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Greek Myth or Fact?
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ABSTRACT

Greek Myth or Fact?
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Drug Violations on American Campuses*

Greek-letter student social groups, better known as fraternities and sororities, are a ubiquitous feature on many American higher education campuses. These organizations, especially fraternities, have a reputation for encouraging unruly and improper behavior among both members and non-members. This paper investigates the effect of the degree of prevalence of these Greek organizations at a campus, as measured by the percentage of students who are members of fraternities and sororities, on the instances of liquor and drug law violations on campuses, as measured by the number of arrests for liquor and drug laws violations. Using a unique dataset, which combines data from three sources, we find that a larger percentage of students in fraternities (but not sororities) is associated with an increase in the number of arrests for drug law violations. A larger percentage of students in sororities (but not the percentage of students in fraternities) is associated with a larger number of arrests for liquor law violations. This result is highly significant and is robust across various specifications.

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1. Introduction and Background

Social Greek student organizations have a reputation, whether warranted or not, as sponsors of raucous parties. The party culture is believed to exert an undesirable influence on alcohol and drug-related incidences and a host of other behaviors across the campuses, even among students who do not belong to these organizations. Iconic movies such as *Animal House*, released in 1978, have reinforced that perception in popular culture. Periodic incidences of hazing and deaths due to excessive consumption of alcohol are widely covered in news media and greatly concern university administrators and parents of college students.

Greek social organizations were first formed in the early nineteenth century. They were a way for students to debate and discuss a range of topics of the day. Discussions and debates on these topics were not available in the classrooms and campuses due to the narrow curriculum of the time. Soon these organizations also became venues for students to informally fraternize and socialize away from the watchful eyes of the faculty and the administration. The latter two groups – the faculty and the administration – have been concerned about the negative influence of these Greek organizations since their inception, and the relationship between the social Greek-lettered organizations and the faculty and the administrators has been frayed since the beginning.

The first Greek-letter society or club was Phi Beta Kappa, and it was formed at the College of William and Mary in 1776. The purpose of this society was broader discussion and debate. The motto of this society is "love of learning is the guide of life." Even then, these societies or clubs were known for their secrecy of rituals and procedures. The first social fraternity, Kappa Alpha Society, was established at Union College in 1825. Several other fraternities sprang up at Union College in the following two decades. The first residential chapter home built by a fraternity is believed to be Alpha Delta Phi's chapter at Cornell University.

Adelphean Society at Wesleyan Female College (which is now called Wesleyan College) in Macon, Georgia, was established in 1851 and was the first secret society for women. Later, it was named Alpha Delta Pi. Kappa Alpha Theta was founded in 1870 at Indiana Asbury University, which later renamed itself DePauw University. It was the first sorority founded with Greek letters. Fraternities and sororities grew during the post-Civil War era, with the expansion and growth of colleges and universities and the westward expansion of the nation itself. The early twentieth century saw the establishment of African-American Greek-letter fraternities and sororities such as Sigma Pi Phi and Alpha Kappa Alpha. Currently, around 800,000 undergraduate students in the United States are members of Greek-letter social organizations.

This paper examines the effect of student participation percentage in both fraternities and sororities on the number of alcohol and drug laws violations on college campuses after controlling for the impact of relevant variables. It assesses whether the common perceptions of Greek organizations, especially those of fraternities, have empirical support or not.

The remainder of the paper is organized as follows. Section 2 provides the literature review related to the effects and determinants of drug and alcohol use with particular attention paid to the role of Greek-letter social organizations. Section 3 details and describes the various sources from which we obtained the data for this study, as well as a description of control variables included in this study, while Section 4 provides the results of the paper. Section 5 provides concluding remarks.

2. Literature Review

There is extensive literature on the deleterious effects of alcohol and drug use on academic achievement, psychological and physical well-being, and retention and graduation of high school and college students. Many studies examine the determinants of alcohol and drug use among students. In addition, several others highlight the role of Greek organizations in exacerbating these problems due to peer pressure and providing an environment conducive to alcohol and drug use.

Some studies have focused exclusively on the relationship between Greek housing (fraternities and sororities) and alcohol problems. The decision of a student to join a Greek organization is influenced by roommates as well as persons in the entire dorm (Sacerdote 2001). Tyler et al. (2017) study the factors that are commonly associated with heavy drinking at two anonymous public universities, one in the Midwest and the other in the Southeast of the United States. Their results show that heavy drinking is commonly accompanied by "hooking-up," Greek affiliation, having friends who drink and having beliefs that drinking will have positive outcomes. Tyler et al. (2018) found using the same survey data that students living in Greek housing are especially more likely to be perceived by their peers as engaged in risky drinking and heavy drinking compared to students living in other housing types. Ragsdale et al. (2012) found that males and Greek housing residents are more likely to binge drink. Fraternities' binge-drinkers are more like to get in physical fights than non-Greek male binge-drinkers. Sorority bingers are more likely to be injured, drive under the influence of alcohol (DUI), be sexually victimized, and engage in unwanted sex than non-Greek female bingers. Fraternity members who binged on alcohol more than three times in two weeks were more likely to get DUI, engage in unprotected sex than those who were binged on alcohol intermittently. Similarly, sorority members who binge drank more frequently were more likely to get DUI compared to those students who binged on alcohol intermittently.

More broadly, studies have found drinking and drug use harm undergraduate students' academic careers, as well as their psychological and physical well-being. Studies examining the effect of becoming the legal drinking age have found negative impacts on grades ranging from 0.03 to 0.05 standard deviations (Lindo et al. 2013) to 0.10 standard deviations (Carrell et al. 2011). The grades of female students, "low-ability" males, and males who are from financially disadvantaged backgrounds are particularly adversely affected (Lindo et al. 2013). Sabia (2010) found that after controlling for individual fixed-effects as well as for changes in drug use, physiological well-being, and time-preference, binge drinking has a much smaller and often statistically insignificant effect on measures of school performance such as grade point average, out-of-school suspensions, and unexcused absences from school. However, Paschall and Freisthler (2003) found that heavy alcohol use, alcohol-related problems, and drinking opportunities do have an important effect on the academic performance of students.

Wolaver (2002) examines the effects of college drinking on hours studied, grade point average, and major choice using data from the 1993 College Alcohol Study and found that binging and intoxication decreases GPA both directly and indirectly through reducing study hours. Moreover, heavy drinking reduces the future weekly earnings between 0.3 to 9.8 percent due to its effect on GPA and college major choice. Wolaver (2005) studies the effect of heavy episodic drinking on studying and grades and found that drinking reduces the grades by about three-tenths of a point for both genders. Women who drink regularly during college spend more hours studying, while binge drinking during the high school years is associated with a reduced number of study hours for women during college. The effect of drinking on hours studied for men is ambiguous. Drinking is also associated with being late for classes or missing classes (Faulkner et al. 2006). Singleton (2007) found that alcohol consumption has a negative impact on students' grade point average after controlling for other variables such as their race, gender, the frequency of attending off-campus parties, SAT score, class rank, academic class, and parents' income.

Liguori and Lonbaken (2015) investigate the relationship between social and binge drinking for both male and female students on first-to-second-year student retention. They find that the male students have a significantly higher risk than female students of not being retained due to both social and "episodic" (binge) drinking. Moreover, binge drinking has been shown to require medical attention, loss of appetite, and sleep (Faulkner et al. 2006). Excessive drinking also leads to other psychological impairments such as blackouts and difficulty in concentrating, studying, and remembering things (Faulkner et al. 2006). Singleton and Wolfson (2008) also found that alcohol use interferes with sleep patterns and results in drowsiness during the day, which has an indirect effect on reducing students' grade point average besides also having a direct effect of reducing the grade point average. In addition, Faulkner et al. (2006) show the positive association between binge drinking involvement and the use of illegal drugs as well as unplanned sexual activities.

Bolin et al. (2017) examined an online survey at a mid-sized university in the Southeastern United States and found that both the use of alcohol and marijuana adversely affect the grade point average of undergraduate students. However, alcohol use is detrimental mostly because it increases the likelihood of marijuana use, which decreases the grade point average of students. Similarly, both alcohol and marijuana result in class skipping, which reduces students' grades.

Some studies have focused on alcohol and drug use in high school. They are related and relevant for college-level substance abuse problems for two reasons. First, several studies have shown that high school problems such as binge drinking continue into college and usually get exacerbated in peer groups such as Greek social organizations. Moreover, many of the factors that lead to underage drinking and drug use continue to stay the same for most or all of the college years of the students. Studies focusing on substance abuse by high school students have studied the impact of such behaviors on academic performance, absenteeism, the likelihood to go to college, and other issues.

DeSimone (2010) examines the impact of binge drinking on the grade point average for various types of high school students. He finds that binge drinking does not have much of an adverse effect on the grades of high school students who are drug-free, risk-averse, and future-oriented. However, binge drinking does have a statistically significant impact on high school students who either take drugs, are not risk-averse, or heavily discount the future. Austin (2012) found that the use of alcohol is associated with absenteeism in high school. Balsa et al. (2011) found that the increase in the use of alcohol for male high school students results in a small but statistically significant reduction in the grade point average, while for female students, it results in self-reported academic difficulty. Koch and McGeary (2005) found that alcohol initiation before the age of 14 years significantly reduces the probability of timely completion of high school. Gaviria and Raphael (2001) found strong peer-group influence among a sample of tenth-graders for drug use, alcohol drinking, cigarette smoking, church-going, and the likelihood of dropping out of high school.

Studies have examined a range of determinants of alcohol and drug use among college students. Lindo et al. (2012) found that athletic team success results in male student athletes' grades being significantly reduced, decreased time studying, increased alcohol consumption, and increased partying. Zamboanga et al. (2015) have examined the variation of participation in drinking games by gender and race and found that after controlling for other variables such as age, Greek membership, and typical alcohol consumption, the association between drinking games and alcohol-related problems were stronger for men than for women. However, this association was stronger among black women than it is for black men. Zamboanga (2013) investigates the phenomenon of "pregaming" – defined as consuming a large amount of alcohol within a short time frame – and found that many students "pregame" for social reasons regardless of whether they are going to a bar or a Greek party. Legal age students are more likely to pregame when

going to a bar than to a Greek party. The opposite is true for underage students. Even though women were more likely to pregame before going to either of the two types of drinking venues, men reported higher levels of alcohol consumption while pregaming for these destinations than female students did.

Grucza et al. (2009) examine 20 administrations of the National Survey on Drug Use and Health in the period from 1979 to 2006 and find that while binge drinking has been substantially decreased over time for 12-to 20-year-old males, no change has happened for women in that age group or for men going into college during this period. Moreover, binge drinking increased among minority females. The risk of binge drinking increased among women ages 21 to 23, particularly for those who go to college. The study shows that not much progress was made regarding the reduction of binge drinking over the period, especially for the college student population. Faulkner et al. (2006) found that major triggers to binge drinking were social and conformity motives were important predictors of hazardous drinking.

Duncan et al. (2005) examined the effect of congregating youth with binge drinking problems and found that males who binge-drank in high school will drink more if they have a roommate who also binged-drank in high school. There is no such effect for female students, and neither is such an effect seen for marijuana use or sexual behavior for either male or female students. Students who did not engage in any such behavior in high school appear to remain unaffected by their roommates' high school behavior.

There are fewer studies related to drug use by college students than those about alcohol consumption. Williams et al. (2006) found that the use of cocaine among college students is price-sensitive, especially for students under 21. This points to habit formation for older students. Moreover, cocaine and marijuana are considered complementary goods by college students. Card and Giuliano (2013) found that the likelihood of using marijuana, smoking, and having sex increases with one's friends also engaging in these activities.

Sidani et al. (2013) examine the usage of marijuana, cigars, hookah, and alcohol for both Greek housing students and non-Greek housing students. They found that Greek resident members are nearly twice as likely to use hookahs, cigars, and marijuana, two and a half times more likely to use smokeless tobacco, and three times more likely to binge-drink alcohol. Williams (2005) find that after controlling for the effect of other variables, high school drinking is strongly correlated with college drinking and thus found habit formation as a major reason for college drinking.

Several studies examine the determinants of drug and alcohol use during adolescence. Ali and Dwyer (2010) find that the likelihood and frequency of drinking depend on the percentage of peers who also drink. Lundborg (2006) used Swedish cross-sectional survey data on individuals aged 12 to18 and found that after controlling for school/grade fixed-effects, there were significant peer-effects for binge drinking, smoking, and illicit drug use. Cowan (2011) examines high school students' use of alcohol and drugs and finds that students with brighter prospects of going to college are less likely to engage in risky behavior such as using alcohol and drugs.

This current paper contributes to the current literature by employing a unique data set to look at the relationship between liquor and drug law violations and the percentage of students in fraternities and sororities. Unlike previous studies, our data include almost 800 different colleges and universities of various types across the United States. Our study is not based on survey data but on institutional data reported to the government and published by the Federal government. We complement the existing literature by showing the negative impact of fraternities and sororities on liquor and drugs laws violations at campuses in our study.

3. Data

The data in the study come from three sources. We obtained the data on arrests for liquor and drug law violations from the *Campus Safety and Security* website of the US Department of Education. These data are collected by the Federal government under the *Jeanne Clery Disclosure of Campus Security Policy and Campus Crime Statistics Act* (or Clery Act) of 1990. This law mandates all colleges and universities that participate in federal financial aid programs must gather and disclose information about crime on and near their campuses. We used data from the academic years 2016-17 to 2018-19. College and university characteristics were obtained from the US Department of Education's *National Center for Education Statistics* (NCES). The US Federal government collects this data from higher education institutions to "fulfill the congressional mandate to collect, collate, analyze, and report complete statistics on the condition of American education."[1] Lastly, we obtained the data on the percentage of students in fraternities and sororities at American universities and colleges from the website of US News and World Report for the academic year 2016-17 to 2018-19.

We have only included four-year and higher non-profit institutions in our study since Greek housing is most commonly found at these institutions and not at other types such as community colleges, trade schools, or for-profit institutions. In addition, these other types of institutions have distinct missions, administration, and student composition. Our data include 617 institutions for 2017-18 and 2018-19, while we have 614 institutions for the year 2016-17.

We selected additional institutional characteristics, which we believe are relevant to control for in regressions to estimate the relationship between the percentages of students in fraternities and sororities and the number of incidences of liquor and drug law violations. Below we describe these variables, our rationale for including these variables in our regression specifications, and some descriptive statistics.

We controlled for total enrollment and the square of total enrollment. Student enrollment affects the number of drug- and alcohol-related violations. In addition, students attending larger universities and colleges have more anonymity when abusing drugs and alcohol compared to smaller colleges. The scale of partying or the supervision from the college administration will also likely be different for smaller and larger institutions. Since the impact of student enrollment may be non-linear across campus size, we also include the square of student enrollments to fully capture the effect of this variable on the dependent variables.

Institutions have varying missions and foci based on the highest degree granted. The underlying relationships with drug and liquor violations may also be different. Since we have excluded community colleges and technical institutes from our study, this variable can take three possible values: doctoral, master's, and baccalaureate. Public institutions may differ from private institutions with respect to their mission, supervision from the college administration, and unobservable student body characteristics. We include a variable called "private non-profit." As mentioned earlier in this section, for-profit institutions are excluded from our sample. Similarly, institutions that are religiously affiliated likely have a different mission and management style. The student body at such institutions may also differ from other institutions that are not religiously affiliated. We also included a binary variable of whether or not an institution is affiliated with a religion.

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[1] Taken from the description of NCES provided at https://nces.ed.gov/about/.

The geographic location of the institution may alter student behavior, interactions with the surrounding community, and the approach of public safety. We included a variable called "rural," which identifies campuses that are set in rural locations as compared to suburban areas or cities. The number of security officers or police officers will have an impact on the number of drugs- and liquor-law violations as a higher number of these employees will increase the likelihood of violators being caught and arrested as well as acting as deterrents to law violations. *National Center for Education Statistics* (NCES) did not have information about the number of police officers or security officers. Moreover, this information is also not available for all the universities and colleges from other sources such as the Bureau of Justice Statistics. Therefore, we decided to use as a proxy of this variable and include in our regressions the number of "public service employees," which is a broader category of employees available from NCES and includes other public service employees such as receptionists.

We controlled for the selectivity or prestige of the institution by including variables of acceptance rate (percentage of applicants who are admitted in the institution) and yield rate (percentage of admitted students who matriculate at the institution). The mission, management style, as well as student body may be different at a more selective or a more prestigious institution versus at a less selective institution. Lastly, we also controlled for demographic characteristics of the student population by including the percentage of female students, the percentage of students who receive Pell Grant aid, the average Pell Grant, and the percentage of undergraduate students. A different percentage of undergraduate students or a different percentage of female students may affect the relationship between the percentage of students in fraternities and sororities and our outcomes of interest. Student behaviors may differ based on their family income. Pell eligibility and the average Pell grant serve as proxies for the relative economic resources of a student body.

Table 1 provides the descriptive statistics of the higher education institutions in our sample and our outcomes of interest. Arrests for drug law violations have a mean of 12.7 and a large standard deviation of 31.6. Arrests for liquor law violations have a mean of 11.4 and a standard deviation of 35.1. The number of arrests is greater for drug law violations even though the standard deviation of liquor law violations is larger. An average of 6.5 percent of students is affiliated with fraternities, while an average of 7.9 percent of students is affiliated with sororities. The standard deviation for affiliation with sororities is larger than the affiliation with fraternities.

The total enrollment has an average of 6,379 students, while the standard deviation is 9,023. The average percentage of undergraduate students receiving Pell grants is 36.2 percent, while the standard deviation is 15.9 percent. The mean average amount of Pell grant received by students across institutions is $4,539, while its standard deviation is $356. The average number of public service employees is 91.75 and a larger than average standard deviation of 112. The acceptance rate had an average of 65 percent in our sample, with a standard deviation of 20.6 percent. The mean yield rate at institutions included in our study is 28.4 percent, while the standard deviation is 14.2 percent. The percentage of female students is 57.9 percent, showing that at many institutions, there is a greater number of female students than male students. The mean percentage of undergraduate students at institutions included in our data is 82 percent. About 20 percent of institutions in our data are doctoral-granting institutions. About 45 percent of institutions have a master's degree as the highest degree they grant, while about 35 percent of institutions grant a baccalaureate degree as the highest degree. Roughly 25 percent of institutions in our study are public institutions, while roughly 75 percent of them are private non-profit institutions. Approximately 47 percent of the institutions included in our study are religiously affiliated, while about 53 percent of them were not.

<<INSERT TABLE 1 HERE>>

Figure 1 shows the scatterplot between the percentage of students in fraternities and the percentage of students in sororities at various campuses in our data. The scatterplot reveals that the degree of correlation between the two, though positive and quite strong, is significant variation, and there are a few outliers. The coefficient of correlation between the two variables is 0.905.

<<INSERT FIGURE 1 HERE>>

4. Empirical Strategy

To determine the influence of the percentage of students in fraternities and the percentage of students in sororities, we estimate the regression equation represented in Equation (1).

$$\text{(Liquor or Drug) Violations}_{irt} = \alpha + \beta_1 \text{Fraternity Percentage} + \beta_2 \text{Sorority Percentage} + \gamma_r + \delta_i + \rho_t + \mu_{irt,} \quad (1)$$

We estimate the variations of the model specified in Equation (1) for liquor or drug violations at institution i, in region or state r, and in year t. We use institutional-level and year fixed-effects panel data regressions as our main identification strategy though we have also used random-effects regression with state-level and regional-level fixed effects for robustness checks.

5. Results

Table 2 shows the results from several regression specifications for the liquor law violations on American campuses in our data. The first three columns show the results from random-effects models, while the last two columns show the results from fixed-effects models. The dependent variable is the number of arrests for liquor law violations. We have included total student enrollment, acceptance rate, yield rate, percentage of female students, percentage of undergraduate students, the average amount of Pell Grant aid, percentage of undergraduate students receiving Pell grant, and the number of employees in public service (the category that also includes campus security and policing) as time-varying control variables. We have included these time-varying control variables in both fixed-effects and random-effects regressions. In random-effects regressions, we have also included time-invariant institutional characteristics such as the highest degree offered by the institution (doctoral, master's, baccalaureate), control or ownership of the institution (public or private non-profit), an indicator variable for if the institution is religiously affiliated, and an indicator variable if the institution is located in a rural variable. We also included state, regional, and year-fixed effects in regressions, as noted in the table. Table 2 reports the estimated coefficients of the two variables of interest, percentage of students in fraternities and percentage of students in sororities. The results for the control variables for Column (5) are reported in Appendix Table 1, Column (1).

The coefficient for the percentage of students in sororities is positive and significant across all the specifications. However, the coefficient for the percentage of students in fraternities is not significant across any of the specifications. These results suggest that larger percentages of students in sororities and not fraternities are associated with a larger number of arrests due to liquor law violations.

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We performed the Hausman test to test for the validity of the fixed-effects model against the random-effects model using the regression specifications with the year fixed-effects (column (3) specification against Column (5) specification). The null hypothesis that random-effects are consistent cannot be rejected as the test statistic is fairly small (Chi-squared(12) = 7.41), and the corresponding p-value is 0.8294. We also performed the Breusch-Pagan Lagrangian multiplier test for the validity of the random-effects model against pooled OLS. The test statistic was 1253.77, while the corresponding p-value was 0.000, indicating that the random-effects model is necessary instead of merely pooled regressions.

<<INSERT TABLE 2 HERE>>

Table 3 provides the results from various regression specifications for drug law violations on American campuses in our data. Mirroring Table 2, the first three columns show the results from random-effects models, while the last two columns show the results from fixed-effects models. The dependent variable is the number of arrests for drug law violations. We included the same time-varying and time-invariant control variables as in regressions in the previous table for liquor law violations. This includes total student enrollment, acceptance rate, yield rate, percentage of female students, percentage of undergraduate students, average amount of Pell Grant aid, percentage of undergraduate students receiving Pell grant, and number of employees in public service (the category that also includes campus security and policing), highest degree offered by the institution (doctoral, master's, baccalaureate), control or ownership of the institution (public or private non-profit), indicator variable for if the institution is religiously affiliated, and an indicator variable if the institution is located in a rural variable. The results for the control variables for the Column (5) specification are reported in Appendix Table 1, Column (2).The coefficients of the percentage of students in fraternities across specifications are positive and statistically significant, at least at the 5 percent level. However, the coefficients of the percentage of students in sororities are not statistically significant for any of the five specifications.

We performed the Hausman test for the validity of the random-effects model. We used the specification of random- and fixed-effects models with year fixed-effects. The test-statistic (Chi-Squared (12)) could not be computed as asymptotic assumptions of Hausman test were not met. Given this, it is a safer to only use fixed-effects regressions as they are always consistent compared to random-effects regressions. We also tested for the appropriateness of the random-effects model against pooled OLS using the Breusch-Pagan Lagrangian multiplier test. The test statistic of 1071.17 was fairly large, and the corresponding p-value of 0.000 very small. Therefore, we can emphatically reject the null hypothesis that the random-effects model was not necessary compared to pooled regressions.

<<INSERT TABLE 3 HERE>>

6. Conclusion

Our study is the first to use data from almost all non-profit American colleges and universities that offer a bachelors degree and higher and look at the impact of the participation of students in fraternities and sororities on liquor and drug laws violations. We used data from multiple years so that we can also control for institution-level fixed effects, which has allowed us to control for unobserved institutional characteristics and identify the effect of the magnitude of student participation in fraternities and sororities on drug and liquor violations. We found that a larger percentage of students in fraternities are

associated with a larger number of arrests for drug law violations, while a larger percentage of students in sororities are associated with a larger number of arrests for liquor law violations. These results are robust across various specifications.

There are a variety of policy implications that will be useful for college administrators and other policymakers. For instance, campuses with a larger membership in fraternities should be especially vigilant about drug law violations, while institutions with larger participation in residential sororities should be alert about alcohol law violations. Such high-risk campuses may consider an increased number of police/security officers, social workers, and counseling services, as well as more substance abuse programs that may be directly targeted toward residential Greek house students. Campus leaders should assess whether the benefits associated with Greek social organizations outweigh the costs and therefore merit continued support on their campuses. This paper documents one set of costs, drug and alcohol arrests.

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Tables and Figures

Table 1: Descriptive Statistics

Variables	Mean	Standard Deviation
Arrests for Drug Law Violations	12.7	31.6
Arrests for Liquor Law Violations	11.4	35.1
Percentage of Students in Fraternities	6.5	11.2
Percentage of Students in Sororities	7.9	13.3
Total Student Enrollment	6,379	9,023
Average Pell Grant Aid	$4,539.16	$356.32
Percentage of Undergraduate Students Receiving Pell Grants	36.22%	15.88%
Public Service Employees	91.8	112.3
Acceptance Rate	65.0	20.6
Yield Rate	28.4	14.2
Percentage of Female Students	57.9%	11.7%
Percentage of Undergraduate Students	82%	15.4%
Highest Degree: Doctoral	0.201	0.401
Highest Degree: Master's	0.452	0.498
Highest Degree: Baccalaureate	0.347	0.476
Public	0.253	0.435
Private Non-Profit	0.747	0.435
Religious	0.470	0.499
Rural	0.050	0.218
Year: 2016-17	0.332	0.471
Year: 2017-18	0.334	0.472
Year: 2018-19	0.334	0.472

Figure 1: Scatter Plot of the Percentages of Students in Fraternities and Sororities
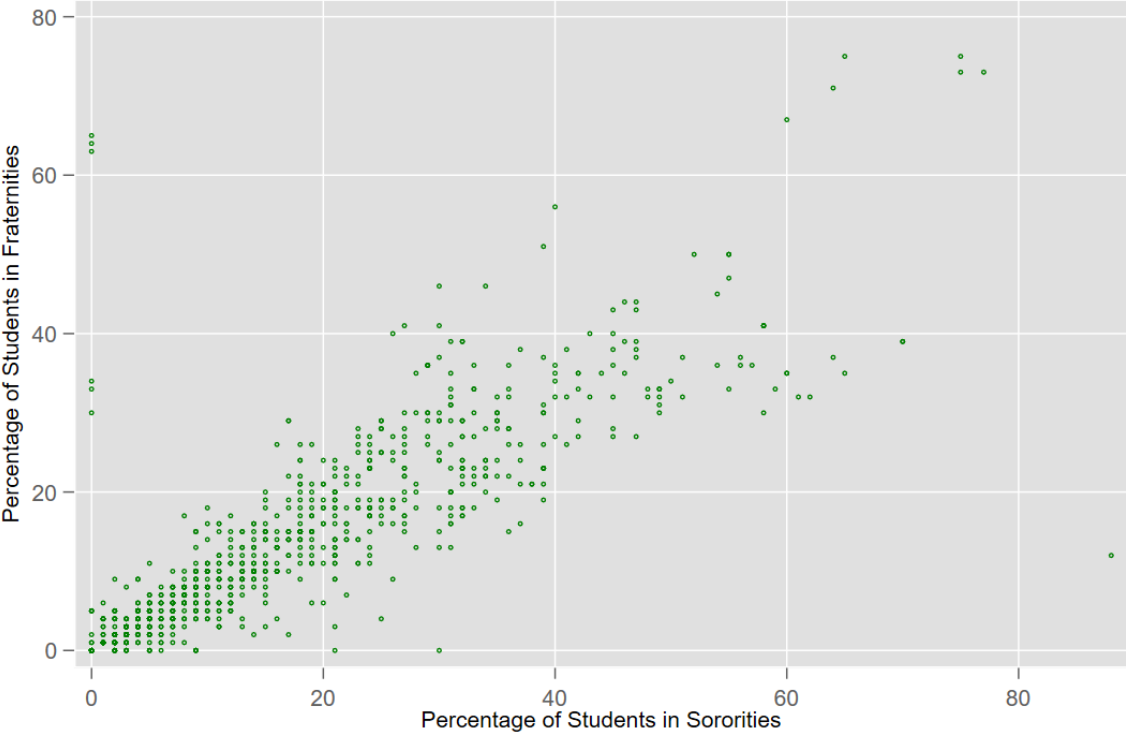
Note: The coefficient of correlation between the percentages of students in fraternities and sororities is 0.905.

Table 2: Regressions for Liquor Laws Violations

Dependent Variable: The Number of Arrests for Liquor Law Violations					
	(1)	(2)	(3)	(4)	(5)
	Random Effects			Fixed Effects	
Percentage of Students in Fraternities	-0.067	-0.048	-0.057	-0.096	-0.121
	(0.094)	(0.094)	(0.094)	(0.125)	(0.125)
Percentage of Students in Sororities	0.147*	0.159**	0.147*	0.171*	0.159*
	(0.081)	(0.080)	(0.080)	(0.093)	(0.093)
State Fixed Effects	No	Yes	Yes	N/A	N/A
Year Fixed Effects	Yes	No	Yes	No	Yes
Institutional Fixed Effects	No	No	No	Yes	Yes

Notes: $^* p < 0.10$, $^{**} p < 0.05$, $^{***} p < 0.01$. Robust standard errors in parentheses. Data is from the years 2016-17 to 2018-19. The output of control variables is omitted. The test-statistic for the Hausman test between the random effects model in (3) and the fixed-effect model in (5) is 7.41, and the corresponding p-value is 0.8294. The test-statistic of the Breusch and Pagan Lagrangian multiplier test for random fixed effects is 1253.77, and the corresponding p-value is 0.000. Time-varying control variables included in both random-effects and fixed-effects regressions are total student enrollments at each institution, the number of employees providing public service including campus security, acceptance rate, the yield rate, the percentage of female students, the percentage of undergraduate students, the average amount of Pell grant aid, and the percentage of full-time undergraduate students receiving Pell grants. Time-invariant control variables that are included in only random-effects regressions are the highest degree granted by the institution, the control or the ownership of the institution (public or non-profit private), whether or not the institution is religiously affiliated, and whether or not the institution is located at a rural location.

Table 3: Regression for Drug Laws Violations

Dependent Variable: The Number of Arrests for Drug Law Violations					
	(1)	(2)	(3)	(4)	(5)
	Random Effects			Fixed Effects	
Percentage of Students in Fraternities	0.159**	0.168**	0.165**	0.209**	0.201**
	(0.073)	(0.076)	(0.076)	(0.101)	(0.100)
Percentage of Students in Sororities	-0.046	-0.068	-0.072	-0.075	-0.077
	(0.058)	(0.059)	(0.059)	(0.057)	(0.058)
Control Variables	Yes	Yes	Yes	Yes	Yes
State Fixed Effects	No	Yes	Yes	N/A	N/A
Year Fixed Effects	Yes	No	Yes	No	Yes
Institutional Fixed Effects	No	No	No	Yes	Yes

Notes: * p < 0.10, ** p < 0.05, *** p < 0.01. Robust standard errors in parentheses. Data is from the years 2016-17 to 2018-19. The output of control variables is omitted. The test-statistic for the Hausman test between the random-effect model in (3) and the fixed-effect model in (5) could not be computed as the asymptotic assumptions of Hausman tests were not met. The test-statistic of the Breusch and Pagan Lagrangian multiplier test for random fixed effects is 1071.17, and the corresponding p-value is 0.000. Time-varying control variables included in both random-effects and fixed-effects regressions are total student enrollments at each institution, the number of employees providing public service including campus security, acceptance rate, the yield rate, the percentage of female students, the percentage of undergraduate students, the average amount of Pell grant aid, and the percentage of full-time undergraduate students receiving Pell grants. Time-invariant control variables that are included in only random-effects regressions are the highest degree granted by the institution, the control or the ownership of the institution (public or non-profit private), whether or not the institution is religiously affiliated, and whether or not the institution is located at a rural location.

Appendix

Appendix Table 1. Complete Output of Fixed-Effect Regressions for Arrests for Liquor Law Violations and Arrests for Drug Law Violations as Dependent Variables

	(1)	(2)
	Number of Arrests Due to Liquor Law Violations	Number of Arrests Due to Drug Law Violations
	Fixed Effects	Fixed Effects
Percentage of Students in Fraternities	-0.121 (0.125)	0.201** (0.100)
Percentage of Students in Sororities	0.159* (0.093)	-0.077 (0.058)
Total Enrollment (in Thousands)	0.997 (0.925)	0.460 (0.512)
Number of Employees Providing Public Service including Campus Security	-0.011 (0.030)	-0.019 (0.018)
Acceptance Rate	0.082 (0.060)	0.026 (0.037)
Yield Rate	-0.074 (0.102)	-0.075 (0.082)
Percentage of Female Students	-0.470** (0.197)	-0.153 (0.174)
Percentage of Undergraduate Students	0.227* (0.116)	0.216* (0.123)
Average Amount of Pell Grant Aid	-0.001 (0.001)	0.001 (0.001)
Percentage of Full-Time Undergraduate Receiving Pell Grants	-0.033 (0.051)	0.003 (0.051)
Constant	19.975 (15.399)	-1.003 (13.474)
State Fixed Effects	N/A	N/A
Year Fixed Effects	Yes	Yes
Institutional Fixed Effects	Yes	Yes
R-Squared	0.135	0.087
Observations	1844	1844

Notes: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Robust standard errors in parentheses. Data is from the years 2016-17 to 2018-19. The rural location is as defined by the Bureau of Census urban-rural classification. The acceptance rate is defined as the percentage of applicants who are granted admission by the institution. The yield rate is defined as the percentage of admitted students who enroll at the institution.