (2004). Correlates and predictors of violent behavior among adolescent drinkers. *Journal of Adolescent Health, 34*, 480–492.
- Tremblay, P. F., & Ewart, L. A. (2005). The Buss and Perry Aggression Questionnaire and its relations to values, the Big Five, provoking hypothetical situations, alcohol consumption patterns, and alcohol expectancies. *Personality and Individual Differences, 38*, 337–346.
- von Diemen, L., Bassani, D. G., Fuchs, S. C., Szobot, C. M., & Pechansky, F. (2008). Impulsivity, age of first alcohol use and substance use disorders among male adolescents: A population based case-control study. *Addiction, 103*, 1198–1205.
- Wechsler, H., Dowdall, G. W., Maenner, G., Gledhill-Hoyt, J., & Lee, H. (1998). Changes in binge drinking and related problems among American college students between 1993 and 1997. Results of the Harvard School of Public Health College Alcohol Study. *Journal of American College Health, 47*, 57–68.
- Wechsler, H., Isaac, N. E., Grodstein, F., & Sellers, D. E. (1994). Continuation and initiation of alcohol use from the first to the second year of college. *Journal of Studies on Alcohol, 55*, 41–45.
- Wechsler, H., & Nelson, T. F. (2001). Binge drinking and the American college student: What's five drinks? *Psychology of Addictive Behaviors, 15*, 287–291.
- Wells, S., & Graham, K. (2003). Aggression involving alcohol: Relationship to drinking patterns and social context. *Addiction, 98*, 33–42.
- Wells, S., Graham, K., & West, P. (2000). Alcohol-related aggression in the general population. *Journal of Studies on Alcohol, 61*, 626–632.
- Wells, S., Tremblay, P. F., & Graham, K. (2013). Understanding men's aggression in bars: Development of the Beliefs and Attitudes toward Male Alcohol-Related Aggression (BAMARA) inventory. *Alcoholism: Clinical and Experimental Research, 37, Supplement 1*, E260–E270.
- West, C., & Zimmerman, D. H. (1987). Doing gender. *Gender & Society, 1*, 125–151.
- West, L. A. (2001). Negotiating masculinities in American drinking subcultures. *Journal of Men's Studies, 9*, 371–392.
- White, H. R. (2004). A summary of research on drug-related violence. In M. A. Zahn, H. H. Brownstein, & S. L. Jackson (Eds.), *Violence: From theory to research*. Cincinnati, OH: Anderson Publishing.
- Wood, M. D., Sher, K. J., & Strathman, A. (1996). Alcohol outcome expectancies and alcohol use and problems. *Journal of Studies on Alcohol, 57*, 283–288.