Fraternities and Sexual Assault

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Abstract

Fraternities are a ubiquitious, and longstanding tradition at many four-year universities in the United States. In this study, I estimate the effects of campus-wide fraternity moratoria on reports of rape at local universities by exploiting the variation in implementation dates over a six year period (2013-2018). Using the Uniform Crime Reporting data system, I find no preliminary evidence that these implmentations significantly decrease (or increase) reports of rapes at campus universities.

1 Introduction

Rape remains prevalent on all university campuses. According to the Campus Climate Survey on Sexual Assault and Sexual Misconduct conducted by the Association of American Universities, the overall rate of nonconsensual sexual contact since a student enrolled at their respective college was 13% in 2019.[1] Additionally, this percentage has increased since 2015[2] with the largest increases stemming from undergraduate women. Academics have pointed to multiple sources of this heinous behavior including college partying with alcohol (Lindo et al., 2018), liquor violations (Wiersma-Mosley et al., 2017), and most pertinent, fraternities (Foubert et al., 2008). In the book *Sexual Assault on Campus: The Problem and the Solution*, the authors Carol Bohmer and Andrea Parrot claim that "the men who are most likely to rape in college are fraternity pledges."[3] Furthermore, academic studies using survey data have found that fraternity men were more likely to commit sexual assault than men who did not join a fraternity (Foubert et al., 2008), university males rated sexual assault perpetrators as less guilty when the perpetrator was a fraternity member (Seabrook and Ward, 2019), and sorority women (who interact with fraternity men frequently) were sexually assaulted at four times the rate of non-sorority women (Minow and Einolf, 2009). Universities have responded to fraternity-related misconduct with a range of policy initiatives, and in particular, placing moratoriums on fraternity social-life. Each of these moratoriums occurs campus-wide, thereby affecting all fraternities simultaneously. And while the moratorium guidelines vary by university, each of them prohibits fraternity social gatherings with alcohol. This paper exploits the variation in timing of 43 fraternity moratoriums at 38 four-year universities across the US to estimate a causal effect of fraternity moratoria on cases of rape.

2 Background: Fraternities in the US

In the context of universities, a fraternity is a group of men who gather for social, academic, or demographic interests. Fraternities are a ubiquitous presence at many four-year universities.[4] In 2015, the North American Interfraternity Conference (NIC) noted that there were over 5500 chapters[5] located on over 800 campuses in the US and Canada. According to the US News Reports, some universities have fraternity membership as high as 85%. The overall composition of fraternity members tend to have family income and education higher than non-members (Routon and Walker, 2014), while economic studies have linked fraternity membership to higher academic performance (Cheng, 2018), alcohol consumption (Routon and Walker, 2014), and future income (Mara et al., 2018). However, this study, to my knowledge, is the first to estimate the effect of fraternity moratoria ~~in any context~~.

[1] This number comes from the 33 large universities that participated in the survey.

[2] Of the 21 schools that participated in both the 2015 and the 2019 surveys, results showed a 3% increase for undergraduate women, 2.4% increase for graduate and professional women.

[3] A fraternity pledge is another name for a first-year member of a fraternity.

[4] To my knowledge, IFC fraternities do not exist officially at any community colleges or trade schools.

[5] A chapter is a unique fraternity.

This analysis focuses on a subset of fraternities known as the Interfraternity Council (IFC). IFC fraternities are composed of individual chapters that are "social fraternities,"[6] although their values are far more outreaching than this. According to their website, the IFC "exist to promote the shared interests and values of our member fraternities: leadership service, brotherhood, and scholarship."

To become a member of an IFC fraternity, prospective members must apply ("pledge") during recruitment events that take place at least once a year. Once a chapter and prospective member jointly accept membership, the new member must abide by the chapter's guidelines. Figure 1 shows an example of the overarching rules within the chapter, Sigma Alpha Epsilon–one of the oldest fraternity chapters across the US. Each member must maintain a GPA over a certain threshold, pay an initiation and semesterly fee, attend chapter ritual events and meetings, be involved in one additional campus or community organization, and complete service hours. Upon membership, pledges are invited to live within the fraternity house[7], although national statistics for what percentage of pledges take this offer are not available.

Each chapter house has its unique set of rules and atmosphere. In one field study, students at universities were surveyed about their opinions at each chapter house on campus. In the perceived "high risk" houses (e.g. houses that have a higher risk of dangerous or unwanted behavior), social behavior differed dramatically from "low risk" houses—high risk house parties had skewed gender ratios, more segregation between men and women, and men engaged in more jokes and conversations that degraded women than low risk houses (Boswell and Spade, 1996). However, all fraternities interact with sorority chapters frequently, whose members have been found to consume alcohol with greater frequency, delay assessments of threat, and have significantly higher rates of drugging victimization than non-sorority members ((Franklin, 2016),(Lasky et al., 2017)). Moreover, each chapter is overseen by three

[6]Other types of fraternities also exist. Most noteworthy are "professional fraternities" which are more related to academic clubs, and are not part of the IFC.

[7]Not all fraternities have houses where their members live. While I certainly need to verify this, I am confident that all schools in the sample have fraternity houses on, or near, campus.

sources of jurisdiction: the IFC, the university[8], and the chapter's national headquarters. Each of these entities has the power to restrict fraternity behavior, although only the IFC and university can implement a campus-wide moratorium. While this study only focuses on campus-wide moratoriums, it is important to note that individual chapter moratoriums occur frequently each year. However, since these cases affect only individual chapters, I focus primarily on campus-wide moratoriums to isolate the effects of fraternity life.

3 Data

The main analysis uses data from the Uniform Crime Reporting (UCR) Program from the FBI. The UCR systematically collects crime data from local police departments and aggregates them to the agency-month level. In particular, it contains information on the total number of rape incidences reported by university-specific police departments, and local municipalities that concurrently serve the university area. For instance, a university's student body may be served by multiple police departments: a designated police department to the university, and one or more local municipalities that serve both the university and the local residents unaffiliated with the university. Each local police department and university-specific police agency was connected to a corresponding university area using the most recent Law Enforcement Agency Identifiers Crosswalk[9] (LEAIC). As a criterion for the sample, each school that experienced a fraternity moratorium was only included in the sample if the school had a university-designated police department.[10] Since the crosswalk is not updated yearly, I only observe the population that the local police department serves for one year. Table 1 shows the universities and their corresponding local municipalities that serve them. On

[8]A chapter must be recognized by the university to be under its jurisdiction. This involves following the guidelines administered by the university on social activities and behavior.

[9]To match law enforcement agencies with schools, the data was filtered by local police agencies and four-year university police departments. Each university police department has a "place code" which is an area that that particular police department covers. However, there are other police departments in these areas that also serve universities, and each of these was attached to the school, although some that were obviously not serving the university (e.g. nearby community college police) were withdrawn.

[10]There were 3 schools that experienced fraternity moratoriums that did not fit the criteria: Johns Hopkins University, Baruch University, and Emory University.

It would be useful to give some idea of how big these individual chapter moratoriums occur

it seems like just looking at the university police reports would be the way to go

e.g. crime in Goleta is only affected slightly by Isla Vista I imagine

average, there are approximately two law enforcement agencies that serve each university area: a dedicated university police and a more encompassing local municipality. However, I delineate between where each rape is reported in my main specification (see Section 5).

The sample, which consists of 38 unique 4-year degree-granting universities, begins in 2013 to correspond with the year the UCR changed its definition of rape to include non-consenting acts from both males and females in addition to acts of oral or anal penetration. Due to this change, I limit my sample to all media-known,[11] campus-wide moratoriums of IFC fraternity life from the years 2013-2018.[12] Each campus-wide moratorium was collected through three methods: a time-specific Google search using key phrases,[13] a private Facebook group for fraternity and sorority life directors/affiliates to post related articles, and discussions with board members of the Association of Fraternity/Sorority Advisers (AFA) and university Fraternity and Sorority Life staff. Each moratorium's date has been verified by either a news article or an email/phone conversation with the corresponding university staff.

Table 2 shows summary statistics of university characteristics[14] and incidences of reported rape. On average, the universities are large at approximately twenty-two thousand undergraduates and majority white (62%). There is a wide range of college selectivity with average SAT 75th percentiles ranging from nearly perfect scores (790/800) to relatively average scores (528/800). Additionally, graduation rates vary significantly across schools, as the maximum graduation rate reaches over ninety percent, while the minimum is approximately forty-two percent. Notably, reports of rape[15] are lower for university-specific police departments (~2) than local police departments (~4). Figure 2 illustrates this discrepancy by plotting the distribution of reports of rape of university-police and local municipalities. The population data is derived from two sources: the total university population and the population the local municipality serves. For example, if the police department is university specific, I consider the population to be the total enrollment population at the university. On the other hand, if a police department serves a local community/city, I use the population number provided in the LEAIC.

It is important to note that at this time, the data is not entirely complete. I am currently in the process of collecting semester-level hazing reports, chapter numbers, IFC population, fraternity and sorority life population, pledge population, and by-day campus crime reports through Freedom of Information Act (FOIA) requests to enrich the data.

4 Fraternity Moratoriums

The sample consists of 43 campus-wide moratoriums occurring across the US (Figure 3). Table 3 shows the universities in the sample and their corresponding moratorium dates and lengths. The average length of the moratoriums was 70 days and the majority of universities (88%) only experienced one moratorium in the sample period. Importantly, each moratorium differs substantially across universities in terms of triggering event (i.e. the event that resulted in the moratorium), restrictions, and governing body that oversaw the moratorium. Figure 4 shows the distribution of triggering events by the governing body that enacted it. Sexual assault reports and hazing allegations account for 20% of campus moratoriums, while deaths and racist activity account for 15 and 5 percent respectively. Alcohol violations, re-evaluation due to national trends, and unspecified rule violations are grouped into their own category ("Other") with consisting of the remaining 41%. University and IFC implemented moratoriums are evenly balanced on their triggering events outside of deaths and racist activity where universities possess the entire density.

[11] The schools that I observe in my sample all had some form of media article or press release from a school /local newspaper. While these may not be the universe of campus-wide moratoriums, they are, to my knowledge, the only events that received media attention.

[12] My preferred sample will include 2019 when the UCR is updated.

[13] Some (although certainly not all) of the searches I used include "fraternity moratorium", "all fraternity closed", "all fraternity suspended", "all fraternities suspended", and "Greek life closure".

[14] University characteristic information was taken from the Integrated Postsecondary Education Data System (IPEDS)

[15] Henceforward, "reports of rape" are reports of rape per one-hundred-thousand people unless otherwise specified.

5 Empirical Strategy

I estimate the effects of campus-wide fraternity moratoriums on reports of rape using the variation in the timing of the implementation dates. In particular, I estimate the following model:

$$Rape_{u,t,a} = \rho_u + \phi_t + \beta_{fe} Moratorium_{u,t,a} + \mathbb{X}_{u,t,a} + \epsilon_{u,t,a} \quad (1)$$

where $Rape_{u,t}$ is the count of reported rapes per one-hundred-thousand persons in police agency a, at university u, in time t. Since treatment lengths vary in time across months, $Moratorium_{u,t,a}$ is a continuous variable between 0 and 1 that represents the proportion of moratorium days in each month. For instance, Texas State University experienced a moratorium on 11/14/2017 that ended on 2/26/2018. In this case, $Moratorium_{u,t,a}$ would be equal to 0.53 in the month of November ((30-14)/30), 1 in the months of December and January (31/31), and 0.93 in February (26/28). This allows for a measure of treatment intensity, as a month with a small proportion of days that are treated differs from a month that is completely treated. $\mathbb{X}_{u,t,a}$ is a vector of covariates including graduation rate, full-time enrollment, and undergraduate population/demographics corresponding to each university u or agency a at time t. However, the critical covariates of fraternity membership and pledge populations by semester are still incomplete and will be added in future iterations. The inclusion of university (ρ_u) and month-by-year fixed effects (ϕ_t) controls for any time-invariant differences between universities, and time of year. This is crucial, as universities differ in social cultures, and reports of sexual assault change seasonally (McLean, 2007).

Additionally, I estimate a model similar to Equation 1, but interchange the outcome variable to $Log(Rape_{u,t,a} + (Rape_{i,t}^2 + 1)^{\frac{1}{2}})$. This outcome variable is the inverse-hyperbolic-sine (IHS) transformation of the number of reported rapes at university u at agency a in time period t. This transformation is preferred to the natural-log transformation as it is defined at 0 (57% of my rape data is recorded as 0) and it reduces the influence of extreme values in the outcome variable (Burbidge et al., 1988).

The model's identifying assumption is that universities that have or will experience a moratorium are a good counterfactual for universities undergoing a moratorium conditional on the covariates mentioned above. Additionally, there are several other assumptions needed to estimate causal effects: no anticipation, common trends, and no change in reporting of rapes.

5.1 No Anticipation

To obtain causal estimates, fraternity moratoriums must not be anticipated. If university students anticipated a fraternity moratorium and subsequently changed their behavior to reduce (or increase) their rape activity, the true effect of a moratorium would be unidentified. As Figure 4 shows, 15% were due to a fraternity death and 5% were because of racist activity. These events are plausibly unexpected, although they only account for 20% of the moratoriums. However, the other 80% (hazing, sexual assault, alcohol violations, rule violations) are consequences that could lead chapters to anticipate their own house being suspended, but these events are unlikely to lead fraternity members to believe that their entire community will face a moratorium.

5.2 Common Trends

The common trends assumption specifies that if universities had never experienced a fraternity moratorium, their average reports of rape would have been the same as that of their control units. To support the common trends assumption, I estimate an event study model with the following specification:

$$Y_{u,t,a} = \rho_u + \phi_t + \sum_{t=-8, t\neq -1}^{t=2} \beta_t \mathbf{I}(Moratorium_{u,t,a}) + \epsilon_{u,t,a} \quad (2)$$

where $Y_{u,t,a}$ is either a count of rape per 100k or IHS transformation of reports of rape conditional on being reported at a university-designated police department. I include all

universities with completed moratorium begin and end dates (41/43). The end points are binned so the dummy for the final lag and lead are equal to 1 for times $(-\infty, -8]$ and $[2, \infty)$ respectively. I omit the month before the beginning of a moratorium for my reference period, and hence, all coefficients are relative to the month-before moratorium. I show only 2 months following a fraternity moratorium so that the entire sample could be included to have 2 months of post trends.

In the ideal experiment, the trends proceeding the moratorium should have no systematic trend upwards or downwards. For instance, a systematic trend upwards would imply that universities are implementing moratoriums to combat increases in reports of rape, while a systematic trend downwards would imply that moratoriums are following changes of student behavior. Figure 5 shows the event study trends of rape reports before and after the moratoriums, and subsequently justifies that there is no systematic trend upwards or downwards before a moratorium is realized. In the months leading to a moratorium, the means oscillate around zero in a non-systematic fashion with the confidence intervals containing zero.

5.3 Changes in Reporting of Rape

The sample only observes reported rapes which has been estimated to be 12% of the true occurrences for students (Kilpatrick 2007). Therefore, it is imperative to test that the likelihood of reporting a rape is not changing because of a campus-wide moratorium on fraternities. If reports of rape are systematically underreporting during of a fraternity moratorium (e.g. fear of blame) then the model would be underestimating the true effect. On the other hand, if reports of rape are systematically overreporting concurrently with a moratorium period (e.g. more victims come forward because fraternities are under more pressure), than the model would be overestimating the results. As an indirect test of whether reports of rape are changing due to moratoriums, I estimate Equation 1 on the number of rapes cleared. A cleared offense, as defined by the UCR, is an offense that has ended in arrest or "by exceptional means". The latter refers to whether the police agency was able

to identify the offender, gather enough evidence to support an arrest, identify the offender's exact location, or encountered a circumstance outside the control of law enforcement that prohibits the agency from arresting, charging, or prosecuting the offender. While this is an imperfect test, it can indirectly test whether the *types* of reports are changing during fraternity moratorium. Table 4 shows that moratoriums have no significant effect on a report of rape being cleared. Column 1 shows the estimation with no controls and Column 2 shows my preferred specification including university controls. In each of these specifications, there is no significant effect on the types of rapes being cleared, thus providing evidence that the types of reported rapes are not changing.

6 Preliminary Results

Preliminary results are shown in Tables 5 and 6. First, I consider the effect of moratorium on reports of rape at only university police departments (Table 5). By doing so, this isolates the changes in reporting due to factors inside of the university jurisdiction. Since a large fraction of fraternity houses reside on campus, this is the primary sample of interest. Columns (1) and (2) show the the point estimates from Equation 1, differing only by the vector of covariates. I group the table based on two outcome variables: the reports of rape per one-hundred-thousand persons, and the IHS of reports of rape. In each specification, the point estimates show modest changes of a 0.2 increase and a 2% decrease in reported rapes, yet none are significant at the 5 or 10 percent level. However, it is important to note that the model lacks power due to the small sample size. An approximate MDD calculation with 0.8 power and 0.05 size shows that the richest model can only detect differences of 1.8536 in rapes and differences of 19.88 percent for IHS rapes. Considering these are large effects, it is plausible that fraternity moratorium do cause significant increases or decreases in rape, but the sample lacks the power to detect these effects. Table 6 slightly mitigates this problem by including local police municipalities that jointly serve each university. The specifications

remain the same, but the sample size nearly doubles to 5175. In each of these estimations, the point estimates remain small and insignificant with decreases of 0.413 and 8% for each outcome of reports of rape per-100k and the IHS transformation of rape respectively.

7 Next Steps

This project is not yet complete, and this is only the groundwork. In future iterations I plan on using the National Incidence Based Reporting System (NIBRS) that provides hourly-level reports of rape by police departments. Additionally, the reports of rape are far more detailed, and information on demographics such as age are included. I intend to use observations at the daily-level, thus greatly improving the sample size and shrinking the minimum detectable effect. However, the trade-off is that the NIBRS does not cover every state, and my unique universities will be trimmed to 18 rather than 38. Since the number of schools greatly decreases, the NIBRS will act as a robustness check to my preliminary null result.

Moreover, the demographics in NIBRS will be used for another indirect test of whether there are changes in the reports of rape due to fraternity moratorium. To do this, I will test whether the demographics of victims who report rape change during fraternity moratoriums.

Outside of the NIBRS, I am still collecting information through the Freedom of Information Act (FOIA). I have requested data on hazing violations by day, instances of crime by-day, IFC population, and fraternity pledge information from each university. These are crucial covariates that could possibly change the effects found in the preliminary results.

Lastly, I need to answer the question *what is it that fraternity members are doing during these moratoriums rather than hosting parties?* To answer this, I propose a few options: investigate other crimes that occur on campus or around campus, and observe Google trends for search data. To address the first point, it is plausible that fraternity members substitute away from their on-campus house parties to engage in other forms of crime. Potential crimes

to observe would be motor vehicle theft, robbery, burglary, larceny, and arson. Each of these crimes appears in the UCR, and I can easily substitute them as an outcome. However, testing multiple outcomes leads to a multiple-hypothesis problem, where some outcomes may be falsely rejecting the null hypothesis simply by chance of the sample. Second, fraternity members under a moratorium may engage in behaviors that cannot be easily detected through outcomes available in the UCR data. Google Trends provides "search interest" measures that can detect when a particular search term is being Googled more frequently. One particularly interesting search query would be "Fake ID". Restricting in-house parties may induce them to find other off-campus places (such as bars/clubs) to party, and since most fraternity members are likely to be underage, it is plausible that fake IDs will be in higher demand.

Table 1: Universities and their corresponding police municipalities

University	Local Municipality	ORI	Fplace Code
Arkansas State University-Main Campus	ARKANSAS STATE UNIVERSITY POLICE DEPT.	AR0160500	35710
Arkansas State University-Main Campus	JONESBORO POLICE DEPARTMENT	AR0160100	35710
Ball State University	BALL STATE UNIVERSITY POLICE DEPARTMENT	IN0180300	51876
Ball State University	MUNCIE POLICE	IN0180100	51876
California Polytechnic State University-San Luis Obispo	CALIFORNIA POLYTECHNIC STATE UNIVERSITY-SAN LUIS O	CA0400700	68154
California Polytechnic State University-San Luis Obispo	SAN LUIS OBISPO POLICE DEPARTMENT	CA0400600	68154
California State University-Northridge	CALIFORNIA STATE UNIVERSITY - NORTHRIDGE POLICE	CA0198400	52176
Clemson University	CLEMSON POLICE DEPARTMENT	SC0390200	14950
Clemson University	CLEMSON UNIVERSITY POLICE	SC0390600	14950
College of Charleston	CHARLESTON POLICE DEPARTMENT	SC0100100	13330
College of Charleston	COLLEGE OF CHARLESTON PUBLIC SAFETY	SC0101700	13330
East Carolina University	EAST CAROLINA UNIVERSITY DEPT. OF PUBLIC SAFETY	NC0740900	28080
East Carolina University	GREENVILLE POLICE DEPARTMENT	NC0740300	28080
Florida Atlantic University	BOCA RATON POLICE DEPARTMENT	FL0502200	7300
Florida Atlantic University	FLORIDA ATLANTIC UNIVERSITY POLICE	FL0503700	7300
Florida International University	FLORIDA INTERNATIONAL UNIVERSITY POLICE	FL0133100	45000
Florida International University	MIAMI POLICE DEPARTMENT	FL0130600	45000
Florida State University	FLORIDA STATE UNIVERSITY POLICE	FL0370600	70600
Florida State University	TALLAHASSEE POLICE DEPARTMENT	FL0370300	70600
Indiana University-Bloomington	BLOOMINGTON POLICE	IN0530100	5860
Indiana University-Bloomington	INDIANA UNIVERSITY POLICE DEPARTMENT	IN0530200	5860
Louisiana State University and Agricultural & Mechanical College	BATON ROUGE POLICE DEPARTMENT	LA0170200	5000
Louisiana State University and Agricultural & Mechanical College	LOUISIANA STATE UNIVERSITY POLICE DEPARTMENT	LA0170400	5000
Marshall University	HUNTINGTON POLICE DEPARTMENT	WV0060200	39460
Marshall University	MARSHALL UNIVERSITY POLICE DEPARTMENT	WV0060400	39460
Miami University-Oxford	MIAMI UNIVERSITY POLICE DEPARTMENT	OH0091700	59234
Miami University-Oxford	OXFORD POLICE DEPARTMENT	OH0090700	59234
Monmouth University	MONMOUTH UNIVERSITY	NJ0135500	79310
Monmouth University	WEST LONG BRANCH POLICE	NJ0126300	79310
Murray State University	MURRAY POLICE DEPARTMENT	KY0180100	54642
Murray State University	MURRAY STATE UNIVERSITY POLICE DEPARTMENT	KY0180200	54642
North Carolina State University at Raleigh	NORTH CAROLINA STATE UNIVERSITY DEPT. OF PUBLIC SA	NC0920600	55000
North Carolina State University at Raleigh	RALEIGH POLICE DEPARTMENT	NC0920100	55000
Northwestern University	EVANSTON POLICE DEPT	IL0163200	24582
Northwestern University	NORTHWESTERN UNIV/EVANST	IL0162W00	24582
Northwestern University	NORTHWESTERN UNIVERSITY PD EVANSTON	IL0167D00	24582
Ohio State University-Main Campus	COLUMBUS POLICE DEPARTMENT	OHCOP0000	18000
Ohio State University-Main Campus	OHIO STATE UNIVERSITY POLICE DEPARTMENT	OH0262700	18000
Pennsylvania State University-Main Campus	PENN STATE UNIVERSITY POLICE SERVICES	PA0141100	78704
Pennsylvania State University-Main Campus	PENNSYLVANIA STATE UNIVERSITY - SCHUYLKILL POLICE	PA0545200	78704
Rollins College	WINTER PARK POLICE DEPARTMENT	FL0480600	78300
Rutgers University-New Brunswick	NEW BRUNSWICK POLICE	NJ0121400	51210
Rutgers University-New Brunswick	RUTGERS UNIVERSITY POLICE - NEW BRUNSWICK	NJ0123000	51210
San Diego State University	SAN DIEGO POLICE DEPARTMENT	CA0371100	66000
San Diego State University	SAN DIEGO STATE UNIVERSITY	CA0371400	66000
Texas State University	SAN MARCOS POLICE DEPARTMENT	TX1050100	65600
Texas State University	TEXAS STATE UNIVERSITY AT SAN MARCOS POLICE DEPART	TX1050300	65600
Tufts University	MEDFORD POLICE DEPARTMENT	MA0093000	39835
Tufts University	TUFTS UNIVERSITY-MEDFORD	MA0096400	39835
Tufts University	TUFTS UNIVERSITY-MEDFORD	MA009TU00	39835
University of California-Berkeley	BERKELEY POLICE DEPARTMENT	CA0010300	6000
University of California-Berkeley	LAWRENCE BERKELEY LAB PD UNIV OF CA BERKELEY	CA0012700	6000
University of California-Berkeley	UNIVERSITY OF CALIFORNIA - BERKELEY POLICE	CA0019700	6000
University of Central Florida	ORLANDO POLICE DEPARTMENT	FL0480400	53000
University of Central Florida	UNIVERSITY OF CENTRAL FLORIDA POLICE	FL0481400	53000
University of Idaho	MOSCOW POLICE DEPARTMENT	ID0290500	54850
University of Iowa	IOWA CITY POLICE DEPARTMENT	IA0520200	38595
University of Iowa	UNIVERSITY OF IOWA POLICE	IA0520400	38595
University of Kansas	LAWRENCE POLICE DEPARTMENT	KS0230100	38900
University of Kansas	UNIVERSITY OF KANSAS POLICE DEPARTMENT	KS0230200	38900
University of Michigan-Ann Arbor	ANN ARBOR POLICE DEPARTMENT	MI0121800	3000
University of Missouri-Columbia	COLUMBIA POLICE DEPARTMENT	MO0100200	15670
University of Missouri-Columbia	UNIVERSITY OF MISSOURI POLICE DEPT.	MO0100400	15670
University of New Mexico-Main Campus	ALBUQUERQUE POLICE DEPARTMENT	NM0010100	2000
University of New Mexico-Main Campus	UNIVERSITY OF NEW MEXICO POLICE DEPARTMENT	NM0010200	2000
University of North Florida	JACKSONVILLE CITY ONTY PD	FL0160200	35000
University of North Florida	UNIVERSITY OF NORTH FLORIDA POLICE	FL0160600	35000
University of Pittsburgh-Pittsburgh Campus	PITTSBURGH POLICE DEPARTMENT	PAPPD0000	61000
University of Pittsburgh-Pittsburgh Campus	UNIVERSITY OF PITTSBURGH - MAIN CAMPUS POLICE	PA0021N00	61000
University of Virginia-Main Campus	CHARLOTTESVILLE POLICE DEPT.	VA1020600	14968
University of Virginia-Main Campus	UNIVERSITY OF VIRGINIA POLICE DEPARTMENT	VA0020100	14968
Washington State University	PULLMAN POLICE DEPARTMENT	WA0380300	56625
Washington State University	WASHINGTON STATE UNIVERSITY POLICE DEPARTMENT	WA0380500	56625
West Virginia University	MORGANTOWN POLICE DEPARTMENT	WV0310100	55756
West Virginia University	WEST VIRGINIA UNIVERSITY POLICE DEPT.	WV0310600	55756

are these by year or over the entire period

Table 2: Summary Statistics of the 38 universities from 2013-2018

	Mean	Std. Dev	Min	Median	Max
University Police Only					
Reported Rape[1]	1.96	1.22	0.00	1.66	6.58
~~IHS Reported Rape[2]~~	~~0.31~~	~~0.21~~	~~0.00~~	~~0.26~~	~~0.89~~
University and Local Police					
Reported Rape ~~per 100k persons~~ per 100k	3.90	2.36	0.34	3.78	9.09
~~IHS Reported Rape~~	~~1.44~~	~~1.20~~	~~0.02~~	~~1.13~~	~~4.92~~
University Characteristics					
Undergraduate Enrollment	22893.80	12214.87	2631.67	22494.25	55010.50
Graduation Rate	69.29	14.73	42.83	69.33	93.83
SAT Math 75th Percentile	648.48	70.38	531.67	648.33	793.33
SAT Reading 75th Percentile	634.40	56.57	528.33	638.33	763.33
Foreign	0.01	0.01	0.00	0.01	0.03
Full-time	0.87	0.10	0.60	0.89	0.99
Asian	0.07	0.07	0.01	0.04	0.35
Black	0.07	0.04	0.01	0.06	0.19
Hispanic	0.13	0.14	0.02	0.07	0.67
White	0.62	0.18	0.09	0.68	0.83

[1] Reported Rape is per 100k persons

[2] IHS is the inverse-hyperbolic-sine transformation of total reported rapes.

Table 3: Fraternity Moratorium Closure and Reinstated Dates

University	Suspension Date	Suspension End	Length	Suspension Date (2)	Suspension End (2)	Length (2)
Arkansas State University	2017-02-21	2017-04-01	39 days	NA	NA	NA days
Ball State University	2017-10-24	2018-01-31	99 days	NA	NA	NA days
California Polytechnic State University-San Luis Obispo	2015-01-13	2015-04-06	83 days	2018-04-17	2018-05-06	50 days
California State University-Northridge	2014-10-23	NA	NA days	NA	NA	NA days
Clemson University	2014-09-23	2014-10-10	17 days	2018-01-27	2018-03-01	33 days
College of Charleston	2016-08-30	2016-12-01	93 days	NA	NA	NA days
East Carolina University	2015-01-28	2015-03-07	38 days	NA	NA	NA days
Florida Atlantic University	2017-11-28	2018-03-01	93 days	NA	NA	NA days
Florida International University	2018-01-01	2018-04-01	90 days	NA	NA	NA days
Florida State University	2017-11-06	2018-03-26	140 days	NA	NA	NA days
Indiana University-Bloomington	2017-11-27	2018-02-28	93 days	NA	NA	NA days
Louisiana State University and Agricultural & Mechanical College	2017-09-14	2017-10-12	28 days	2017-10-19	2018-03-01	133 days
Marshall University	2018-03-05	2018-03-15	10 days	NA	NA	NA days
Miami University-Oxford	2018-02-20	NA	NA days	NA	NA	NA days
Monmouth University	2018-09-05	2019-01-16	132 days	NA	NA	NA days
Murray State University	2018-05-09	2018-08-14	97 days	NA	NA	NA days
North Carolina State University at Raleigh	2015-03-01	2015-05-09	69 days	NA	NA	NA days
Northwestern University	2017-02-07	2017-03-27	48 days	NA	NA	NA days
Ohio State University	2017-11-16	2018-02-07	83 days	NA	NA	NA days
Pennsylvania State University	2017-02-07	2017-05-05	87 days	NA	NA	NA days
Rollins College	2017-02-22	2017-03-17	23 days	NA	NA	NA days
Rutgers University-New Brunswick	2015-04-06	2015-06-01	56 days	NA	NA	NA days
San Diego State University	2018-03-09	2018-10-06	211 days	NA	NA	NA days
Texas State University	2017-11-14	2018-02-26	104 days	NA	NA	NA days
Tufts University	2016-11-16	2017-01-19	64 days	NA	NA	NA days
University of California-Berkeley	2016-10-16	2016-10-27	11 days	NA	NA	NA days
University of Central Florida	2013-02-20	2013-04-01	40 days	2018-01-08	2018-03-05	56 days
University of Idaho	2017-12-12	2018-03-13	91 days	NA	NA	NA days
University of Iowa	2017-05-01	2017-11-18	201 days	NA	NA	NA days
University of Kansas	2018-03-12	2018-03-14	2 days	NA	NA	NA days
University of Michigan-Ann Arbor	2017-11-09	2018-01-03	55 days	NA	NA	NA days
University of Missouri-Columbia	2018-03-06	2018-03-13	7 days	NA	NA	NA days
University of New Mexico	2017-12-08	2018-02-19	73 days	NA	NA	NA days
University of North Florida	2017-12-04	2017-12-18	14 days	NA	NA	NA days
University of Pittsburgh-Pittsburgh Campus	2018-01-19	2018-08-30	223 days	NA	NA	NA days
University of Virginia	2014-11-22	2015-01-09	48 days	NA	NA	NA days
Washington State University	2016-11-07	2017-01-09	63 days	NA	NA	NA days
West Virginia University	2014-11-14	2015-01-19	66 days	2018-02-14	2018-08-18	185 days

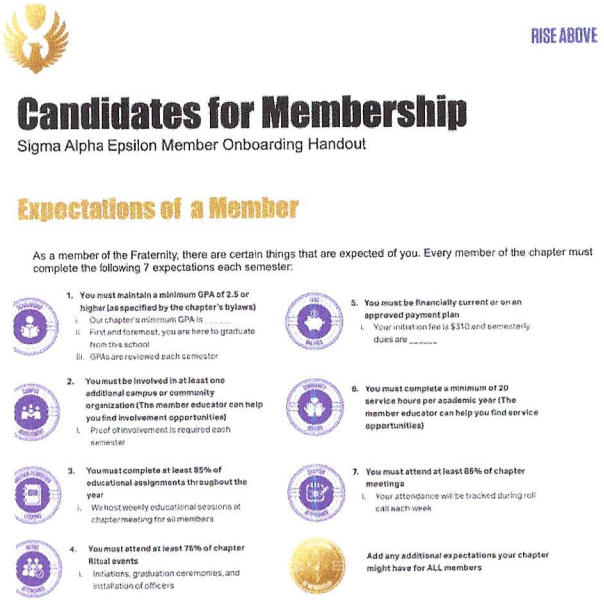


Figure 1: The fraternity chapter, Sigma Alpha Episilon, guidelines for members.

Table 4: Effects of Fraternity Moratoriums on Cleared Reports of Rape (Per 100k)

	Local Municipality and University Police		University Police Only	
	(1)	(2)	(1)	(2)
Moratorium	0.003	-0.005	-0.023	-0.004
	(0.051)	(0.192)	(0.192)	(0.201)
Graduation Rate		-0.038*		-0.032
		(0.021)		(0.036)
Undergrad Proportion Asian		6.512		-3.047
		(6.441)		(6.978)
Undergrad Proportion Black		-4.502		-4.146
		(8.735)		(15.445)
Undergrad Proportion Hispanic		-10.799**		-6.951
		(5.042)		(8.731)
Undergrad Proportion White		-3.259		-0.382
		(2.378)		(3.650)
Proportion Full-time		3.823***		-0.266
		(0.994)		(1.746)
Num.Obs.	5184	5184	2664	2664
R2	0.268	0.093	0.112	0.113
R2 Adj.	0.253	0.073	0.076	0.075
Cluster vars	university	university	university	university
FE: month_by_year	X	X	X	X
FE: university	X	X	X	X

* p < 0.1, ** p < 0.05, *** p < 0.01

Table 5: Effects of Fraternity Moratoriums on Reports of Rape

	Reports of Rape (Per 100k)		IHS of Reports of Rape	
	(1)	(2)	(1)	(2)
Moratorium	0.235	0.223	-0.024	-0.023
	(0.662)	(0.650)	(0.073)	(0.071)
Graduation Rate		-0.044		-0.008
		(0.060)		(0.008)
Undergrad Proportion Asian		-3.619		0.103
		(38.836)		(4.969)
Undergrad Proportion Black		17.944		2.346
		(29.278)		(4.076)
Undergrad Proportion Hispanic		-10.451		-0.165
		(18.922)		(2.881)
Undergrad Proportion White		1.332		-0.097
		(14.834)		(1.889)
Proportion Full-time		0.256		-0.577
		(4.346)		(0.603)
Num.Obs.	2804	2804	2804	2804
R2	0.119	0.120	0.186	0.187
R2 Adj.	0.084	0.083	0.154	0.153
Cluster vars	university	university	university	university
FE: month_by_year	X	X	X	X
FE: university	X	X	X	X

* p < 0.1, ** p < 0.05, *** p < 0.01

Table 6: Effects of Fraternity Moratoriums on Reports of Rape - University and Local Municipality

	Reports of Rape (Per 100k)		IHS of Reports of Rape	
	(1)	(2)	(1)	(2)
Moratorium	-0.381	-0.413	-0.088	-0.101
	(0.504)	(0.496)	(0.071)	(0.068)
Graduation Rate		-0.020		-0.004
		(0.041)		(0.006)
Undergrad Proportion Asian		14.550		-0.068
		(28.061)		(4.974)
Undergrad Proportion Black		36.170		11.076*
		(23.910)		(5.503)
Undergrad Proportion Hispanic		7.580		-0.655
		(18.173)		(2.965)
Undergrad Proportion White		9.398		1.653
		(7.422)		(1.569)
Proportion Full-time		-1.089		-0.826
		(3.842)		(0.823)
Num.Obs.	5175	5175	5175	5175
R2	0.100	0.100	0.287	0.288
R2 Adj.	0.081	0.080	0.272	0.272
Cluster vars	university	university	university	university
FE: month_by_year	X	X	X	X
FE: university	X	X	X	X

* p < 0.1, ** p < 0.05, *** p < 0.01

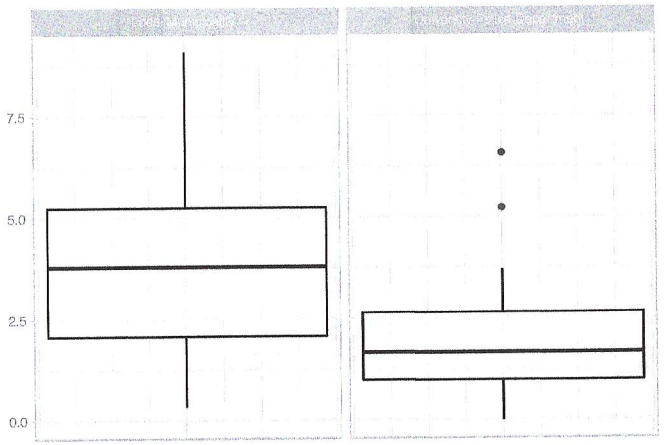


Figure 2: Distribution ofreports of rape per one-hundred-thousand persons by type of police municipality.

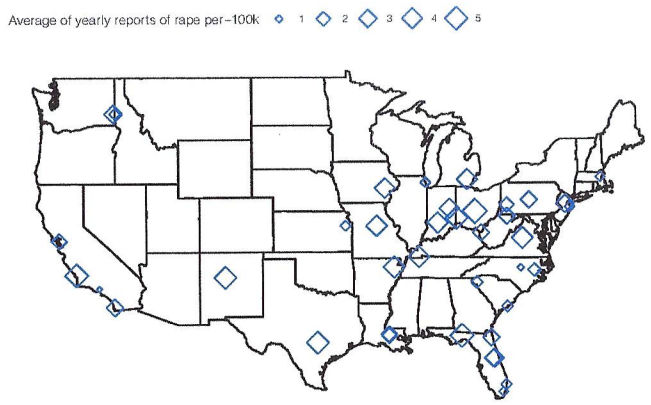


Figure 3: Distribution of fraternity moratoriums in the sample from years 2013-2018. Each dot represents the average of yearly reports of rape (per one-hundred-thousand) by the jurisdictions serving the universities.

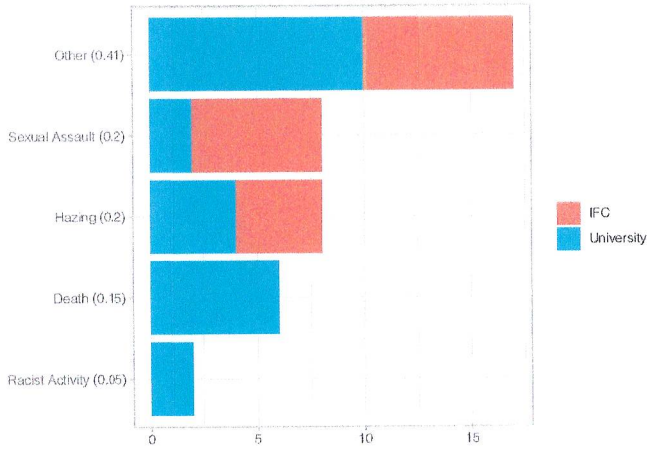
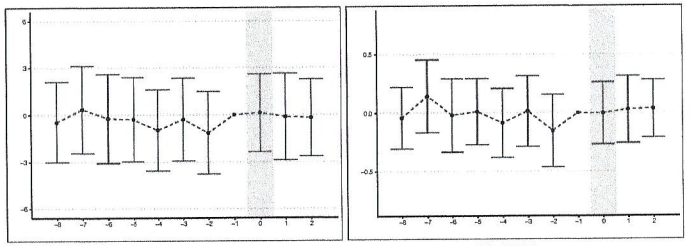


Figure 4: Distribution of triggering events for university moratoriums. The *Other* category represents triggering events such as alcohol violations, re-evaluation due to national trends, and unspecified rule violations.



(a) Rape (Per One-hundred-thousand)

(b) IHS Rape

Figure 5: Event study showing 8 months prior and 2 months post moratorium.

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