

Journal of American College Health

ISSN: 0744-8481 (Print) 1940-3208 (Online) Journal homepage: www.tandfonline.com/journals/vach20

Problematic alcohol behaviors and sexual assault on college campuses: How are student reports and institution-reported crime data related?

David C. R. Kerr, Maadhanki R. Kasimanickam, Daniel E. Bradford, Harold Bae & Kathleen A. Parks

To cite this article: David C. R. Kerr, Maadhanki R. Kasimanickam, Daniel E. Bradford, Harold Bae & Kathleen A. Parks (2025) Problematic alcohol behaviors and sexual assault on college campuses: How are student reports and institution-reported crime data related?, Journal of American College Health, 73:5, 2158-2165, DOI: 10.1080/07448481.2025.2492170

To link to this article: https://doi.org/10.1080/07448481.2025.2492170

Published online: 22 Apr 2025.

Submit your article to this journal

Article views: 331

View related articles

View Crossmark data

Citing articles: 4 View citing articles

Full Terms & Conditions of access and use can be found at
https://www.tandfonline.com/action/journalInformation?journalCode=vach20

JOURNAL OF AMERICAN COLLEGE HEALTH
2025, VOL. 73, NO. 5, 2158–2165
https://doi.org/10.1080/07448481.2025.2492170

Routledge
Taylor & Francis Group

RESEARCH ARTICLE

Check for updates

Problematic alcohol behaviors and sexual assault on college campuses: How are student reports and institution-reported crime data related?

David C. R. Kerr, PhD[a], Maadhanki R. Kasimanickam, MPH[b], Daniel E. Bradford, PhD[a], Harold Bae, PhD[b] and Kathleen A. Parks, PhD[c]

[a]School of Psychological Science, Oregon State University, Corvallis, Oregon, USA; [b]College of Health, Oregon State University, Corvallis, OR, USA; [c]Department of Psychology, State University of New York at Buffalo, Buffalo, New York, USA

ABSTRACT

Objective: National College Health Assessment (NCHA) and Campus Safety and Security (CSS) data on sexual assault and alcohol misuse are potentially informative, but evidence of convergence is needed. **Method:** NCHA prevalence data from 73 four-year colleges on female students' sexual assault experiences and students' binge drinking were matched with each institution's CSS data on rape and fondling offenses, and alcohol-related arrests and discipline. **Results:** More rape offenses (CSS) occurred on campuses where female students reported higher rates of sexual touching, attempted penetration, and penetration on NCHA (Spearman's rho = 0.39, 0.40, and 0.34, respectively; $p < 0.01$). Institutions with a higher prevalence of binge drinking on NCHA recorded more alcohol-related arrests and discipline, and rapes on CSS (rho = 0.35, 0.64, and 0.32 respectively, $p < 0.01$). **Conclusions:** Indicators of sexual assault and alcohol misuse from NCHA and CSS may have utility in future research, evaluation, and prevention.

ARTICLE HISTORY
Received 1 November 2024
Revised 18 March 2025
Accepted 6 April 2025

KEYWORDS
Alcohol; binge drinking; college students; crime; sexual assault

Sexual assault and alcohol misuse among young people are significant public health problems that U.S. colleges are expected to monitor and prevent.[1–3] These problems are also interrelated. Specifically, the contexts in which young adults socialize and meet consensual partners often involve alcohol use,[4,5] and intoxication may increase risks of sexual assault through effects on perpetrators, bystanders, and victims.[6–8] Indeed, research has shown that most college sexual assaults involve alcohol use by the perpetrator, victim or both.[9] Several researchers have suggested that sexual assault prevention programs should include a focus on alcohol use.[10,11] There also is some evidence that state-level alcohol policies that reduce college students' alcohol misuse are associated with fewer on-campus rapes.[12,13] However, continued progress in preventing these pressing issues requires further research, campus-level program evaluation, and institutional accountability, all of which hinge on the availability of trustworthy sources of data on sexual assault and problematic alcohol behaviors. The present study focuses on two potential sources of such information: the U.S. Department of Education Office of Postsecondary Education Campus Safety and Security (CSS)[14] statistics database and the National College Health Assessment (NCHA).[15]

Campus safety and security (CSS) database

Since 1990 all institutions that participate in federal student aid programs through Title IX have been required to report annually on a variety of incidents including on-campus rape and fondling offenses, and arrests and disciplinary actions for liquor law violations (e.g., underage use; furnishing a minor).[2] These CSS reports are readily accessible to lawmakers and the public (e.g., prospective students and their parents), offering the potential for institutional transparency and accountability regarding campus safety, as well as utility to public health researchers. However, there is insufficient evidence on whether these data can be used as indicators of the risks facing students. For example, it is unclear how variability in campus culture, reporting procedures, and enforcement could affect the veracity of campus-level crime data for the public and researchers.[16,17] Furthermore, our prior work using CSS reports found instances of implausible data, such as reports of no on-campus rapes in the past year at some large institutions.[12] In addition, one university was recently fined for failures to comply with crime reporting requirements of the Clery Act.[18] Therefore, further evaluation of the convergence of CSS data with other data sources is warranted. One approach is to identify the extent to which campus-level sexual assault and alcohol-related incidents recorded on CSS are correlated with students' reports of relevant experiences at those institutions.

National College Health Assessment (NCHA)

One source of such information is the NCHA survey. To date, over 500 colleges and universities in the U.S. have elected to administer the NCHA by inviting random samples of their students to complete it. Institutions that participate

CONTACT David C. R. Kerr david.kerr@oregonstate.edu School of Psychological Science, Oregon State University, Corvallis, OR, USA.
© 2025 Taylor & Francis Group, LLC

in NCHA are provided with summary prevalence data regarding a variety of health issues experienced by enrolled students including sexual assault and binge drinking, as well as comparisons to the national reference group of participating institutions. However, there are important weaknesses of the NCHA data that have been noted;[19] specifically: (1) it is not based on a random sample of institutions; (2) student-level response rates are relatively low (e.g., 17–23% across academic years 2016–17 to 2018–19); and (3) sex and racial representation do not accurately reflect the U.S. college population (i.e., male and Black students are underrepresented; Asian American students are overrepresented).[20,21] Thus, as with the CSS data, it would be beneficial to evaluate the convergence of NCHA data on sexual assault and binge drinking with another source of data on these issues. Evidence for the veracity of the NCHA campus-level prevalence data would further support its utility when conducting research, program evaluation, or identifying campus prevention priorities.

The current study

Our primary aim was to evaluate associations between CSS and NCHA data on sexual assault; specifically, to determine the extent to which colleges that report higher rates of rape and fondling offenses on the CSS have a higher prevalence of sexual assault based on female students' reports on the NCHA. This study is related to work by Krebs et al. (2022), who compared absolute numbers of student reports of rape on a campus survey with those recorded in the CSS.[16] Specifically, those researchers estimated the total numbers of on-campus rapes (using the same definition as in CSS) that students from nine colleges experienced ($n = 770$ incidents) based on their responses to a survey; respondents indicated they had reported 60 of the rapes to school authorities or campus police. Krebs et al. concluded that the number of reported rapes ($n = 60$) estimated from the survey and the number of those recorded on the CSS ($n = 40$) were not statistically different, offering some support for the veracity of CSS.

Whereas Krebs et al. aimed to corroborate the absolute numbers of CSS reports, our present interest is in estimating the extent to which CSS data on sexual assault crimes are associated with other indicators of campus-level risk for sexual assault. We do so by examining campus-level correlations between CSS on-campus sexual assault crime data and NCHA prevalence data based on student self-reports. In doing so, the present study also provides information on the utility of NCHA, one of the most readily available measures of sexual assault of college students. To our knowledge, college-level prevalence estimates for sexual assaults based on NCHA have not been compared against an external data source. Thus, it is important to consider a range of victimization experiences that students report on NCHA, and whether these are correlated with the more narrowly defined rape and fondling offenses recorded on CSS.

A secondary aim of the present study was to identify associations between CSS and NCHA data on problematic alcohol behaviors; specifically, to estimate the extent to which college-level rates of arrests and disciplinary actions for liquor law violations (CSS) may be correlated with prevalence rates of binge drinking based on student reports (NCHA). Addressing this aim would show the extent to which the information from each data source converges. Prior work has indicated that national estimates of men's and women's binge drinking prevalence and trends over time from NCHA are consistent with those from two other surveys of college student drinking (Monitoring the Future and the National Survey on Drug Use and Health).[19] However, we are not aware of any studies relating NCHA data on binge drinking to an external criterion. In terms of CSS data, numbers of college-level arrests and disciplinary actions for liquor law violations were found to be lower in states with more restrictive alcohol control policies and lower population-level binge drinking.[12] However, other evidence for the validity of CSS data on alcohol-related offenses is lacking.

The third aim of the study was to test the extent to which student reports of binge drinking on NCHA are associated with reports of on-campus sexual assaults on CSS. If such associations are found, these measures of problematic alcohol behaviors from the NCHA and CSS may provide support for increasing or establishing campus sexual assault prevention efforts or be useful as benchmarks or program evaluation targets in such efforts.

Hypotheses

1. The prevalence of self-reported sexual assault victimization by female students as reported on the NCHA will be positively correlated at the campus-level with numbers per capita of on-campus fondling and rape offenses reported on the CSS. Given that CSS does not identify victims' sex, but female students are much more likely to be victims of these offenses,[9] we used only females' self-reports of victimization as the predictor on NCHA.
2. The prevalence of NCHA self-reported binge drinking will be positively related at the campus-level with the numbers per capita of on-campus arrests and disciplinary actions for liquor law violations reported on the CSS.
3. The prevalence of NCHA self-reported binge drinking will be positively correlated at the campus-level with the numbers per capita of on-campus fondling and rape offenses reported on the CSS.

Method

Overview

Methods and hypotheses for this study were pre-registered on Open Science Framework on 9/7/2023 and updated 8/28/2024.[22] The present analyses are based on three sources of data: (1) biannual (Fall/Spring) NCHA data from

academic years 2016 to 2017, 2017 to 2018, and 2018 to 2019, (2) annual CSS data from calendar years 2017–2019, and (3) annual Integrated Postsecondary Education Statistics[23] from 2017 to 2019. We included institutions that met inclusion criteria in the analyses if data were available from all three sources in the same or different years. The Oregon State University IRB determined that the study was not human subjects research.

Data sources and procedures

National College Health Assessment

Institution-level prevalence data on student reports of binge drinking and sexual assault were drawn from executive summaries that survey administrators from the American College Health Association (ACHA) generate and provide to participating institutions.[15] Of note, ACHA will not release individual institutions' NCHA reports or even disclose whether a given institution has ever participated in the survey. Therefore, we obtained executive summaries in three ways. First, some institutions publish their full summaries online. We downloaded these files after conducting online searches with multiple search engines. Second, we identified institutions that appeared to have administered NCHA given that they posted an NCHA summary online from years before or after our study period, reported selected statistics from their NCHA results online (e.g., counseling center webpage), or otherwise alluded to past or future NCHA administrations. After we identified these institutions, we emailed staff from each to request their executive summaries. In our solicitation email we explained the purpose of the study and promised not to disclose the names of individual institutions included in our analyses. We sent two reminder emails to these staff or others they referred us to in order to obtain the report. Finally, we obtained some NCHA reports through public records requests, given that public institutions' executive summaries may be considered part of the public record.

After completing NCHA data collection we used a custom Python script (Python Software Foundation, 2023) to extract all data from the executive summary PDFs. Data from summaries that were in an irregular format were entered manually. Summary reports based only on graduate students were excluded. Campus-level administration data that were available from NCHA reports included year and season of administration (Fall or Spring), overall response proportion, number of respondents, and percentages of respondents who were female, male, or transgender, enabling us to calculate numbers of respondents in each category for weighting purposes.

Campus safety and security

CSS is a repository of publicly available crime statistics that all institutions receiving Title IX funding for federal student aid is required to disclose annually to the U.S. Department of Education[2,14] .We selected data from 2017 to 2019 on the four outcomes for each institution for which NCHA prevalence data were available. To help us evaluate the extent to which our sample of 73 institutions was representative, we also selected data on the outcomes for 1,290 comparable four-year institutions[12]

Integrated postsecondary education statistics (IPEDS)

IPEDS is a data collection program run by the National Center for Education Statistics with the U.S. Department of Education that integrates annual surveys of colleges and universities on institutional characteristics.[23] We used IPEDS data on annual student enrollment to calculate CSS incidents per capita.

Participants

Institutions ($n = 73$), not student respondents, were the unit of analysis. NCHA prevalence data from executive summaries were available from $n = 29$ institutions in 2016–17, $n = 34$ in 2017–18, and $n = 27$ in 2018–19. When institutions provided two or more summaries, we used the 2017–18 report (the modal year) when available; for the remaining institutions with two or more summaries we calculated the mean prevalence estimates weighted by sample size from the 2016–17 and 2018–19 reports.

For every assessment period, ACHA also publishes online an NCHA executive summary for an undergraduate student reference group based on all participating institutions that used random sampling. We synthesized data from these six reference reports (Fall 2016 through Spring 2019) to help us evaluate the extent to which the present sample was representative of the national sample of NCHA institutions. Institutions participating in the present study relative to the national sample were more often public (89 vs. 60%), and there were differences by region (2 vs. 20.5% from the Northeast; 24 vs. 27.7% from the South; 36 vs. 29.6% from the West; 38 vs. 22.2% from the Midwest). Based on IPEDS data, most participating institutions were large (82% had >20,000 students; 14% had 5,000–20,000; and 3% had <5,000), whereas smaller institutions were more represented in the NCHA reference group (25.6% had >20,000 students; 36.6% had 5,000–20,000; 25.6% had <5,000).

Measures

NCHA binge drinking

Prevalence estimates were reported for responses to the question "how many times did you consume five or more drinks in a sitting within the last two weeks?," N/A don't drink; None; 1–2 times; 3–5 times; 6 or more times.

NCHA sexual assault victimization variables

A 12-month prevalence estimates were reported from female respondents indicating "yes" or "no" to the following sexual victimization experiences: *sexual touching* ("Were you sexually touched without your consent?"), *attempted penetration* ["Was sexual penetration attempted (vaginal, anal, oral) without your consent?"], *penetration* ["Were you sexually penetrated (vaginal, anal, oral) without your consent?"], and *sexually abusive intimate relationship* ["have you been in an

intimate (coupled/partnered) relationship that was sexually abusive? (e.g., forced to have sex when you didn't want it, forced to perform or have an unwanted sexual act performed on you?)"].

CSS on-campus outcomes

The four primary outcomes were counts of arrests for liquor law violations, disciplinary actions (for liquor law violations), rape offenses, and fondling offenses all of which were limited to those events that occurred on campus. CSS defines arrests as "persons processed by arrest, citation, or summons" and disciplinary actions as "the referral of any person to any official who initiates a disciplinary action of which a record is established and which may result in the imposition of a sanction."[14]

CSS defines a liquor law violation as "the violation of state or local laws or ordinances prohibiting the manufacture, sale, purchase, transportation, possession, or use of alcohol beverages, not including driving under the influence and drunkenness. Included in this classification were: the manufacture, sale, transporting, furnishing, possessing, etc., of intoxicating liquor; maintaining unlawful drinking places; bootlegging; operating a still; furnishing liquor to a minor or intemperate person; underage possession; using a vehicle for illegal transportation of liquor; drinking on train or public conveyance; and attempts to commit any of the above."

CSS defines rape as "the penetration, no matter how slight, of the vagina or anus with any body part or object, or oral penetration by a sex organ of another person, without the consent of the victim." Fondling is defined as "the touching of the private parts of another person for the purpose of sexual gratification, without the consent of the victim, including instances where the victim is incapable of giving consent because of his/her age or because of his/her temporary or permanent mental incapacity."

CSS variables were reported at the institution-level in 2017, 2018, and 2019. For each, total counts were summed over the three academic years, divided by the sum of annual enrollments across the three years from IPEDS, and multiplied by 10,000. Thus, each CSS variable was the mean number of annual incidents per 10,000 students at each institution.

Data analysis

We analyzed data using the R statistical package.[24] For the primary analytic approach, we used Spearman rank correlations to test hypotheses. We selected this non-parametric equivalent to Pearson correlations given that some variables exhibited zero-inflation and outliers. As a secondary robustness analysis, we conducted Pearson correlations after removing outliers, defined as observations with studentized model residuals with a Bonferroni corrected p-value of less than 0.05. Given that the hypotheses concerned associations between related constructs rather than prediction or model-building, analyses did not include covariates. For example, if the prevalence of self-reported sexual assault correlates with greater numbers of rape offenses per capita, as expected, then attenuation of this effect by a covariate associated with both variables (e.g., public institution) would not enhance the interpretation of the association of interest.

Results

Descriptive statistics

We first considered whether the 73 institutions in the current sample appeared to be representative of the broader population of similar institutions in terms of NCHA and CSS variables. First, Table 1 reports descriptive statistics on NCHA prevalence variables for the current sample and the NCHA undergraduate reference sample as the comparison. Rates of sexual assault and binge drinking variables were similar for the two samples. Second, Table 1 shows descriptive statistics on the CSS variables for the current sample and for the national group of four-year institutions with CSS data. There were more arrests for liquor law violations at institutions in the current sample than in the broader national comparison sample, but few apparent differences on the other outcomes.

Campus-level correlations between prevalence of sexual assault experiences (NCHA) and the numbers of sexual assault offenses (CSS)

Table 2 reports associations at the campus-level between the prevalence of sexual assault experiences reported by female

Table 1. Descriptive statistics on participating and comparison institutions on NCHA predictor variables and CSS outcomes.

NCHA predictors	Present sample mean (SD) of % prevalence	NCHA reference group* % Prevalence#
Females' experiences without consent		
Sexual touching	12.93 (3.48)	13.35
Attempted sexual penetration	5.44 (1.91)	5.38
Sexual penetration	3.52 (1.24)	3.49
Sexually abusive intimate relationship	3.10 (1.20)	3.18
Students' binge drinking		
Females	27.03 (8.27)	27.23
Males	35.63 (10.17)	35.91
All students	29.51 (8.84)	29.65
CSS on-campus outcomes	Present sample mean (SD) annual number per 10,000 students	National CSS** mean (SD) annual number per 10,000 students
Rape offenses	7.64 (6.31)	10.76 (14.26)
Fondling offenses	6.07 (17.97)	6.66 (16.08)
Arrests for liquor law violations	18.15 (37.21)	10.60 (24.44)
Disciplinary actions for liquor law violations	197.17 (210.79)	224.97 (273.27)

Notes. NCHA: National College Health Assessment; CSS: Campus Safety and Security data; SD: standard deviation.

*Mean prevalence across fall and spring NCHA executive summaries for undergraduate reference groups, 2016–2017 through 2018–2019 academic years, weighted by the number of respondents in each report (total $n = 249{,}820$).

**Mean across 2017–2019 based on CSS reports from 1,290 4-year institutions (see Kasimanickam et al., 2023).

#Institution-level prevalence is not available. Therefore, standard deviation cannot be calculated.

Table 2. Spearman correlations of sexual assault experiences reported by female students on NCHA with CSS records of on-campus fondling and rape offenses per capita for academic years 2016–2017 through 2018–2019.

	CSS, fondling offenses	CSS, rape offenses
NCHA, female students' victimization experiences		
Sexual touching without consent	0.26*	0.39***
Attempted sexual penetration without consent	0.15	0.40***
Sexual penetration without consent	0.08	0.34**
Sexually abusive intimate relationship	−0.01	0.20

Note. NCHA: National College Health Assessment; CSS: Campus Safety and Security data.
*$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.

Table 3. Spearman correlations of binge drinking reported by female, male, and all students on NCHA with CSS records of on-campus arrests and disciplinary actions for liquor law violations, and fondling and rape offenses per capita for academic years 2016–2017 through 2018–2019.

	CSS, alcohol arrests	CSS, alcohol disciplinary actions	CSS, fondling offenses	CSS, rape offenses
NCHA, students' binge drinking				
Females	0.32**	0.65***	0.06	0.30**
Males	0.35***	0.63***	0.00	0.33**
All students	0.35***	0.64***	0.01	0.32**

Note. NCHA: National College Health Assessment; CSS: Campus Safety and Security data.
***$p < 0.01$; ***$p < 0.001$.

students on the NCHA and the numbers of on-campus fondling and rape offenses per capita reported by institutions on the CSS. Consistent with hypothesis 1, there were significantly greater proportions of female students reporting nonconsensual sexual touching, attempted penetration, and penetration on NCHA at institutions that reported a higher number of on-campus rape offenses per capita on CSS. With the exception of sexual touching without consent, the prevalence of other sexual assault experiences on NCHA was not significantly associated with CSS fondling offenses reported by institutions. The institution-level prevalence among female students of being in a sexually abusive intimate relationship (NCHA) was not significantly associated with either CSS offense type. After outliers were removed Pearson correlations showed the same patterns.

Campus-level correlations between prevalence of binge drinking (NCHA) and institution-reported alcohol incidents (CSS)

Table 3 reports tests of hypothesis 2, all of which were significant. Consistent with hypotheses, institutions with a higher prevalence of self-reported binge drinking on NCHA reported higher numbers per capita of on-campus arrests and disciplinary actions for liquor law violations on CSS. Pearson correlations with outliers removed showed the same pattern. Associations were nearly identical when run separately by student sex, in part because the institution-level prevalence estimates for male and female students' self-reported binge drinking on NCHA were highly correlated, (Pearson $r = 0.92$, $p < 0.001$).

Campus-level correlations between prevalence of binge drinking (NCHA) and the numbers of sexual assault offenses (CSS)

As shown in Table 3, results were partially consistent with the third hypothesis. At the institution level a higher prevalence of student-reported binge drinking on NCHA was associated with a larger number of on-campus rape offenses per capita on CSS. There were no significant associations between NCHA binge drinking prevalence and CSS fondling offenses, however. Patterns were similar when based only on females' or males' self-reported binge drinking, which, again, were highly associated and therefore not interpretable as distinct effects. With outliers removed, Pearson correlations yielded the same pattern of associations.

Discussion

In the present study, we found consistent associations at the institution-level between the prevalence of female student reports of sexual assault experiences on the NCHA and the numbers of on-campus rapes per capita reported on the CSS. The prevalence of binge drinking reported by students on the NCHA also was associated with alcohol-related arrests and disciplinary actions, as well as numbers of rape offenses recorded on the CSS. These findings provide new evidence of convergence in these sources of data on sexual assault and problematic alcohol behaviors on college campuses. In addition, this study suggests that campuses on which binge drinking is more prevalent pose a greater risk of sexual assault to female students than campuses on which binge drinking is less widespread.

In a typical validation study, one measure would be evaluated in relation to an established ("gold standard") criterion. However, the current study examined the relation between two approaches to measurement for which evidence of validity is scant—prevalence data from NCHA student survey items and public campus crime records from CSS. NCHA and CSS each measure different constructs relevant to sexual assault. Specifically, NCHA survey items pertained to sexual victimization experiences, the majority of which go unreported, whereas CSS records reports of incidents of victimization that had been escalated to campus staff or police. Similarly, NCHA and CSS index different problematic alcohol behavior constructs: NCHA measures binge drinking that rarely attracts attention from policy and law enforcement, whereas CSS records arrests and disciplinary action for a variety of on-campus alcohol-related violations. Thus, findings from the present study are based on correlations and are best understood as evidence of convergent validity, rather than correspondence and criterion validity.[16] That is, the findings indicate that on campuses with a higher prevalence of alcohol misuse and sexual assault of female students, there are more recorded criminal incidents of a corresponding nature.

Both NCHA and CSS data sources have been viewed with skepticism. For example, scientific and college staff stakeholders may speculate that students who are willing to complete surveys are not representative or are reluctant to disclose sensitive information or illegal behavior (e.g., underage drinking). Stakeholders also may question whether institutions are motivated to investigate and publicly document sexual assault allegations on CSS.[17] The present findings cannot rule out any of these concerns, and indeed most of the associations reported herein were small in magnitude. Still, the consistent associations that institution-level sexual assault prevalence had with CSS rape offenses, and the especially strong relations (rho > 0.60) that binge drinking prevalence had with CSS disciplinary actions for liquor law violations are noteworthy. In all, the findings suggest that both assessment types may provide researchers, prevention staff, and college administrators with information regarding two critical threats to students' health and well-being.

We do not interpret the experiences and behaviors that students reported on NCHA to be the same incidents that culminated in arrests, disciplinary actions, or offenses recorded in CSS. Rather, the correspondence of NCHA and CSS variables may suggest the presence of cultural or systemic contexts where: (1) more female students report sexual assault experiences and more rape offenses occur; and (2) in the case of alcohol misuse, contexts where more students binge drink and face more arrests and discipline for violating liquor policies. We also wish to note that the sexual touching, attempted penetration, and penetration experience items on NCHA are not mutually exclusive and may not involve distinct events. Therefore, we did not interpret the associations that the prevalence of sexual touching and attempted penetration had with rape offenses separately.

The prevalence of female students' reports of being in a sexually abusive relationship on NCHA was not significantly associated with on-campus rape or fondling offenses recorded on CSS. Although contrary to our hypothesis, these findings may reflect that sexual assaults involving current or former intimate partners—which accounted for 29.3 and 15.7% of rapes reported by college women in the 2019 AAU Campus Climate Survey[9]—are less likely to be reported to authorities compared to other sexual assaults.

Fondling offenses on CSS were most strongly associated with the campus-level prevalence among female students of unwanted sexual touching, which is the most comparable NCHA item. Otherwise, fondling offenses on CSS were less associated than CSS rape offenses with the prevalence of female students' sexual assault experiences (or with students' binge drinking) reported on NCHA. Although we are hesitant to interpret null effects, the different patterns may be related to the different physical and interpersonal contexts in which rape and fondling occur. For example, on the AAU Campus Climate Survey college women reported that sexual touching incidents (i.e., fondling) with physical force or inability to consent more often occurred in a restaurant, bar, or club (19.5%) or fraternity (20.1%), and more often involved a person the victim didn't know (35.9%) than did penetration (rape) incidents (3.1, 10.7, and 15.8%, respectively).[9] Perhaps these reasons explain why fondling victims who participated in the AAU survey less often reported the incident (20.8%) than rape victims (42.9%). Thus, it is possible that these dynamics help explain the weaker statistical associations we observed between self-reported experiences of unwanted touching (i.e., fondling) on NCHA and fondling offenses that were officially reported on CSS. The lack of association between the prevalence of being in a sexually abusive relationship on NCHA and on-campus fondling offenses on CSS also may reflect that female students are less likely to report unwanted sexual touching to campus officials or police if it occurs in the context of a relationship; and conversely, that publicly documented fondling offenses most often occur outside the context of dating or partnership.

Overall, these findings indicate that the prevalence of a range of sexual assault victimization experiences reported by female students on the NCHA and the numbers per capita of on-campus rape offenses each may be tools for characterizing aspects of the sexual assault risk climate of college campuses. Although statistically significant, the correlations are relatively modest (NCHA items explaining 4–16% of the variance in CSS records) and therefore should not be taken as evidence that CSS data are complete or accurate. Still, both data sources may have utility when conducting needs assessments, evaluating alcohol and assault prevention program efficacy, or making comparisons to peer institutions or other reference groups.

Another contribution of the present study is our finding of a clear positive association between a higher prevalence of student binge drinking at a college or university and the numbers of rape offenses reported per capita at the same institution. The prevalence of binge drinking among male and female students at the same institution was highly correlated. Therefore, our analyses cannot attribute the association to men's or women's drinking, or to the behavior of perpetrators, victims, or bystanders during the sexual assaults that occurred. It is possible that the association between binge drinking and rape offenses is not causal but is instead due to unmeasured confounders; for example, institutions may have lower rates of both problems because of greater investment in prevention programming, policy enforcement, staff training (e.g., residence life), or other systemic factors. Still, prior research indicates that alcohol is often implicated when college students are sexually assaulted, and intoxication increases risk via myriad pathways.[6,8,9]

Currently, there are no prevention programs that include a focus on alcohol reduction strategies for all college students and have reduced both heavy alcohol consumption and sexual victimization and perpetration. AlcoholEDU and Sexual Assault Prevention for College Students[25] are being implemented widely to reduce risks for heavy drinking and sexual aggression among incoming students; specifically, more than 11 million individuals have completed AlcoholEDU,[26] and an estimated 700,000 annually,[25] and 2,100 institutions use Sexual Assault Prevention for College Students.[25] A multisite randomized trial found short-term (past 30-day) decreases in alcohol problems and victimization at colleges implementing AlcoholEDU with incoming freshmen.[27] Ongoing efforts are needed to develop efficacious interventions that include alcohol reduction strategies and have long-term impacts on the pernicious problems of binge drinking and sexual assault on college campuses.

Limitations

The study has several limitations related to potential bias and generalizability. First, institutions self-select to participate in NCHA and may not be representative of all U.S. collegiate institutions. Furthermore, even among institutions that did participate in NCHA, only a small number were included in the present study. Private institutions and those from the Northeast were especially underrepresented. Given mandates for public transparency, public institutions may have been more willing to share their results with this team. We cannot assess whether there were selection biases related to institutional awareness of and investments in students' health, safety, and well-being. On balance, participating institutions were similar to national comparison samples on the NCHA and CSS variables of interest. A second limitation is that student-level response rates on NCHA are low and prevalence estimates are unweighted, despite underrepresentation of some groups.[21] Relatedly, there were too few gender minority students for subgroup analyses, although their data were included in tests of the second and third hypotheses. Third, we did not have access to respondent-level NCHA data or incident-level CSS data. As such, we could not exclude cases or adjust for individual characteristics associated with alcohol use and sexual assault (e.g., age, on-campus residence). Given these limitations, we recommend that future researchers who wish to use NCHA data coordinate with ACHA stakeholders to improve institutional trust and participation. Developing a repository of NCHA data that can be matched with other campus- and community-level data while still protecting student participants' privacy would yield additional discovery using this valuable extant resource, and ultimately promote prevention.

This study also had measurement limitations. First, self-report items from the NCHA data were not limited to on-campus incidents whereas we selected CSS variables concerning only on-campus events. In addition, the NCHA self-report items that used 12-month reporting periods included events that occurred when some students were not attending college or were not on campus (e.g., winter break). Second, we focused on offenses, arrests, and disciplinary actions that occurred on-campus. Therefore, findings may not generalize to crimes in other locations (e.g., off-campus apartments) that involved students, which are recorded in CSS but not examined here. Additionally, it cannot be assumed that victims or perpetrators of on-campus crime were students. Finally, although students of any age can report binge drinking on NCHA, minors may be overrepresented in the CSS data on arrests and disciplinary actions for liquor law violations given that underage use and possession of alcohol are crimes.

Conclusions

A higher prevalence of sexual assault as reported by female students on the NCHA coincides with a higher number of official reports of rape (and to some extent fondling) offenses on CSS on college campuses. Similarly, on campuses where more students report recent binge drinking there are more reported arrests and disciplinary actions for alcohol violations and more rape offenses. These findings provide evidence for the convergent validity of NCHA and CSS as indicators of sexual assault and problematic alcohol behaviors and suggest the two data sources have utility for public health research and prevention planning.

Acknowledgements

The authors thank the staff at institutions who facilitated access to NCHA reports, and Rebecca Killion and Christopher Pugh for their assistance with data collection.

Ethical approval

The authors confirm that the research presented in this article met the ethical guidelines, including adherence to U.S. legal requirements. No ethics approval was required for this study as it used publicly available aggregate data and therefore was not considered human subjects research.

Author contributions

Kerr: conception and design, data interpretation, drafting of the paper. Kasimanickam: design, data analysis. Bae: conception and design, data interpretation. Bradford: data analysis and interpretation. Parks: data interpretation. All authors revised the paper critically for intellectual content, approved the final version to be published, and agree to be accountable for all aspects of the work.

Conflict of interest disclosure

The authors have no conflicts of interest to report. The authors confirm that the research presented in this article met the ethical guidelines, including adherence to the legal requirements, of the United States and was deemed "not human subjects research" by the Oregon State University Institutional Review Board.

Funding

This study was supported by funding from the National Institute on Alcoholism and Alcohol Abuse [R21AA030389] awarded to David Kerr. Points of view reflect those of the authors and not the funding agency. The funding agency had no role in the design of the study, data collection or analysis, interpretation of results, or the decision to submit this manuscript for publication. Additionally, the opinions, findings, and conclusions reported herein are those of the authors, and are in no way meant to represent the corporate opinions, views, or policies of the American College Health Association (ACHA). ACHA does not warrant nor assume any liability or responsibility for the accuracy, completeness, or usefulness of any information presented in this paper.

References

1. Rep. Salmon M [R A 5]. Text – H.R.3403 – 114th Congress (2015–2016): Safe Campus Act of 2015. 2015, November 16. https://www.congress.gov/bill/114th-congress/house-bill/3403/text. Accessed October 30, 2024.
2. U.S. National Archives and Records Administration. 34 CFR 668.46 – institutional security policies and crime statistics. https://www.ecfr.gov/current/title-34/part-668/section-668.46. Accessed October 30, 2024.

3. U.S. National Archives and Records Administration. 34 CFR part 86 – drug and alcohol abuse prevention. https://www.ecfr.gov/current/title-34/part-86. Accessed October 30, 2024.
4. Fielder RL, Carey MP. Prevalence and characteristics of sexual hookups among first-semester female college students. *J Sex Marital Ther*. 2010;36(4):346–359. doi:10.1080/0092623X.2010.488118.
5. LaBrie JW, Hummer JF, Ghaidarov TM, Lac A, Kenney SR. Hooking up in the college context: the event-level effects of alcohol use and partner familiarity on hookup behaviors and contentment. *J Sex Res*. 2014;51(1):62–73. doi:10.1080/00224499.2012.714010.
6. Abbey A. Alcohol's role in sexual violence perpetration: theoretical explanations, existing evidence and future directions. *Drug Alcohol Rev*. 2011;30(5):481–489. doi:10.1111/j.1465-3362.2011.00296.x.
7. Leone RM, Haikalis M, Parrott DJ, DiLillo D. Bystander intervention to prevent sexual violence: the overlooked role of bystander alcohol intoxication. *Psychol Violence*. 2018;8(5):639–647. doi:10.1037/vio0000155.
8. Abbey A. Alcohol-related sexual assault: a common problem among college students. *J Stud Alcohol Suppl*. 2002;Suppl(s14):118–128. doi:10.15288/jsas.2002.s14.118.
9. Cantor D, Fisher B, Chibnall S, et al. Report on the AAU campus climate survey on sexual assault and misconduct. Westat for the Association of American Universities (AAU); 2020:362. https://ira.virginia.edu/sites/g/files/jsddwu1106/files/2022-11/aau-uva-campus-climate-survey-report-2019_508.pdf. Accessed October 30, 2024.
10. Lewis MA, Rhew IC, Fairlie AM, Swanson A, Anderson J, Kaysen D. Evaluating personalized feedback intervention framing with a randomized controlled trial to reduce young adult alcohol-related sexual risk taking. *Prev Sci*. 2019;20(3):310–320. doi:10.1007/s11121-018-0879-4.
11. Testa M, Livingston JA. Alcohol consumption and women's vulnerability to sexual victimization: can reducing women's drinking prevent rape? *Subst Use Misuse*. 2009;44(9–10):1349–1376. doi:10.1080/10826080902961468.
12. Kasimanickam MR, Kerr DC, Killion RE, Naimi TS, Lira MC, Bae H. State alcohol policy environments of US colleges: predictors of sexual assault and alcohol-related arrest and disciplinary action. *Am J Prev Med*. 2024;66(1):1–9. doi:10.1016/j.amepre.2023.09.015.
13. Newlands R, O'Donohue W. A critical review of sexual violence prevention on college campuses. *Acta Psychopathologica*. 2016;02(02):14. doi:10.4172/2469-6676.100040.
14. U.S. Department of Education Office of Postsecondary Education. Campus safety and security. https://ope.ed.gov/campussafety/#/institution/search. Accessed October 30, 2024.
15. American College Health Association. National College Health Assessment. https://www.acha.org/ncha/. Published online 2024.
16. Krebs C, Lindquist CH, Langton L, et al. The value and validity of self-reported survey data on the rape experiences of college students. *Violence Against Women*. 2022;28(9):1911–1924. doi:10.1177/10778012221079372.
17. Clarke AE. Why using campus security stats to rank colleges won't work. HuffPost; 2014, April 18. https://www.huffpost.com/entry/why-using-campus-security_b_5175194. Accessed October 30, 2024.
18. Finley B. Liberty university fined $14 million under the federal Clery Act | AP News; 2024. https://apnews.com/article/liberty-university-clery-act-fine-ac7f365762fb8ac8a4abb86cf4613d33. Accessed October 30, 2024.
19. Kerr DCR, Bae H. Comparing National College Health Assessment with other surveys of cannabis use and binge drinking among young adult college students 2008–2018. *Journal of American College Health*. 2025;73(1):1–8. doi:10.1080/07448481.2023.2201859.
20. Jackson ZA, Sherman LD. National College Health Assessment sampling: organizational barriers preventing black participation and organizational solutions for appropriate representation. *J Am Coll Health*. 2019;67(6):501–504. doi:10.1080/07448481.2018.1499647.
21. Kerr DC, Bae H, Alley ZM. Enhancing gender and ethnic representativeness of NCHA-II data with survey weights: the examples of substance use prevalence and state marijuana legalization. *J Am Coll Health*. 2021;69(4):370–377. doi:10.1080/07448481.2019.1679151.
22. Kerr D, Bae H, Bradford DE, Kasimanickam M. Validating campus crime statistics using self-report measures; 2024. https://osf.io/x85sy/resources. Published online 2023. Accessed October 30, 2024
23. National Center for Education Statistics. The integrated postsecondary education data system. https://nces.ed.gov/ipeds/. Accessed October 30, 2024.
24. R Core Team. R: a language and environment for statistical computing (version 4.3.0). https://www.R-project.org/. Published online 2023.
25. Vector Solutions. 2025. www.vectorsolutions.com.
26. Vector Solutions. Vector Solutions' AlcoholEDU® for college surpasses 11 million-user milestone; 2022. https://www.globenewswire.com/news-release/2022/04/19/2424522/0/en/Vector-Solutions-AlcoholEDU-for-College-Surpasses-11-Million-User-Milestone.html.
27. Paschall MJ, Antin T, Ringwalt CL, Saltz RF. Effects of AlcoholEdu for college on alcohol-related problems among freshmen: a randomized multicampus trial. *J Stud Alcohol Drugs*. 2011;72(4):642–650. doi:10.15288/jsad.2011.72.642.