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GENDER DIFFERENCES IN VIOLENCE EXPOSURE AMONG UNIVERSITY STUDENTS ATTENDING CAMPUS HEALTH CLINICS IN THE U.S. AND CANADA

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Abstract

Purpose—To explore gender differences in prevalence, types, perpetrators and correlates of recent violence experiences among university students at campus clinics at 5 universities in the Midwest and Pacific Northwest U.S. and Canada.

Methods—Systematic survey of students presenting for routine primary care visits (N=2,091), pencil-&-paper screen for recent emotional and physical violence exposure (past 6 months), demographics, plus sensation seeking, at-risk alcohol use, and depression. Chi-square tests compared prevalence by gender; correlates for types of violence were analyzed separately for men and women using chi-square with adjusted standardized residuals comparing no violence, intimate partner violence (IPV) and other violence (Other).

Results—Similar rates of men (17%) and women (16%) reported any violence in the past 6 months; women were more likely to report emotional and men to report physical violence. Of those reporting emotional violence, 45.5% women and 50% men indicated it was IPV, and 23.7% women and 20.9% men reported physical IPV. Correlates differed by gender; demographics were not linked to IPV. At-risk drinking was associated with both IPV and Other violence for women, but only Other violence for men. Depression was the only correlate significantly linked to IPV for men.

Conclusions—Recent violence exposure among university students affects nearly 1 in 5 attending campus clinics. Screening for violence exposure should include both men and women, especially students who indicate heavy drinking patterns or depressive symptoms. Campus health promotion interventions should address healthy dating relationships. Further research on IPV among college men is needed.

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Keywords

Campus health clinics; relationship violence; violence exposure; college students; alcohol use; depression; gender differences

Emotional and physical violence victimization, whether from intimate partners, family members, friends, acquaintance, employers, or even relative strangers, can have significant negative health and psychosocial sequelae for adolescents and young adults, including depression, anxiety, post-traumatic stress, poor school performance and repeat victimization [1–3]. University students have generally reported a lower prevalence of recent violence exposure as compared to adolescents in high school, or young adults in the general population [4,5], but students who experience such violence report similar health challenges, including injury, mental health problems, and problems with school [2,4].

The prevalence of violence victimization in university populations has not been consistently reported. Definitions of violence exposure vary; some focus solely on experiences of dating or intimate partner violence (IPV) [2,6–11], while others include relationship violence from family members, roommates, acquaintances, and even strangers [4,12–16]. Some ask about lifetime exposure to violence [12], or before and during university attendance [10,16], as opposed to recent violence, i.e., within the past year [5,13], or even the past month [3]. One of the largest recent studies of victimization among university students from classes across 3 different types of university campuses on the East Coast of the U.S. found 11.8% of students reported emotional violence since attending college, and 7.0% reported physical violence during the same time frame [4]; unfortunately, this imprecise time frame could represent a few months for incoming freshmen, but 3 or more years for seniors.

The theoretical frameworks to help explain violence exposure among young adults vary widely depending on the scientific discipline and type of violence exposure, but all seem to incorporate some interplay between individual characteristics and situational or contextual factors [7,8, 12–14]. The majority of models tend to be focused on violence perpetration [7,8,11,17–21], not victimization, yet, given the health issues associated with victimization, it is important to identify those at higher risk of victimization, especially among those who are more likely to be reached for screening and intervention through campus health services. Frameworks from sociology and criminology focused on general victimization have tended to focus on socio-demographics, such as age, gender, race, and wider social contexts, like neighborhood characteristics, as predictors of victimization risk [12,13]; adolescents and younger adults have higher rates of violence involvement, for example, and males are more likely to be victims of public violence and females of intimate partner violence, while ethnic minority groups appear to be at higher risk for violence in heterogeneous communities where they are a visible minority. These frameworks suggest distinct contextual differences in risks for intimate partner or family violence, which is more common in the home, versus peer violence, which is more common near school or campus [6,12].

In contrast, theoretical frameworks from psychology tend to focus on an individual model, drawn from social learning theory, conflict theory, and personality embedded within situational contexts [6–8,12,14]; in these frameworks, predisposing characteristics such as a childhood history of violence victimization, especially family abuse, influence attitudes about violence as a behavioral response to stressors and relational conflict, especially in the disinhibiting presence of alcohol or substance use. While alcohol use as a context for violence is primarily in theories of violence perpetration [7,8,11,14,15], one theory of victimization suggests that alcohol use may prevent victims from assessing imminent risk of violence, or from identifying dating partners or social contexts where violence is more likely [6]. A few studies have

identified the link between drinking behaviors and victimization [5,6,10,11,19], although these have mostly focused on women. Another individual trait that has been associated with both perpetration and victimization, as well as injury severity in violence, is sensation-seeking or stimulation seeking [14]; young people with higher needs for stimulation are more likely to spend time in riskier environments, like parties with high substance use, and this increases their risk of violence involvement. As well, recent victimization can lead to depression, anxiety, and PTSD [1–3], so depression may be a risk marker for victimization [12].

A number of studies explore gender-specific violence exposure for either women alone [9, 10,16,20] or men alone [8,17,18], although women-only studies often focus on victimization, while men-only studies have more often focused on perpetration. A few studies offer gender comparisons of violence victimization [3–6,15,21] although not always with university students [21]. Much of the research around screening and interventions for relationship violence are directed toward women [22]; given the suggested efficacy of screening for and addressing IPV at individual health clinic visits, estimating the prevalence of recent violence among the general population of university students may not be best for estimating service needs.

Given the relative paucity of research on violence victimization among young men attending university, especially intimate partner violence, as well as the limited studies of the prevalence of recent victimization and key correlates of violence exposure for university students, our study had several purposes:

1. To explore gender differences in prevalence and types of recent violence victimization, including both emotional and physical violence;
2. To document various perpetrators of that violence for each gender of victim and type of violence; and
3. To identify correlates of violence victimization among university students who access campus health services in both rural and urban campuses of select universities in the U.S. and Canada.

In line with the limited evidence and theoretical frameworks described above, we hypothesized that intimate partner violence victimization would be more common among women than men, but other violence more common among men. We also expected emotional violence would be more prevalent among women, and physical violence more common among men, in line with studies identifying men are more likely to be perpetrators of violence and exposed to severe violence; that students who live on campus rather than off-campus with family would be more likely to report violence exposure, due to higher risk peer environments; and that frequent drinking, binge drinking, higher levels of sensation-seeking and depressive symptoms would be linked to higher rates of reported violence.

Methods

Design and Sample

The data were derived from a systematic cross-sectional survey of university students 18 years and older attending campus health clinics as part of a larger clinical trial. The participating sites included three universities in the Midwest U.S., one in the Northwest, and one on the West Coast of Canada. Between November 2004 and February 2007, students with general health appointments at the student health services were asked to complete a brief health screening survey (HSS-A) to determine eligibility for the clinical trial [23]; at one rural campus, a small group of students were also asked to complete the screening surveys in a classroom setting rather than at the clinic, which had limited hours. Every 5th student was offered a slightly longer screening questionnaire (HSS-B), which took about 15 minutes to complete, and

included additional questions on interpersonal violence. More than 90% of approached students completed the surveys at each site. Students who completed the longer surveys were the focus of these analyses (N=2,091). Demographic characteristics of the sample are in Table 1. The University of Wisconsin Health Sciences Institutional Review Board approved the study, as did the University of British Columbia Behavioural Research Ethics Board.

The instrument and measures

The HSS-B has been used in prior alcohol-related brief intervention trials [24,25] and was validated by two different research groups [26,27]. Several questions on the survey asked about recent interpersonal violence, derived from the Conflict Tactics Scale [28]. One question assessed emotional abuse: "Within the last 6 months have you been emotionally abused? (examples include repeated ridicule, threatening statements, destroying belongings, unreasonable jealousy)." Another question assessed physical abuse: "Within the last 6 months have you been hit, slapped, kicked, or otherwise physically hurt by someone?" If respondents indicated abuse, for each type they were further asked by whom, and offered a list of 11 options, from partner or spouse, to roommates or friends, to supervisor at school or work, or a strange; students were instructed to mark all that applied. A second follow-up question assessed for number of times the abuse occurred, with options of "1-2," "3-4," "5-6," "7-8," "9 or more," and "prefer not to answer," collapsed for these analyses as "1-2" and "3+." A third follow-up question for each type of violence asked whether the student had been drinking at the time of the abuse, with 4 response options ranging from "none of the time" to "all of the time" plus "prefer not to answer." Intimate partner violence (IPV) was defined as emotional or physical abuse by person the student was dating, a person with whom he or she had an ongoing romantic relationship, or a partner or spouse. Other violence was defined as emotional or physical abuse by an acquaintance, friend, roommate, stranger, family member other than spouse, supervisor at school or work, or other.

Other questions focused on potential risk behaviors or demographic characteristics linked to interpersonal violence in previous research, including problem alcohol use, depressive symptoms, sensation-seeking, living on or off campus, and living with family or spouse vs. with a roommate. Questions on alcohol use included the frequency and quantity of drinking in an average week over the last three months, and the number of heavy episodic drinking occasions in the last 30 days. At-risk weekly drinking was defined according to the criteria from the National Institute of Alcohol Abuse and Alcoholism (NIAAA)[29] as 7 or more drinks per week for females, 14 or more drinks for males. Similarly, heavy episodic drinking in the past month was defined as five or more drinks in a row once or more in the past 30 days [29]. Alcohol abuse/dependence was assessed by asking three of the CAGE questions about loss of control, morning drinking and criticism of alcohol use by friends or family; endorsing 2 or more of the 3 questions was considered problematic drinking, as with other studies [30]. Depressive symptoms were assessed by the Beck Depression Inventory for Primary Care [31]; 4 or more positive responses was the cutoff for depression. Sensation-seeking was assessed with the 8-item Brief Sensation-Seeking Scale [32], which includes such statements as, "I prefer friends who are excitingly unpredictable" and "I like wild parties," with a Likert-type set of 5 response options ranging from "Strongly disagree" to "Strongly agree." For our analyses, we dichotomized the scale at the median.

Analyses

Analyses compared males and females in demographics and in prevalence of response, while analyses of the correlates of violence exposure were conducted separately by gender. Descriptive statistics were used to document prevalence of types of violence, and cross-tabulations with chi square were used to test both gender differences in violence exposure, and correlates of violence exposure with three groups: no violence reported, IPV, and Other

violence. Missing responses were excluded on an analysis by analysis basis. With a large number of cell sizes for some of the cross-tabulations, it can be difficult to determine which groups have significant differences within the analyses; therefore, standardized adjusted residuals were calculated for each of the cells in order to determine which cell differences contribute to the chi square test results. Cells with significant standardized adjusted residuals are indicated by underlining their percents in the tables. Originally, step-wise multivariate logistic regressions were also conducted to identify correlates with independent contributions to violence exposure, but the key bivariate significant variables remained significant in the multivariate models, while the -2 log likelihood changed very little, and the Nagelkerke R Square equivalents were very low (0.02 to 0.11) suggesting the variables were not related, and the models had no better explanatory power than the bivariate analyses (data not shown).

Results

Table 1 provides the demographic characteristics of males and female students in the sample, as well as overall results of specific measures, including the prevalence of recent violence exposure. Clinic attendees at these universities were more likely to be women, to be white, to be 18 to 22 years, and to come from large campus sites. They were fairly evenly distributed among year in school, with about 30% graduate students. The majority lived off campus, but not with family members or spouse. Men reported a higher level of drinks consumed per week, and were slightly more likely than women to report binge drinking in the past month; similarly, male students' sensation-seeking scores were higher than females students', with two-thirds scoring above the median, compared to less than half of female students. Similar rates of men and women had Becks depression scores 4 or greater.

An equal percent of men as women reported violence exposure in the past 6 months. However, the type of violence differed between genders (see Table 2); women were significantly more likely to report emotional abuse, while men reported higher prevalence of physical abuse (both $p < .01$). A small number of students reported both emotional and physical violence, with males (1.3%) just as likely as females (1.4%) to report both types of violence. Among those who reported emotional violence exposure, nearly half of students in each gender group said it was by intimate partners, and of those reporting physical violence, 1 in 5 reported physical violence by intimate partners; these were more likely to be persons the students were dating or in an ongoing romantic relationship with rather than spouses. Men reported a higher prevalence of experiencing violence from roommates and from friends other than roommates than women did, and nearly twice the prevalence of emotional or physical violence from acquaintances, strangers, and supervisors. In contrast, nearly 1 in 3 women reported emotional abuse by a family member, compared to just under 1 in 4 men ($p < .05$), and more than 3 times the prevalence of physical violence in the past 6 months from family members than men reported ($p < .01$). The majority of men and women who reported emotional abuse indicated multiple occurrences in the past 6 months, at similar rates among both genders ($p = 0.969$); 34.8% reported 3–4 episodes, 11.6% reported 5–6 episodes, 6.0% reported 7–8 episodes, and 20.4% reported 9 or more episodes in the past 6 months. In contrast, only 1 in 3 men (31.1%) and 1 in 5 women (20.0%) who reported experiencing physical violence said it occurred 3 or more times in the past 6 months, with most of those reporting 3–4 times (21.3% of men, 12.5% of women, gender differences not significant, $p = 0.592$).

Drinking was a common activity with violence exposure, with more than 1 in 3 students reporting they had been drinking when at least one of the incidents of emotional violence happened, and more than half reporting they had been drinking when physical violence occurred. Among those who reported emotional violence, 33.5% of women and 46.8% of men said they had been drinking when it happened ($p < .05$); similarly, 28.9% of women and 67.2% of men indicated they had been drinking when they experienced physical violence ($p < .01$).

The correlates of violence exposure were also somewhat different by gender, and also varied by IPV or other type of abuse. Among men, most of the correlates were significantly associated with Other violence, but not with IPV, while among women, significant correlates were more often associated with IPV, or with both types of violence. For men, age and level of study were both significantly associated with experiencing Other violence, with nearly twice the prevalence of younger men reporting Other violence, and graduate students being least likely to report Other violence, but just as likely to report IPV as other students. Among women, younger age similarly was linked to Other violence but not to IPV, however, there were no significant differences in violence exposure by level of study. Ethnicity was associated with Other violence exposure for women, but not for men. Living on or off campus was not associated with violence exposure for either gender, nor was living with family vs, roommates.

Males with higher sensation-seeking scores were more likely to report Other violence, while women with higher sensation-seeking scores reported a higher prevalence of both IPV and Other violence. All three patterns of at-risk drinking were associated with significantly higher levels of Other violence for men, but not with IPV; in contrast, only the indicator of an alcohol use disorder was associated with Other violence, while all three patterns of at-risk drinking (more frequent binge drinking, higher levels of weekly consumption, and endorsing 2 or more CAGE items) were significantly associated with IPV. Depression was the only correlate significantly associated with IPV for men, while for women, depression was significantly associated with both sources of violence exposure.

Discussion

An estimated 1 in 6 students attending student health services at universities in the Midwest and on the West Coast of the U.S. and Canada reported experiencing some form of violence in the past 6 months, with similar overall rates for men as for women. In general, women were more likely to report emotional violence and men to report physical violence; however, among those who reported violence, both men and women reported a similar prevalence of emotional or physical violence from intimate partners, as opposed to others, with half reporting emotional IPV and nearly 1 in 4 reporting physical IPV. Among those experiencing violence, most reported multiple incidents of emotional violence, while multiple experiences of physical violence were less common. Demographic characteristics and risk behaviors associated with recent violence exposure were slightly different for men and women, but more importantly, were linked to both IPV and other violence for women, but only with other violence for men. At-risk drinking, whether recent binge drinking, higher weekly levels of drinking, or indications of substance use disorder, were all significantly associated with violence exposure in the past 6 months for both men and women, although predominantly with violence from non-partners for men, and for both IPV and other violence among women. This supports previous studies and theoretical frameworks that suggest alcohol use, especially at-risk levels, increase the risk of violence victimization, not just violence perpetration.

Comparing the prevalence rates we found to those reported by other studies is difficult, because the measures in various studies assessed different time periods and different specific forms of violence (i.e., violence from drinking). However, results suggest higher than anticipated levels of recent violence exposure on college campuses. Similar to the prevalence found among university students on the East Coast, among students who reported emotional or physical abuse in our study, half of them had experienced this violence from intimate partners. This suggests health promotion efforts should include interventions around healthy relationships, conflict management skills, and safe dating information for both male and female students.

The correlates for violence exposure that have been identified in previous literature, predominantly with women, were also correlates for intimate partner violence for women in

our study, but not generally for men. Indeed, although the prevalence of intimate partner violence was similar for men and women, there were very few correlates of IPV for men among those variables we were able to test within this screening survey. This suggests further research is needed to understand the contexts and patterns of IPV exposure for men.

Strengths & Limitations

There are several strengths as well as limitations to this study that should be considered. Strengths of the study include its large, systematically gathered sample across 5 different universities in both rural and urban settings in the U.S. and Canada. The data were collected among students seeking routine care from primary care clinicians, a key population likely to be available for interventions. The study included validated measures of violence that allowed separation of interpersonal from general violence, and a time frame of the last 6 months, which limits the prevalence to current violence exposure. Limitations of the study include its reliance on self-report data for both violence exposure and correlates, and its predominantly White sample; different rates may be identified at colleges with different ethnic variation. Another limitation was the use of five drinks per occasion to define heavy episodic drinking among both men and women, where most guidelines now suggest 4 drinks should be the cutoff for binge drinking among women. Finally, measures of violence in the survey offer only limited information on violence by people other than romantic or intimate partners, such as friends, acquaintances, and strangers, specifically the context in which the violence occurred; as such, it limits the ability to offer suggestions for community-based interventions to reduce violence on campus as opposed to individual interventions for victims.

Implications

Universal screening for intimate partner violence has been recommended for routine clinical care; the majority of guidelines that recommend screening for IPV are exclusively focused on women [22], yet our results suggest that men are equally likely to experience violence exposure, including IPV. Unfortunately, there are few screening tools for IPV that have even been assessed with men [33,34]. Similarly, we could find neither studies of screening tools or practice guidelines for assessing for non-partner violence exposure among young adult men, yet levels of violence exposure among young men attending campus health clinics were as high as among young women. Future research is needed to develop both effective screening practices and interventions for addressing violence exposure, both IPV and non-partner violence, for young men as for young women. In the meantime, the correlates of violence exposure from our study suggest that when clinicians encounter students who present with heavy levels of alcohol use or depressive symptoms, they should also screen for experiences of recent violence.

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Table 1

Profile of Sample

		Men (n=717)	Women (n=1374)	Total (n=2091)
Age	18–22 years	n 429	n 874	n 1303
	> 22 years	% 59.8	% 63.6	% 62.3
Reported no other race than 'White'		n 288	n 500	n 788
		% 40.2	% 36.4	% 37.7
Site	large campus	n 76.6	n 78.1	n 77.6
	small campus	n 591	n 1140	n 1731
Level of study	freshman	% 82.4	% 83.0	% 82.8
	sophomore	n 126	n 234	n 360
Residence	on campus	n 134	n 232	n 366
	other (incl grad)	% 18.7	% 16.9	% 17.5
Living with family (incl spouse)		n 93	n 174	n 267
		% 13.0	% 12.7	% 12.8
Drinks consumed per week		n 128	n 248	n 376
		% 17.9	% 18.0	% 18.0
Binge drinking past 30 days		n 154	n 307	n 461
		% 21.5	% 22.3	% 22.1
Sensation seeking score > median		n 206	n 413	n 619
		% 28.8	% 30.1	% 29.6
Depression (BDI-PC ≥4)		n 247	n 463	n 710
		% 34.5	% 33.7	% 34.0
Experienced emotional or physical abuse		n 150	n 300	n 450
		% 20.9	% 21.8	% 21.5
	mean	11.8	7.2	8.8
	sd	15.5	9.7	12.2
	n	466	713	1179
	%	66.5	52.6	57.3
	n	444	611	1055
	%	65.9	47.3	53.7
	n	163	364	527
	%	23.3	26.8%	25.6%
	n	120	219	339
	%	17.0	16.2	16.5

Table 2

Type of violence by type of perpetrator and alcohol involvement

	Women (n=1352)				Men (n=717)			
	Emotional Abuse	Physical Abuse	Either Form	Physical Abuse	Emotional Abuse	Physical Abuse	Either Form	Physical Abuse
# reporting abuse	200	38	219	62	67	120	67	120
% of sample overall	14.8	2.8	16.2	8.6	9.3	16.7	9.3	16.7
# reporting abuse 3+ times past 6 mos.	140	8	148	42	19	161	42	161
% (among those reporting abuse)	73.7	20.0		70.0	31.1		31.1	
Perpetrators								
An acquaintance	14	3	17	10	9	18	9	18
%	7.0	7.9	7.8	16.1	13.4	15.0	13.4	15.0
A friend (other than a roommate)	31	9	38	12	22	32	12	32
%	15.5	23.7	17.4	19.4	32.8	26.7	19.4	32.8
A stranger	9	5	14	6	16	22	6	22
%	4.5	13.2	6.4	9.7	23.9	18.3	9.7	23.9
A roommate	22	0	22	6	13	18	6	18
%	11.0	0.0	10.0	9.7	19.4	15.0	9.7	19.4
A family member (except spouse)	69	9	73	15	4	18	15	18
%	34.5	23.7	33.3	24.2	6.0	15.0	24.2	15.0
A person you are dating	41	4	41	12	5	17	12	17
%	20.5	10.5	18.7	19.4	7.5	14.2	19.4	7.5
Ongoing romantic relationship	39	4	39	16	6	22	16	22
%	19.5	10.5	17.8	25.8	9.0	18.3	25.8	9.0
Partner or spouse	19	1	20	7	5	10	7	10
%	9.5	2.6	9.1	11.3	7.5	8.3	11.3	7.5
Supervisor (school or work)	7	0	7	10	2	12	10	12
%	3.5	0.0	3.2	16.1	3.0	10.0	16.1	3.0
Other	17	4	20	2	8	10	2	10
%	8.5	10.5	9.1	3.2	11.9	8.3	3.2	11.9
Abused by any intimate partners	91	9	92	31	14	46	31	46
%	45.5	23.7	42.0	50.0	20.9	38.3	50.0	20.9
Alcohol Ever Involved	67	11	75	29	45	71	29	71
%	33.5	28.9	34.2	46.8	67.2	59.2	46.8	67.2

* Percents among those reporting that type of violence

Table 3

Table 3a: Correlates of Intimate Partner and Non-Partner Violence—Female Students

		No Violence	Other violence	IPV
Level of Study	freshman	81.5%	12.3%	6.2%
	sophomore	82.9%	10.6%	6.5%
	junior	81.6%	9.8%	8.6%
	senior	82.8%	10.6%	6.6%
	grad/other	87.3%	6.4%	6.4%
Race	white only	85.3%	8.4%	6.3%
	others	78.2%	12.9%	8.8%
		χ^2 (p): 9.2 (0.329) NS		
Age	< 23years	81.9%	10.9%	7.2%
	≥ 23 years	86.9%	7.1%	6.0%
		χ^2 (p): 8.4 (0.015)		
Live with Family	no	83.1%	9.9%	6.9%
	yes	85.9%	7.7%	6.4%
	χ^2 (p): 1.5 (0.477) NS			
Live on Campus	no	84.9%	8.3%	6.8%
	yes	81.4%	11.7%	6.9%
	χ^2 (p): 4.1 (0.127) NS			
Depression	Becks < 4	88.5%	7.1%	4.4%
	Becks 4+	70.3%	16.2%	13.4%
	χ^2 (p): 65.1 (< 0.001)			
Sensation Seeking	< median	86.7%	8.1%	5.2%
	≥ median	79.0%	11.7%	9.3%
	χ^2 (p): 13.9 (0.001)			
Episodic Drinking	< at-risk level	84.5%	10.6%	4.9%
	≥ at-risk level	83.2%	8.4%	8.4%
	χ^2 (p): 7.8 (0.020)			
Weekly Consumption	< at-risk level	85.1%	9.6%	5.3%
	≥ at-risk level	80.3%	9.7%	10.0%
	χ^2 (p): 9.6 (0.008)			
Alcohol Use Disorder	< 2 CAGE items	84.60%	9.10%	6.30%
	≥ 2 CAGE items	73.70%	14.90%	11.40%
	χ^2 (p): 9.2 (0.010)			

Table 3b: Correlates of Intimate Partner and Non-Partner Violence—Males Students

		No Violence	Other Violence	IPV
Level of Study	freshman	79.5%	13.6%	6.8%
	sophomore	73.9%	18.5%	7.6%
	junior	83.6%	13.3%	3.1%
	senior	84.6%	7.4%	8.1%
	grad/other	88.3%	6.8%	4.9%
Race	white only	84.1%	10.6%	5.4%
	others	79.3%	12.2%	8.5%
		χ^2 (p): 16.9 (0.031)		
Age	< 23years	79.4%	13.9%	6.6%
	≥ 23 years	88.4%	6.3%	5.3%
	χ^2 (p): 2.7 (0.256)			
Live with Family	no	83.0%	11.3%	5.7%
	yes	83.2%	9.4%	7.4%
	χ^2 (p): 11.8 (0.004)			
Live on Campus	no	82.7%	11.5%	5.8%
	yes	84.0%	9.8%	6.1%
	χ^2 (p): 0.9 (0.633)			
Depression	Becks < 4	86.0%	9.3%	4.7%
	Becks 4+	74.2%	15.1%	10.7%
	χ^2 (p): 0.5 (0.798)			
Sensation Seeking	< median	88.2%	6.8%	4.9%
	≥ median	80.6%	12.4%	6.9%
	χ^2 (p): 7.6 (0.023)			
Episodic Drinking	< at-risk level	90.5%	4.8%	4.8%
	≥ at-risk level	79.8%	13.7%	6.5%
	χ^2 (p): 14.4 (0.001)			
Weekly Consumption	< at-risk level	86.90%	6.90%	6.20%
	≥ at-risk level	71.30%	22.30%	6.40%
	χ^2 (p): 33.2 (< 0.001)			
Alcohol Use Disorder	< 2 CAGE items	85.1%	9.0%	5.8%
	≥ 2 CAGE items	64.4%	28.8%	6.8%
	χ^2 (p): 26.3 (< 0.001)			

NS = No significant differences

Underlined % = cells with significant adjusted standardized residuals