



Substance Use, Sexual Violence, and the Culture Surrounding College Sports: What Can Clery Data Tell Us?

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Sexual violence and substance use have long been issues on American college campuses. Today's legal landscape requires that institutions seek to reduce, redress, and report incidents related to these social problems. This study builds on previous research investigating whether the parties, tailgating, and excessive drinking affiliated with college sports contributes to increased rates of sexual violence and substance use on campuses. We collected data from federally mandated Clery Act reports over a three-year range. Utilizing a negative binomial regression analysis, we analyzed data from institutions belonging to NCAA Division I (FBS and FCS), Division II, and Division III. Our results indicated that rates of sexual violence and substance use infractions were higher on campuses that compete in the NCAA's "Power Five" subdivision. Recommendations are provided to institute novel interventions and educational programming to address campus culture and environmental factors that may contribute to increased incidents of reported substance infractions and sexual violence.

Keywords: intercollegiate athletics, sexual violence, substance use infractions, Clery Act, campus culture

The issue of sexual violence on college campuses really came to a head during President Obama's administration with the commissioning of "Not Alone," a seminal report prepared by the White House Task Force to Protect Students from Sexual Assault, co-chaired by the Office of the Vice President and the White House Council on Women and Girls (White House, 2014). Research published at that time signaled pandemic proportions of campus sexual violence across American higher education: An estimated one in five women are victims of completed or attempted sexual assault while in college (Ali, 2011; Muehlenhard et al., 2017). However, according to a study released by the Obama White House, only approximately 12% of victims come forward to report sexual violence (Harvey, 2014).

The best count available of college sexual violence, as well as other campus-related crimes, is via yearly Clery Act reporting. Nearly 30 years ago following the tragic rape and murder of a Lehigh University student, Congress passed the Jeanne Clery Disclosure of Campus Security Policy and Campus Crime Statistics Act in (20 U.S.C. § 1092 (f)). The Clery Act mandates that all institutions of higher education receiving federal funding compile, file, and make public statistics related to crime on or adjacent to their campus. In addition to statistics related to sexual violence (including forcible and non-forcible sex offenses, domestic violence, dating violence, and stalking), campuses must maintain statistics related to murder (including manslaughter), robbery, aggravated assault, burglary, motor vehicle theft, arson, hate crimes, weapons possession, and any student referred for disciplinary action related to liquor law and drug-related violations.

The statistics correlating substance use and sexual assault are staggering, with more than half of all reported sexual assaults involving alcohol consumption (Abbey, 2002; Lawyer et al., 2010; United Educators, 2015). While there is a significant body of literature that investigates links between certain student subpopulations and rates of sexual violence (e.g., men who belong to Greek-letter organizations and male student-athletes), little research has been conducted into whether the presence of college sports—and the parties, tailgating, and excessive drinking associated with college spectator sports is associated with an increase in sexual violence and substance use violations on the campus as a whole. This study explored whether there is a higher incidence of reported sexual violence and substance use on campuses with high profile nationally competitive football programs.

Substance Use, Sexual Violence, and College Sports: Literature Review

There is a growing body of literature that supports the notion that the presence of highly competitive college sports on a campus contributes to greater incidences of drinking and sexual assault. Lindo et al. (2018) examined rates of campus sexual assault as reported via FBI data (not Clery data, as was utilized in our study) and found greater instances of crime on campuses with higher-profile athletic teams and on campuses ranked high on the "party school" index by the Princeton Review. (Princeton Review utilizes survey results from students regarding their perception of the prevalence of alcohol and drugs among students, number of hours reported studying outside of class, and the proportion of fraternity and sorority members to the general student body.)

Lindo et al. (2018) examined crime statistics from 96 institutions that participate in Division I-A football and, while controlling for variance across days of the week and times of the year, found a 28% increase in reports of rape among 17-24 year-old victims on college football game day and the morning after—a 41% increase during home games and 15% increase during away games—which amounted to an additional 832 rape reports annually across the schools in Division I-A football. Additionally, Lindo et al. (2018) found that on game day, reports of other crimes increased as well—disorderly conduct (54%), DUI (20%), drunkenness (87%), and liquor law violations (102%).

Stotzer and MacCartney (2016) studied institutional level factors at 524 four-year U.S. college and university campuses and found that over a three-year period, increases in sexual violence reported via Clery data were associated with the number of students who live on campus, campus alcohol policies, and the institution's respective level of division membership in NCAA athletics.

Wiersma-Mosley et al. (2017) studied Clery data from 2014, examining rape and liquor violations per 1,000 students (as a proxy for “party culture”), along with the rate of students belonging to Greek-letter organizations, the number of student-athletes per 1,000 students enrolled, the number of sports teams per 1,000 students enrolled, overall student enrollment, tuition cost, percentage of the student population who identify as White, location of the campus, and whether the institution is public or private. The study compared campuses that compete in NCAA Division I athletics against all other NCAA competitive divisions, and also included campuses with no athletic teams. The researchers found that campuses with higher rates of liquor violations, higher proportions of men involved in Greek-letter fraternities and men belonging to athletic teams, the net profits of the athletic programs, and whether an institution belonged to Division I were all associated with a higher proportion of rapes reported on campuses. Later, Wiersma-Mosley and Jozkowski (2019) re-examined the single-year data set with a similar finding. Controlling for alcohol violations and overall student enrollment, they found that campuses that compete in NCAA Division I athletics reported significantly higher incidences of sexual violence as compared to other NCAA divisions or campuses with no athletic programs.

In a multi-year study of sexual violence reported via Clery data (from 2014-2016), Wiersma-Mosley et al. (2020) utilized a latent class analysis to determine if party schools (defined as campuses that compete in high-level college sports with large student populations and a disproportionate number of students belonging to Greek-letter organizations) experience greater incidences of reported sexual violence than compared to what the researchers labeled as smaller, liberal arts, satellite, and private campuses. Contrary to their hypothesis, Wiersma-Mosley et al. did not find that party schools reported more sexual violence cases than other types of institutions. (This was contrary to Wiersma-Mosley et al.'s findings in 2017, to which they attributed to certain institutional types not fully complying with the mandates of the Clery Act and the Violence Against Women Act, though they do not provide strong support for this.)

Methods

Our study builds on earlier research to explore whether the presence of big-time college sports permeates across the general student body, contributing to a culture conducive to more substance use violations and reports of sexual violence. Research already closely links the former to the latter (e.g., Abbey et al. (2002); Abracen et al. (2000); Parkhill & Abbey (2002); Testa (2002)).

Our data set included public and private institutions from Division I Football Bowl Subdivision (FBS), Division I Football Championship Subdivision (FCS), Division II, and Division III football programs. Our sample size included 649 institutions, with complete data from 568 institutions. We utilized campus alcohol policies (whether students of age are allowed to possess alcohol on campus), percent of students living on campus, and the male-female ratio of the student body as control variables. This information was obtained from each institution's self-reported data in the *U.S. News & World Report Best Colleges Rankings*

Additionally, we utilized data regarding campus crime over a three-year span (2014-2016), which was obtained from the U.S. Department of Education's Campus Safety and Security website (U.S. Department of Education, 2018). Our initial analysis included campus location (i.e., urban, suburban, or rural) and percentage of students belonging to Greek Letter societies. While the latter has been associated with both substance abuse and alcohol (e.g., Murnen & Kohlman, 2007), our analysis did not find a relationship, likely in large part due to the limitations of the Clery dataset that only captures on-campus incidents. In the interest of parsimony, we removed these variables from our final analysis as it improved model fit.

For the purposes of this analysis, the dependent variable is the number of substance-related incidents per institution per student enrolled (Models 1 and 3) and incident rate of reported sexual assault by student (Models 2 and 4). These are dichotomous measures calculated directly from the Clery data set.

The primary independent variables of interest included:

- *NCAA Division Membership*: We created a series of dichotomous variables to indicate membership in FBS, FCS, Division II, Division III conferences, and the variable Power Five to indicate membership in one of the Power Five subdivisions: Southeastern Conference, Atlantic Coast Conference, Big Ten Conference, Big 12 Conference, and Pac-12 Conference. In Models 1 and 2, the Power Five variable is in the base of the model, and institutions in each of the other subdivisions are compared to the Power Five. In Models 3 and 4, Power Five is an independent variable and is compared to all other institutions *not* in the Power Five, which is the base of the model.

To control statistically for other factors that might be linked to reported incidences of sexual violence and substance use, we included a number of other control variables. These included:

- *Campus alcohol policies*: This variable represents whether a campus allows of-age students to possess alcohol on campus. This variable is included because alcohol use is a well-established risk factor for sexual violence (Abbey, 2002; Krebs et al., 2009).
- *In-Residence* – Because Clery data captures incidents solely reported to have occurred on campus, we included a variable that measures the percentage of students who live in on-campus housing.
- *Male student enrollment* – The percent of male students enrolled at each institution was included in the analysis because, as research supports, most college sexual assaults are committed by men (Siers-Poisson, 2014).

We conducted a negative binomial regression analysis with a sandwich estimation of the standard errors to provide a more conservative p-value. This allowed us to examine separately the independent effects of a number of factors on the incidences of sexual assaults as well as substance use violations as reported in the Clery data at select NCAA member institutions. Because Clery data only captures incidents that occur on campus, the variable related to the percent of students living on campus is intuitive. Similarly, with campus alcohol policies: If a campus does not allow alcohol, consumption will most likely occur off campus. Additionally, data from the Clery Act may disproportionately represent statistics from campuses with extremely high on-campus residential populations.

Results and Limitations

Statistically significant relationships are summarized in Table 5. When compared to the Power 5, all other divisions have statistically significant lower levels of sexual assault and substance abuse infractions than institutions not in the Power 5. Additionally, policies allowing for the possession of alcohol on the campus were also positively associated with sexual assault and substance abuse infractions at public universities.

The dependent variables represent incident rates and the binomial regression technique allowed us to estimate the number of incidents at the mean for the number of students living on campus, as well as the percentage of male students who comprised the student population by calculating the anti-log of the intercept. Thus, the Model 1 (Table 1) estimate for the number of alcohol and drug violations is 221.41 at a Power Five institution that allows students to possess alcohol on campus (with an average number of male students and students living on campus).

Table 1

Number of substance-related incidents per institution per student enrolled

Variables	Estimate	Ratio
Intercept (Power Five)	5.40*	221.41
FBS	-1.13*	0.32
FCS	-1.11*	0.33
Division II	-1.40*	0.25
Division III	-1.49*	0.23
Alcohol	0.94*	2.56
% campus residents	0.27	
% male	0.36	
Public	0.65*	1.92

**Indicates significance at p-value < 0.05*

Using this same method, the number of sexual assaults at a Power Five institution is estimated to be 8.00 (Model 2). The comparable estimates for schools not in the Power 5 are 55.70 for alcohol and drug violations (Table 3) and 2.41 sexual assaults (Table 4). The coefficients associated with the variables in the models provide odds ratios for our primary variables of interest: sports culture as operationalized by NCAA competitive division and the various control variables included in the model.

Specifically, in Model 1, our findings indicate that institutions that are in the Football Bowl Subdivision, but not in the Power Five, are likely to have 0.32 times the alcohol and drug

incidents of institutions belonging to the Power Five, holding all else constant. Institutions that are in the Football Championship Subdivision are likely to have 0.33 times the alcohol and drug incidents of institutions in the Power Five, holding all else constant. Institutions that compete in Division II are likely to have 0.25 times the alcohol and drug incidents of institutions in the Power Five, holding all else constant. Institutions that compete in Division III are likely to have 0.23 times the alcohol and drug incidents of institutions in the Power Five, holding all else constant. (See Table 1.) Regarding the control variables, in this same model, institutions that allow students to possess alcohol are likely to have 2.56 times the alcohol and drug incidents of institutions that do not allow for alcohol possession, holding all else constant. Public institutions are likely to have 1.92 times the alcohol and drug incidents of private institutions, holding all else constant.

Model 2 has the same specifications as Model 1 but has the incident rate of sexual assault as the dependent variable. In this model, schools in the Football Bowl Subdivision that do not belong to the Power Five are likely to have 0.60 times the incidents of sexual violence compared to institutions in the Power Five, controlling for other factors. Institutions that compete in the Football Championship Division are likely to have 0.44 times the reported incidences of sexual violence compared to institutions in the Power Five, holding all else constant. Institutions that compete in Division II are likely to have 0.24 times the reported incidences of sexual violence compared to institutions in the Power Five, holding all else constant. Institutions that compete in Division III are likely to have 0.29 times the reported incidences of sexual violence compared to institutions in the Power Five, holding all else constant. (See Table 2.)

Table 2

Number of sexual assault reports per institution per student enrolled

Variables	Estimate	Ratio
Intercept (Power Five)	2.08*	8.00
FBS	-0.51*	0.60
FCS	-0.82*	0.44
Division II	-1.44*	0.24
Division III	-1.25*	0.29
Alcohol	0.59*	1.80
% campus residents	1.56*	4.76
% male	-0.78*	0.46
Public	0.75*	2.11

**Indicates significance at p-value < 0.05*

Regarding control variables in Model 2, institutions that allow students to possess alcohol are likely to have 1.80 times the number of reported incidences of sexual violence than institutions that do not permit alcohol, holding all else constant. The expected number of incidences of sexual violence would change by 4.76 for each percentage increase in the number of undergraduates that live on campus, holding all else constant. The expected number of incidents of sexual violence would change by 0.46 for each percentage increase in the number of males who live on campus, holding all else constant. Public institutions are likely to have 2.11 times the number of reported incidences of sexual violence than private institutions, holding all else constant.

In Model 3 and Model 4, the independent variable of interest is Power Five, which allows us to estimate coefficients with all non-Power Five schools in the bases of the models. In Model 3, which estimates the number of alcohol and drug violations, institutions that belong to the Power Five are likely to have 3.60 times the reported alcohol and drug incidents compared to other institutions, holding all else constant. Institutions that permit students to possess alcohol are likely to have 2.66 times the incidents of reported alcohol and drug violations than institutions that have a policy disallowing the possession of alcohol, holding all else constant. Public institutions are likely to have 2.05 times more the reported alcohol and drug incidents of private institutions, holding all else constant. (See Table 3.)

Table 3

Number of substance-related incidents per institution per student enrolled: Power Five institutions compared to all other NCAA football programs

Variables	Estimate	Ratio
Intercept	4.02*	55.70
Power Five	1.28*	3.60
Alcohol	0.98*	2.66
% campus residents	0.13	
% male	0.38	
Public	0.72*	2.05

**Indicates significance at p-value < 0.05*

In Model 4, which utilizes incidents of sexual assault as the dependent variable, institutions that belong to the Power Five are likely to have 2.69 times the number of sexual violence reports than institutions not in the Power Five, holding all else constant. Institutions that permit students to possess alcohol are likely to have 2.03 times the number of reported incidents of sexual violence than those institutions that do not permit the possession of alcohol, holding all else constant. The expected number of reported sexual violence incidents would change by 3.71 for each percentage increase in the number of undergraduates that live on campus, holding all else constant. The expected number of reported sexual violence incidents would change by 0.52 for each percentage increase in the number of males who live on campus, holding all else constant. Public institutions are likely to have 2.41 times more reported incidents of sexual violence than private institutions, holding all else constant. (See Table 4.)

Table 4

Number of sexual assault reports per institution per student enrolled: Power Five institutions compared to all other NCAA football programs

Variables	Estimate	Ratio
Intercept	0.88*	2.41
Power Five	0.99*	2.69
Alcohol	0.71*	2.03
% campus residents	1.31*	3.71
% male	-0.66	0.52
Public	0.88*	2.41

**Indicates significance at p-value < 0.05*

Though our data confirms our hypothesis about the effects that big-time college sports can have on the entire campus and overall student body, there are limitations—mainly that our primary data source, annual Clery reports, only include crimes reported on campus. Thus, any crimes committed by or against students off-campus, including in off-campus housing or at off-campus bars, would not be included in the Clery-related statistics. The study conducted by Lindo et al. (2018), which examined crime statistics from Division I FBS members by utilizing the National Incident Based Reporting System, included all crimes reported within the city where each institution is located, but that data could have included crimes committed by and against people unaffiliated with the institution.

Table 5

Summary of Relationships

Variable	Alcohol citations (+/-, #models)	Sexual Assault (+/-, #model)
FBS	- #1	- #2
FCS	- #1	- #2
Division II	- #1	- #2
Division III	- #1	- #2
Power 5	+ #3	+ #4
Alcohol	+ #1; + #3	+ #2; + #4
% Campus student	+ #2	+ #4
% Male		- #2;
Public	+ #1; + #3	+ #2; + #4

Conclusions and Policy Recommendations

The results of our study indicate an alarmingly higher number of reported sexual violence and substance use infractions at institutions that compete in the NCAA's Power Five. Indeed, sexual assault and alcohol infractions have common covariates. This does suggest that the culture inherent with college sports and related parties and festivities may be correlated with such cases. What can administrators do in response? For one, administrators should seek to curb the amount of alcohol available on gameday, as well as limit the time allotted for tailgating. For example, during the Fall 2019 season at Louisiana State University, ESPN's College GameDay was broadcast live beginning at 8am for a football kickoff 12 hours later. When the party spans nearly 24 hours, one can only expect an uptick in alcohol consumption. Campus police logged 27 arrests that day.

Environmental factors should also be considered when addressing this pervasive problem. With alcohol advertisements adorning college stadiums and featured in campus newspapers, and city zoning laws that allow for bars and restaurants profiting from cheap beer and liquor specials aimed at the college student clientele, many college environments "actively promote drinking, or passively promote it, through tolerance, or even tacit approval, of college drinking as a rite of passage" (Task Force, 2002, p. 1).

Though education has not proven to be an effective deterrent (Gehring et al., 2013), efforts to reduce the availability of alcohol to college students could curb some of the problem. Narayanswamy and Myers (2014) reported for *The Chronicle of Higher Education* that, for example, there are 60 places that serve alcohol within one-fourth mile of the University

of Georgia campus, and 100 places to drink alcohol within one-fourth mile of the University of Nebraska at Lincoln campus. Campus-community coalitions can be effective tools in shifting the town-gown relationship to one of shared responsibility and cooperation for reducing college student binge drinking (e.g., Gebhardt et al., 2000). Campus partners must also monitor the effect that the presence of alcohol can have on its campus. Recently, the SEC revised its alcohol policy to provide autonomy to member institutions to decide whether to avail alcohol to spectators (Southeastern Conference, 2019). Research should be conducted as to whether campuses that have opted to sell alcohol report higher substance and sexual assault-related infractions on and around game day.

Throughout the year, too, campuses should be diligent in monitoring campus culture. Already, Title IX regulations require that institutions appropriately respond to known violations of sexual violence, and provisions of the Collegiate Initiative to Reduce Binge Drinking and Illegal Alcohol Consumption (20 U.S.C § 1011 (h)) require that institutions create a student/faculty taskforce and town/gown alliance to reduce the culture of drinking on campus, as well as to provide alcohol-free campus programming (Blanchard & Rojas, 2018).

However, instead of increasing federal regulations and oversight, we advocate that campuses could utilize these resources to invest in programs that address substance use issues and teach students about consent. An overwhelming number of the victims of college sexual violence are underclassmen. In a study conducted by United Educators, 54% of victims were freshmen and 19% were sophomores (United Educators, 2015). Additionally, college students today lack a full understanding of what constitutes rape, including sexual intercourse in which one or more partner was incapacitated and incapable of providing consent (Wilson, 2015). Lisak and Miller (2002) surveyed 1,882 men at the University of Massachusetts at Boston and found that 6%, or 120 men, admitted to committing acts that constituted the definition of rape. Seventy-six of those men reported that they committed more than one rape, averaging six rapes each.

Some universities have already turned their attention to funding education and prevention programming. Tulane University hired two new staff positions to work to prevent sexual assault: an “assistant director of fraternity life who specializes in men’s education, and a health-promotions specialist who will educate graduate and professional students on sexual assault.” The university also plans to begin a men’s mentoring program focused on male behavior (Field, 2018). The University of Texas hired a men’s engagement specialist to oversee its program, MasculinUT, which among other things will educate male students on how to reduce sexual assault (Mangan, 2018).

Finally, campuses should place greater importance on the value of bystander intervention in preventing sexual violence (Lukacena et al., 2017). According to the AAU campus climate report, 44% of those surveyed “reported they have witnessed a drunk person heading for a sexual encounter” and “77.0 percent indicated that they did nothing, with 23.5 percent saying they weren’t sure what to do...” (Cantor et al., 2015, xxiii). The college sports community can and should take an active role, as student-athletes hold much influence over their non-athlete peers and make for powerful bystander prevention spokespersons and mentors (Kroshus, 2019).

Coaches and athletic administrators also play a vital role in the campus community at-large and should be trained and empowered to participate in campus-wide programming. (In 2017, the NCAA adopted a policy requiring that coaches, athletic administrators, and student-athletes receive training regarding sexual violence prevention, as well as campus adjudication (NCAA, 2017). Such programming would go a step further in accomplishing the NCAA’s goal of reducing sexual violence on campus.) And faculty in sport administration programs should

incorporate similar training and education in the classroom, as a survey of sport administration students indicated that fewer than 40% had received some form of training regarding sexual assault in their curriculum (Taylor & Hardin, 2016).

From reducing students' access to alcohol both on and near the campus, to providing innovative education to students, faculty, and administrators alike, to facilitating peer groups that enforce the bystander model, there are numerous opportunities for universities and their athletic communities to work to decrease the issues related to alcohol use and sexual violence among the student body.

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