

Gender Patterns in Consequences of Collegiate Alcohol Abuse: A 10-Year Study of Trends in an Undergraduate Population*

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ABSTRACT. Although college men have typically reported significantly more alcohol problems than women, debate about a possible convergence of gender differences has emerged in recent years. Time trend data on gender differences based on consistent measures of alcohol-related problems are scant, however. Another limitation of previous research has been the predominant focus on alcohol problems most common among men. This article provides data on gender differences and trends in several types of negative consequences of student drinking in a collegiate population from four surveys con-

ducted between 1979 and 1989. The data do not support an overall "convergence hypothesis" as men remained much more problematic in several types of consequences—specifically abuse problems that are public, involve legal repercussions, or that endanger others. Consequences that are more personal or less prone to provoke public response reveal little or no gender differences, however, in the most recent collegiate cohorts. Thus, more gender research is needed on types of alcohol problems in the campus context. (*J. Stud. Alcohol* 53: 458-462, 1992)

EXISTENCE of substantial gender differences in collegiate alcohol use has been well documented in recent years (reviewed by Berkowitz and Perkins, 1987, and Engs and Hanson, 1989). On campuses men are consistently found to drink more frequently and in greater quantities than women and to experience more alcohol-related problems. Explanations of this disparity primarily point to societal norms that associate drinking with the male sex role and that tolerate, expect or even demand a much higher degree of alcohol abuse among men. Relative tolerance for male intoxication and the generally greater risk-taking, deviant behavior emphasized within the male sex role is likely to be reflected in patterns of alcohol abuse in the college environment, a setting where heavy drinking has long been a part of the social milieu (Madrox, 1970; Straus and Bacon, 1953).

Along with the erosion of rigid sex roles in the last two decades, however, has come the notion that gender differences in drinking may be disappearing. That is, it is believed that as women attain success in work and recreational spheres, they are at higher risk of alcohol abuse as they move into more traditional male domains. This "convergence hypothesis" is based on the notion that as women become less constrained by a feminine stereotype and move into traditional male work and social environments, they will be encouraged to participate in

more abusive drinking patterns. Thus, in relatively liberal college and university contexts, where traditional sex roles have been significantly challenged and deviant lifestyles are more openly tolerated, a rise in the level of women's alcohol abuse so that it approaches that of male collegians might be expected.

Yet reviews of the limited research on trends in gender differences reveal little support for this convergence hypothesis in general populations (Biener, 1987; Clayton et al., 1986; Ferrence, 1980; Kaestner et al., 1986; Robbins, 1989; Wilsnack et al., 1984) or, more specifically, on college campuses (Berkowitz and Perkins, 1987; Biber et al., 1980; Temple, 1987). Although similar male/female prevalence rates of drinking have been noted in recent years and a few studies give evidence of some convergence in the frequency of alcohol use, a declining gender difference in the quantities consumed and the overall incidence of alcohol-related problems on campuses has generally not been found in the limited data that permit time comparisons.

Nevertheless, any lack of convergence between collegiate male and female drinking should not mean that alcohol abuse among female students is of relatively little concern. On average, women can become intoxicated with less alcohol due to lower body weight and a higher fat-to-water ratio. Thus a gender difference in quantities consumed can exist with some similarity in intoxication levels or the difference might disappear when body weight is controlled (Brennan et al., 1986; Ratliff and Burkhart, 1984). Moreover, a review of what might constitute problem drinking in a college context (Berkowitz and Perkins,

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1986) reveals a considerable range of potential indicators, some less clearly linked to gender than others, with widely varying observed levels. Gender differences in specific negative consequences of alcohol use may also vary greatly. For example, in an extensive study surveying students at 34 New England colleges and universities in 1977 (Wechsler and McFadden, 1979), while men were about three times as likely as women to be classified as "frequent-heavy drinkers" (29% and 11%, p. 980) and to report weekly intoxication (9% and 3%, p. 977), the gender gap in the negative effects of this consumption varied substantially by type of consequence. In comparison with female collegians, men were almost 10 times more likely to get into physical fights after drinking and three to four times more likely to have an automobile accident or get in trouble with authorities, but only about twice as likely as females to experience memory loss or damaged friendships (percentages reported in Wechsler and McFadden, 1979, p. 978, Table 4). The male/female ratio for citing an action or verbal behavior in which they would not have engaged had they not been drinking was only about 1.2 to 1 (43% to 36%).

Although research concerned with indicators of women's problem drinking at all ages has emerged in recent years (Schmidt et al., 1990), most research on negative effects of drinking, nevertheless, has unfortunately concentrated on measures biased to problems more common among men such as fighting, property destruction and arrests. Yet other common problems of college students that are more gender neutral may demonstrate less gender difference when examined in relation to alcohol use. One recent study that assessed a broad range of alcohol-related problems among undergraduates of one eastern university (O'Hare, 1990), while finding somewhat greater incidences for men on several specific items, noted no significant gender difference in overall reporting of problems. Although Wechsler and Isaac's (1991) recent study of first-year students at Massachusetts colleges found an almost 3 to 1 male/female ratio of frequent heavy drinkers (31% to 13%, p. 14) and 4 to 10 times greater incidences of first-year men than women getting into physical fights, trouble with police or property damage after drinking, it also revealed considerably less gender gap for consequences such as a hangover, doing something regrettable, memory loss, missed classes and getting behind academically where the male/female likelihood was less than 1.5 to 1 (ratios calculated from percentages reported in Table 8, p. 44).

Thus, an examination of a greater variety of academic, emotional, sexual and physical problems related to alcohol on campus is needed. Furthermore, these problems need to be examined consistently over lengthy time periods with comparable samples in order to identify reliably any gender-related trends. Wilsnack et al.'s (1986) review of research on women's drinking has recommended that fu-

ture surveys include more diverse measures of behaviors and problems relevant to women and that monitoring time trends in male and female problem drinking be made a priority. Thus, the purpose of this report is to present data on gender differences in several types of negative consequences of drinking and explore trends over a 10-year period in a college population.

Method

The data are drawn from four surveys conducted between 1979 and 1989 at an undergraduate liberal arts institution of higher education in New York State with a predominantly Northeastern and upper-middle-class student body. Almost all of the approximately 1,850 students who attend this institution are between the ages of 17 and 23. Although some topics and questions concerning health and well-being varied among survey years, each survey concentrated heavily on questions about student alcohol use. In each survey year, depending upon available resources, all students or a stratified random sample of the population were surveyed. Sample characteristics are as follows: 1979, all students (n responding = 1,116, 64%); 1982, all students (n responding = 1,516, 86%); 1987, random sample of one-half of student body stratified by gender and class year (n responding = 659, 70%); 1989, random sample of one-half of student body stratified by gender and class year (n responding = 584, 61%).

All questionnaires were returned anonymously for each survey. Variations in response rates essentially reflect differences in the time and resources that could be devoted to follow-up procedures for obtaining responses from initial nonresponders. In each survey, however, the large responding sample was highly representative of the student population in terms of overall demographic characteristics. Moreover, in a detailed analysis of data from 1982 (the year when resources permitted the greatest amount of follow-up and highest response rate), no significant differences were found when alcohol use responses for students who initially responded were compared with responses of those who returned the survey only after being prompted by repeated follow-up requests. Thus, it is unlikely that nonresponders reflect a significantly distinct group with regard to the interests of this study or that differences in response rates will distort the gender comparisons presented here.

In each survey students were asked how many days during the past 2 weeks they had consumed alcoholic beverages and the total number of drinks during that period. Students were also asked in each survey to respond to a list of potential hazards of intoxication by indicating which consequences had occurred once or multiple times during the academic year due to their own drinking. These included: (1) physical injury to oneself, (2) physical injury to others, (3) fighting, (4) behavior that resulted in

negative reactions from others, (5) property damage, (6) poor academics (e.g., missed classes or examinations, late papers, or poor homework, classroom, or laboratory performance), (7) damaged friendships or relationships and (8) impaired driving. Two more potential negative consequences were included in 1989 to provide even broader coverage of alcohol-related problems: (1) unintended sexual activity (e.g., while drinking, the respondent had sexual involvement or had intercourse without protection from disease or without birth control when otherwise he/she might not have) and (2) memory loss after drinking (i.e., respondent could not remember events or actions that occurred while drinking).

Results

Gender differences in alcohol use and its negative consequences are reported first with the most recent (1989) survey data. Male students drank 5.4 days and female students drank 4.2 days on average over the 2 weeks prior to the survey and averaged 30.2 and 16.1 drinks, respectively (difference of means for each measure is significant at $p < .001$). Table 1 presents the percentage of men and women reporting specific negative consequences of their drinking that occurred at least once and more than once during the academic year, followed by the male/female ratio for each category. In general, male collegians were much more likely to have experienced negative consequences in comparison with women. Statistically significant differences were found in 6 of the 10 categories of consequences by gender for indications of at least one incident and four of the categories when only multiple incidents were compared by gender. The gender ratios increase for most types of consequences when the focus shifts from at least one incident to the more problematic subgroup who note a repeated consequence of drinking during the year.

Equally important, however, is the finding in Table 1 that there are categories where little or no difference exists between male and female students in the odds of ex-

periencing the consequence. While men are two or three times more likely than women to physically injure another person or damage property due to drinking, there is virtually no difference in the male/female rates of unintended sexual activity, memory loss, damaged relationships or physical injury to oneself. In considering only multiple occurrences, there is still no appreciable gender difference in memory loss from drinking or physical injury to self.

Table 2 presents the gender ratios for the incidence of frequent consumption (more than 7 days in 2 weeks), heavy consumption (more than 30 drinks in 2 weeks) and each consequence included in all surveys over the 10-year span. The strongest evidence for gender "convergence" concerns physical injury to oneself where the gender skew has steadily declined over time to virtually no difference, both for those reporting any incident and the subgroup noting multiple occurrences. In no other category is there thoroughly consistent evidence of a monotonic decline in the ratios, although gender differences in the occurrence of property damage and physical injury to others show continuous declines for the category of "at least once" during the year. Only minor differences between male and female students in how alcohol affects their academics and their relationships appear throughout the years.

As a final note on male and female student risks and consequences, the association between alcohol use and other drug use was considered. Alcohol abuse can be an initial step toward the abuse of another drug and, when alcohol is used simultaneously with other drugs, the risks to one's health increase substantially. Thus, the correlations (Pearson r) between alcohol consumption and other drug use were computed by gender in two waves of these data (1982 and 1989) where survey measures on other drug use (scored from 1 for no use to 7 for daily use) were available. Modest positive correlations from .26 to .49 (all significant at $p < .01$) were found when both frequency of alcohol use and amount of consumption over 2 weeks were correlated with reported student use of marijuana, cocaine and hallucinogens. No difference between the male and female Pearson r was greater than .05 for

TABLE 1. Percent of male ($n = 275$) and female ($n = 305$) collegians indicating consequences of personal alcohol abuse and gender ratio of reported consequences (1988-89 academic year)

Alcohol abuse consequence	At least once			More than once		
	Male	Female	Gender ratio	Male	Female	Gender ratio
Damage to property	21.1	5.9	3.59 [†]	6.2	0.3	20.67 [†]
Physical injury to others	8.8	4.3	2.05*	2.6	0.7	3.71
Impaired driving	18.6	9.8	1.90 [†]	8.8	3.9	2.26*
Fighting	15.0	8.5	1.76*	3.6	1.6	2.25
Behavior offending others	31.8	19.0	1.67 [†]	10.9	5.2	2.10*
Poor academic performance	39.4	29.5	1.34*	23.0	18.0	1.28
Unintended sexual activity	26.6	24.3	1.09	15.0	9.5	1.58*
Memory loss	43.4	42.0	1.03	23.0	22.0	1.05
Damaged friendship/relationship	10.2	10.2	1.00	3.6	2.3	1.57
Physical injury to self	18.6	19.3	0.96	6.6	6.6	1.00

*Difference between male and female students is significant at $p < .05$ (χ^2 test); [†] $p < .01$; [‡] $p < .001$.

TABLE 2. Gender ratios (male/female) for alcohol consumption and consequences reported by collegians, 1979-89

	1979	1982	1987	1989
Consumption				
Frequent drinker (> 7 days/2 weeks)	2.06 [‡]	1.57 [‡]	1.63 [‡]	1.93 [‡]
Heavy drinker (> 30 drinks/2 weeks)	2.90 [‡]	1.90 [‡]	2.03 [‡]	3.26 [‡]
Consequences				
Damage to property				
At least once	4.92 [‡]	4.26 [‡]	3.85 [‡]	3.59 [‡]
More than once	8.25 [‡]	6.10 [‡]	3.38 [‡]	20.67 [‡]
Physical injury to others				
At least once	4.80 [‡]	3.85 [‡]	3.06 [‡]	2.05*
More than once	17.50 [‡]	6.00 [‡]	3.31*	3.71
Impaired driving				
At least once	2.67 [‡]	2.00 [‡]	1.86 [‡]	1.90 [‡]
More than once	2.85 [‡]	2.47 [‡]	1.78*	2.26*
Fighting				
At least once	3.73 [‡]	1.94 [‡]	1.07	1.76*
More than once	2.88 [‡]	1.56	0.95	2.25
Behavior offending others				
At least once	1.37 [‡]	1.36 [‡]	1.33*	1.67 [‡]
More than once	1.57*	1.56 [‡]	1.66*	2.10*
Poor academic performance				
At least once	1.14*	1.11	1.08	1.34*
More than once	1.05	1.13	1.15	1.28
Damaged friendship/relationship				
At least once	0.86	1.16	0.87	1.00
More than once	0.96	1.37	0.96	1.57
Physical injury to self				
At least once	1.83 [‡]	1.46 [‡]	1.17	0.96
More than once	1.91 [‡]	1.32	1.28	1.00

*Difference between male and female students is significant at $p < .05$ (χ^2 test); [‡] $p < .01$; [‡] $p < .001$.

Note: n of males/females = 625/488 for 1979; 841/648 for 1982; 349/310 for 1987; 275/307 for 1989.

either alcohol measure correlated with marijuana or hallucinogen use in 1982 or 1989. While there was also virtually no gender difference in the 1982 alcohol-cocaine associations, the 1989 male and female correlations of cocaine use with drinking days (.34 and .42, respectively) and, more notably, of cocaine use with number of drinks (.32 and .49), showed a somewhat greater link between drinking and cocaine use for women.

Discussion

The data presented here, on the one hand, clearly do not support a general "convergence hypothesis" concerning gender differences associated with alcohol abuse. Differences persist among these collegians with men being much more abuse prone in most areas considered. Indeed, the many continuing differences in consequences of alcohol use observed here suggest that intoxication still remains a much greater problem for male collegians overall.

These data, on the other hand, do not suggest that concern about collegiate alcohol abuse should be focused essentially on men or that female students who experience any problem associated with drinking are atypical of their gender. Some consequences are just as frequent among women as men on campus. In the data from the most recent cohort, although negative consequences of drinking

such as property damage, injury to others, fighting, behavior offending others and impaired driving occurred substantially more often among men in comparison with women, alcohol-related problems with academic work, unintended sexual activity and damaged friendships or relationships were less skewed toward men, and there were no gender differences among students reporting memory loss or injury to oneself. Furthermore, there does appear to have been a gender convergence in alcohol-related physical injury to oneself on this campus over the last 10 years.

It appears that negative consequences of drinking that are more public, that may involve legal repercussions and that damage or endanger others remain a largely male phenomenon. In contrast, if the type of consequence is less public and less prone to invoke legal action, more women share the problem as a result of their drinking. Finally, intoxication that most directly results in consequences of physical harm to oneself takes an even toll between genders, and the link of alcohol with other drug use is equal between genders or greater for women. So, when a female student does become intoxicated, it seems that her gender identity and campus sex-role expectations do not serve to restrain her from hurting herself. Rather, these data suggest that she is likely to react or be affected in a manner that is harmful to her personal health, and not in ways that might bring a public response or jeopardize the health of others (responses more characteristic of male students).

Thus it appears that gender identities constrain women and encourage men to become intoxicated in behavioral ways and in social contexts that are typical of traditional sex roles, even in a contemporary college environment. But the alcohol problems most common among women on campus should not be neglected just because the alcohol problems of men may be more extensive and more publicly offensive. Future research must give greater attention to an even wider variety of personal problems as well as public problems that may potentially result from alcohol abuse in the college context. This approach, if conducted over time and in a variety of campus contexts, will yield a more complete picture of gender patterns in collegiate alcohol abuse.

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