College Basketball Game Day and Sexual Assault*

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Abstract

Basketball games are an important part of college identity and social activities. This paper studies the effect of college basketball game days on the probability of having local sexual assault reports. Using crime data from universities with top basketball programs and local law enforcement agencies, this paper shows that home game days have little effect on the probability of sexual assault reports, while away game days scale up the probability by 14%. This finding is different from those found for football, which likely reflects differences in viewing and partying behavior across the two sports.

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1 Introduction

College basketball teams, especially top ones, draw enormous attention from the public. For example, Duke has sold out all basketball home games since 1990.[1] Even more people are watching college basketball games on TV. Coach Krzyzewski's last home game at Duke against the University of North Carolina at Chapel Hill had 3.98 million viewers on ESPN.[2]

The high frequency of games is a distinctive feature of college basketball. Teams play 30-40 games per season, depending on how far the team goes in the tournament.[3] In contrast, the college football season is only 12 games long.[4]

Due to the popularity and frequency of college basketball games, fan game day behavior might be of concern. Previous studies have found increases in the number of crime reports on football game days. Rees & Schnepel (2009) find a 9% increase in assaults and 18% increase in vandalism on college football home game days. Card & Dahl (2011) report a 10% increase in domestic violence for upset losses (defeats when a home team is expected to win by at least four points) in NFL games. Lindo et al. (2018) estimate that college football game days increase rape reports by 28% among college-aged victims.[5] College basketball games also draw enormous attention from the public and they take place at a high frequency. But to our best knowledge, no paper has studied these issues for college basketball.

This paper examines the effect of NCAA Division I basketball games by prominent teams on the probability of having sexual assault reports involving college-aged victims. The identifying assumption is that the timing of game days is as good as random conditional

[1]Source: `https://goduke.com/news/2022/3/3/mens-basketball-no-4-duke-faces-north-carolina-in-coach-ks-final-home-game.aspx`

[2]Source: `https://www.sportsmediawatch.com/2022/03/duke-unc-ratings-coach-k-finale-most-watched-game-college-basketball-season/`

[3]Source: `https://www.ncaa.com/news/basketball-men/article/2020-10-27/how-many-games-are-college-basketball-season`

[4]Source: `https://en.wikipedia.org/wiki/NCAA_Division_I_Football_Bowl_Subdivision`

[5]All three papers use regressions that model count variables with the logit link function. Rees & Schnepel (2009) use the negative binomial regression model. Card & Dahl (2011) and Lindo et al. (2018) use the Poisson regression model. Results interpretation follows the incidence rate ratio, which is calculated as $e^{\beta} - 1$. Hence, these results have different measurement as results from the linear probability model, which will be discussed shortly.

on agency fixed effects and time-varying controls. Utilizing crime data from the National Incident-Based Reporting System (NIBRS) and game results data from top Division I basketball teams between 2008 and 2019, we find that basketball home game days have little effect on the probability of having sexual assault reports among college-aged victims while basketball away game days scale up the probability by 14%. There is a significant difference in estimates for basketball home and away game days, and it can be explained by different watching patterns. Home game days bring people together at basketball arenas on campus, where there are often more police patrols due to special campus events. On basketball away game days, people are mostly dispersed off campus, where there are not as many police patrols as basketball home game days. Results from heterogeneity analysis by the location of police departments support this notion. The results indicate that increases of sexual assault reports on basketball away game days are concentrated in city police departments. Heterogeneity analysis by team prominence shows that the effect on basketball away game days is large and significant for more prominent teams. Further analysis of victim-offender relationship indicates that effects on basketball away game days are mainly driven by offenders outside family but known to victims, which is consistent with results from the Rape, Abuse & Incest National Network (RAINN) that most sexual assault victims know offenders. Also, results show that there is a significant increase for offenders over 24 years old on basketball away game days, which corresponds to the notion that these offenders are mostly non-student and thus they are not bounded by the student conduct code. The significant increase in white victims on basketball away game days is consistent with the mostly white student body for universities in the sample.

Our finding is different from those found for football, which likely reflects differences in viewing and partying behavior across the two sports. Football is more violent than basketball. People learn to behave more violently when watching violent behaviors (Bandura, 1973). Football games are usually associated with lots of partying and tailgating events, which increases sexual assaults (Lindo et al., 2018). Thus, it is reasonable to have smaller estimated

effects for basketball than football.

Sexual assaults inflict high social costs. Using the estimated cost of $267,000 per offense (McCollister et al., 2010; Lindo et al., 2018), estimated social costs of sexual assaults induced by top basketball teams is almost $60 million in a basketball regular season each year.

The rest of the paper proceeds as follows. Section 2 discusses the data used in the paper. Section 3 introduces the econometric model. Section 4 provides analysis results. Section 5 discusses the implication of results and concludes.

2 Data

The empirical analysis uses crime data from the National Incident-Based Reporting System (NIBRS) concatenated by Kaplan (2021). According to the Institute for Social Research at the University of Michigan, NIBRS offers the academic community more comprehensive data than ever before for research.[6] The key advantage of NIBRS data is its detailed information on incidents such as the reporting agency, incident time, date, age and race of the victim, and the relationship between victim and offender. Two limitations of NIBRS data are that agencies voluntarily participate in NIBRS to report offenses and NIBRS only records crimes reported. The percentage of population covered by NIBRS was 30% as of 2012, and it has reached 66% as of 2022.[7] But similar to Cardazzi et al. (2022), an agency's willingness to participate in the NIBRS is unrelated to game days. The other limitation is that NIBRS only records crime reported and rape is an underreported crime. Kilpatrick et al. (2007) finds that only 12% of college-aged women who experience a rape report it to law enforcement. Nevertheless, Lindo et al. (2018) show that rapes reported are unrelated to game days. Hence, the two limitations do not bias results.

The analysis focuses on college-aged sexual assault victims who are between 17 and 24 years old. The inclusion of 17-year-olds considers the belief that freshmen at the begin-

[6]Source: `https://www.icpsr.umich.edu/web/pages/NACJD/NIBRS/`

[7]Sources: `https://ucr.fbi.gov/nibrs/2012/resources/nibrs-participation-by-state`, `https://bjs.ojp.gov/national-incident-based-reporting-system-nibrs`

ning of a new academic year are vulnerable to sexual assault predators (Lindo et al., 2018). The inclusion of victims through 24 years old considers the statistic that 44% of first-time recipients for bachelor's degree finished their degree within 48 months of their initial post secondary enrollment, 23% finished within 49-60 months, and 9% finished within 61-72 months (Cataldi et al., 2011). The analysis includes rape, sodomy, and sexual assault with an object in sexual assault incidents. According to NIBRS user manual, the three offenses are all sexual acts against another person without the consent.[8] Lindo et al. (2018) also use this age classification and sexual assault definition.

Data on sexual assault incidents comes from local police departments of prominent college basketball teams. The analysis focuses on universities with NCAA Division I basketball programs that rank in the top 50 based on the frequency of occurrence in the compiled Associated Press Poll (AP Poll) list from 2007-2008 season to 2019-2020 season.[9] Since game day effects can be observed not only on campus but also in the downtown area for spillovers, the analysis uses NIBRS data from university police departments and police departments located in the same city. The analysis excludes data from police departments in cities that have more than one university participating in the Division I basketball program to ensure that all incidents in a city are assigned to one college basketball team. Because most universities with basketball programs ranked in the top 50 in the compiled AP Poll list have football programs and Lindo et al. (2018) find a significant increase in sexual assault reports with college-aged victims on football game days, the analysis excludes universities without football programs so that universities in the analysis have similar sports culture. As a result, there are 44 police departments that correspond to 27 universities in the analysis. Table 1 records universities, their corresponding police departments, and years available in

[8]Fondling is not included because it refers to fondling against child in NIBRS and thus it is not relevant to college-aged victims in the analysis. Source: `https://le.fbi.gov/file-repository/nibrs-user-manual.pdf/view`

[9]The AP Top 25 College Basketball Poll provides weekly rankings of the top 25 NCAA basketball teams. The ranking is compiled by polling 60+ sportswriters and broadcasters across the nation who closely follow college basketball games. Votes of the members in the AP Poll are also made public. Source: `https://apnews.com/hub/ap-top-25-college-basketball-poll`

the NIBRS.[10]

The analysis uses NIBRS data on sexual assault incidents from the 44 police departments to generate agency-by-day level data on these incidents and links it to their corresponding universities' game records.[11] To account for events that go from late night to early morning, a day is defined to be from 6:00 am to 5:59 am the next day. This adjustment utilizes incident date and time records in the NIBRS. The agency-by-day level data is then linked to basketball and football game records at their corresponding universities. As mentioned previously, football game days have significant effects on sexual assaults with college-aged victims (Lindo et al., 2018). The analysis takes it into consideration by controlling for football game days, which will be discussed in the next section. Data on college basketball and football games comes from `sportsbookreviewsonline.com`. The basketball game day data is cross checked with data from Benz (2022) and the football game day data is cross checked with data from `sports-reference.com/cfb/`. As college basketball games mostly take place in regular seasons and lots of games are cancelled in 2020 due to the COVID-19 pandemic, the analysis focuses on dates in regular seasons of college basketball from 2008-2019.[12] The appendix reports results using dates from other time periods.

Therefore, the sample in the main analysis has 43,820 observations. This includes 11,049 days with basketball games. Table 2 records reported sexual assault incidents per day based on the sample in the main analysis. Reported incidents per day with college-aged victims are almost the same as reported incidents per day with victims over 24 years old. This statistic indicates that lots of college-aged victims are involved. Further analysis on victims' race

[10]Since an agency may join the NIBRS in the middle of a year, the analysis only considers agencies that report data on any crimes in a month.

[11]NIBRS stores details of sexual assault incidents in different segments. The originating agency identifier, incident number, and incident date are used to link incident details in different segments. If the two incidents have the same linking variables, incident details are matched using the order of appearance in segments (administrative, offense, victim, and offender segments) unless there are differences in the number of segments and relationship of victim to offender. Around 40 incidents have the issue, which is about 0.1% out of all sexual assault incidents from 2008-2019 reported by the 44 police departments.

[12]The analysis drops bowl game days, as well as the day before and after, because these post-season games are not typical. This is the same as Lindo et al. (2018). Dates on NCAA basketball regular and post seasons come from Wikipedia.

shows that these college-aged victims are largely white.

3 Econometric Model

The econometric model estimates the effect of basketball game days on the probability of having one or more sexual assault incident reports. The identifying assumption is that the timing of game days is as good as random conditional on agency fixed effects and time-varying controls. Lindo et al. (2018) also use this identifying assumption to study the effect on college football game days. The choice of econometric model considers three characteristics of sample data. First, sexual assault is a rare event. About 95% of the agency-by-day level data in the sample records no sexual assault incident involving college-aged victim and about 4% records one incident. Hence, the econometric model uses regressions with binary dependent variables to study the effect of basketball game days on the probability of having one or more sexual assault incident reports involved with college-aged victims. Linear probability model and logit regression model are two candidates. Second, the sample uses incident reports from university police departments and police departments located in the same city to account for spillover effects. As a result, reports from the university and its corresponding city police department are likely to be correlated. Due to the small number of colleges for clusters, standard errors are generated with bootstraps to solve the within-group dependence issue (Cameron et al., 2008). Third, the econometric model includes agency fixed effects and a set of time-varying controls at different levels to control for unobserved variables, which will be introduced below. As nonlinear models with many fixed effects and bootstraps are usually computationally unstable and they can have convergence issues, the main specification adopts the linear probability model with bootstrapped standard errors. The appendix reports results from the logit regression model without bootstraps as a robustness check.

The baseline linear probability model that estimates the effect of basketball game days on the probability of having sexual assault incident reports involved with college-aged victims

corresponds to the following equation:

$$R_{ijt} = \theta_i + \gamma \boldsymbol{X}_t + \beta_1 B_{jt}^{h-1} + \beta_2 B_{jt}^{h} + \beta_3 B_{jt}^{h+1} + \beta_4 B_{jt}^{a-1} + \beta_5 B_{jt}^{a} + \beta_6 B_{jt}^{a+1} + \beta_7 F_{jt}^{h-1} + \beta_8 F_{jt}^{h} + \beta_9 F_{jt}^{h+1} + \beta_{10} F_{jt}^{a-1} + \beta_{11} F_{jt}^{a} + \beta_{12} F_{jt}^{a+1}. \quad (1)$$

R_{ijt} a binary variable that equals to 1 if there are sexual assault incident reports with college-aged victims at agency i for college j on day t. θ_i represents an agency fixed effect. $\boldsymbol{X}_t$ represents a set of time-varying controls which include day-of-week fixed effects, holiday controls, and year fixed effects.[13] B_{jt}^{h-1}, B_{jt}^{h}, B_{jt}^{h+1} represent the day before, the day of, and the day after basketball home game day t at college j correspondingly. B_{jt}^{a-1}, B_{jt}^{a}, B_{jt}^{a+1} represent the day before, the day of, and the day after basketball away game day t at college j correspondingly. F_{jt}^{h-1}, F_{jt}^{h}, F_{jt}^{h+1} represent the day before, the day of, and the day after football home game day t at college j correspondingly. F_{jt}^{a-1}, F_{jt}^{a}, F_{jt}^{a+1} represent the day before, the day of, and the day after football away game day t at college j correspondingly. The regression separately considers home and away game days to account for different watching patterns. It controls for football game days due to their significant impact on sexual assaults. One-day lag and lead from basketball and football game days consider spillover effects in the short run. Standard errors are bootstrapped 200 times because of a small number of clusters at the college level (Cameron et al., 2008; Bana et al., 2022).

The identifying assumption is that the timing of basketball game days is random, conditional on agency fixed effects and time-varying controls. In the regression, agency fixed effects account for differences in local characteristics such as culture and population. Day-of-week fixed effects control for changes across different days of the week. For example, Saturdays are more likely to associate with gatherings. Holiday controls consider different student availability on holidays. Year fixed effects control for changes in annual trends. The regression model progressively adds agency-by-month fixed effects, agency-by-week fixed effects,

[13]Holiday controls include indicators for Christmas Eve, Christmas Day, New Year's Eve, New Year's Day, Halloween, Thanksgiving Day, Labor Day, Columbus Day, and Veterans Day.

agency-by-year-by-month fixed effects, and agency-by-year-by-week fixed effects to control for changes over the course of the year. Interpretation of results uses the regression with day-of-week fixed effects, holiday controls, and agency-by-year-by-week fixed effects. With these controls, days in the week without basketball games are counterfactuals for days in the same week with basketball games.

4 Results

4.1 Main Results

Table 3 reports results from the linear probability model that estimates effects of basketball home and away games on the probability of sexual assault incidents involving college-aged victims during regular seasons from 2008 to 2019. Estimation in column (1) of Table 3 follows equation (1). Column (2)-(5) show results from models that progressively add agency-by-month fixed effects, agency-by-week fixed effects, agency-by-year-by-month fixed effects, and agency-by-year-by-week fixed effects. Estimates change little across different fixed effects specifications. As mentioned earlier, interpretation follows the regression with agency-by-year-by-week fixed effects in column (5). Results show that on basketball away game days, the probability of getting sexual assault reports involving college-aged victims increases by 0.7 percentage points. This is a 14% increase given that the sample mean is 5%. Basketball home game days have little effects on the probability of sexual assault reports. Hypothesis test on whether the coefficient of basketball home game day is the same as the coefficient of basketball away game day indicates that the equality hypothesis is rejected at the 5% significance level. The significant difference in estimates for basketball home and away games can be explained by different watching patterns. Basketball home games bring people together at basketball arenas on campus, where there are often more police patrols due to special campus events. On basketball away game days, people are largely dispersed off campus, where there are not as many police patrols as basketball home game days. As

mentioned in Dau et al. (2021), police presence has significant crime preventative effects. So it is reasonable to have larger estimated effects on basketball away game days. Besides, results show that there is a significant increase in the probability of sexual assault reports the day after basketball away game days, compared to days not related to basketball or football games. Hypothesis test on whether the coefficient of basketball away game day equals the coefficient of the day after basketball away game day cannot be rejected. Phillips (1983) and Miller et al. (1991) also find people's behavior change days after a sporting event.

Moreover, Table 3 shows that compared to days not related to basketball or football games, there are more positive deviations related to the probability of sexual assault reports on football home and away game days than basketball home and away game days correspondingly. This can be attributed to differences in viewing and partying behavior across the two sports. Football games are more violent than basketball games. According to the social learning theory by Bandura (1973), people learn to behave violently when watching violent behaviors. Football games are often associated with lots of partying and tailgating, which intensifies sexual assault (Lindo et al., 2018). Therefore, it is reasonable to have smaller estimated effects for basketball than football.

The analysis conducts robustness checks for main results from two perspectives. First, the analysis adopts a logit regression without bootstrapped standard errors to relax the functional format assumption. Results are reported as odds ratios in Table A1.[14] They have the same signs as those in column (5) of Table 3. Second, the analysis considers different time windows for estimation. Coefficients reported in Table A2 are similar to those reported in column (5) of Table 3.

[14]By definition, odds represent the probability that an event will occur divided by the probability that the event will not occur ($probability(success)/probability(failure)$) and odds ratio is defined to be $\frac{probability(success)A/probability(failure)A}{probability(success)B/probability(failure)B}$. Source:`https://stats.oarc.ucla.edu/stata/webbooks/logistic/chapter1/logistic-regression-with-statachapter-1-introduction-to-logistic-regression-with-stata/`

4.2 Heterogeneity Analysis

The analysis further considers the heterogeneity of estimated effects by the location of police departments, prominence of basketball teams, victim and offender characteristics, and emotional cues associated with wins and losses. Estimates follow the model with the richest specification in column (5) of Table 3. For brevity, tables in the heterogeneity analysis only report coefficients related to basketball game days.

4.2.1 Location of Police Departments

This subsection is motivated by previous results that find a significant increase in the probability of having sexual assault reports involving college-aged victims on basketball away game days and little effect on basketball home game days. This difference can be attributed to different watching patterns for basketball home and away games. Home games bring people together on campus. On away game days, people are mostly dispersed off campus. Incidents on campus fall under the jurisdiction of university police departments and incidents off campus fall under the jurisdiction of city police departments. As a result, this subsection further considers the heterogeneity of estimated effects by the location of police departments to find out which police departments contribute to the elevated effect on basketball away game days.

Column (1) of Table 4 considers the probability of having sexual assault reports with college-aged victims at city police departments and column (2) considers university police departments. Results indicate that the probability of sexual assault reports increases by 1.3 percentage points at city police departments on basketball away game days and there is little effect on sexual assault reports at university police departments on these days.

This result supports different watching patterns for basketball home and away game days, as well as incident locations covered by different jurisdictions of police departments. On basketball home game days, people are brought together at campus basketball arenas.

On basketball away game days, people are mostly dispersed off campus. Also, university and city police departments have different jurisdictions. For example, the police department at Clemson University is responsible for properties on campus, non-campus buildings controlled by student organizations officially recognized by the institution, and non-campus buildings used for the institution's educational purposes.[15] Therefore, places such as off-campus residences not owned by the institution do not fall into the jurisdiction of university police departments while lots of sexual assault incidents happen there. In the main sample, about 70% of the sexual assault incidents occur at residences and almost all sexual assault incidents happened at residences are reported by city police departments. This is consistent with results from the Rape, Abuse & Incest National Network (RAINN) that most sexual assaults happen at or near home locations.[16] Other results in Table 4 provide insights on people's trajectory around basketball away game days. There are significant increases in the probability of sexual assault reports the day before basketball away game days at university police departments and the day after basketball away game days at city police departments. These results suggest that people mostly remain on campus the day before basketball away game days, participate in events off campus on basketball away game days, and still behave badly off campus the day after basketball away game days.

Hence, on basketball away game days, increases in sexual assault reports for college-aged victims are mostly contributed by city PD. There is very little increase in sexual assault reports at university police departments on those days.

4.2.2 Prominence of Basketball Teams

This subsection considers heterogeneous effects by the prominence of basketball teams. The motivation is that more people pay attention to basketball games by more prominent teams, so there can be large effects on the probability of sexual assault reports.

[15] Source:`https://www.clemson.edu/cusafety/cupd/reports-and-statistics/clery-act/geography.html`

[16] Source: `https://www.rainn.org/statistics/scope-problem`

Column (1) of Table 5 studies effects on the probability of having sexual assault incident reports with college-aged victims for universities that are ranked in the top 25 of the compiled AP Poll list (introduced in the data section) and column (2) studies the effects for universities that are ranked 26-50 in the compiled AP Poll list. Results show that there is a large and significant increase in the probability of sexual assault reports for more prominent college basketball teams. The probability of sexual assault reports rises by 0.8 percentage points on basketball away game days for colleges ranked in the top 25 of the compiled AP Poll list. A similar effect is also observed the day after basketball away game days for these universities. Moreover, there is a significant decrease in the probability of sexual assault reports on basketball home game days for colleges ranked in the top 26-50 of the compiled AP Poll list. Since basketball teams at these schools are not as prominent, students may pay less attention to home games. With more police around on home game days, it is reasonable to have a decrease in sexual assault reports.

This result corresponds to the notion that prominent teams draw more attention from people, and thus there is a large and significant effect for more prominent teams.

4.2.3 Victim and Offender Characteristics

This subsection examines the heterogeneity of estimated effects by victim-offender relationship and characteristics of victims and offenders to further analyze who the victims and offenders are.

Table 6 and Table 7 focus on the relationship between victims and offenders. Table 6 shows estimated effects by whether offenders are known to victims. There is 0.7 percentage points increase in the probability of sexual assault reports for offenders known by victims on basketball away game days. The estimate for offenders unknown by victims on those days is close to zero. The significant increase for offenders known by victims on the day before and after basketball away game days as well as the significant decrease for offenders unknown by victims on the day before basketball away game days also support the result

that people who already know each other are more likely to be together around basketball away game days. Further analysis explores the heterogeneity for offenders known by victims by considering whether offenders are within family. Table 7 shows that basketball away game days significantly increases the probability of sexual assault reports by 0.6 percentage points for offenders outside family but known to victims. The increase is also observed the day before and after basketball away game days. There is almost no effect for offenders within family. These results are consistent with results from RAINN that victims know offenders in most incidents and offenders are largely acquaintances instead of family members.[17]

Table 8 considers heterogeneous effects by offender age groups (17-20, 21-24, and over 24 years old).[18] The group for ages 17-20 contains college-aged offenders below the legal drinking age, the group for ages 21-24 contains college-aged offenders above the legal drinking age, and the group for ages greater than 24 contains offenders that are not college-aged. Estimates show that the probability of sexual assault reports increases by 0.5 percentage points for offenders over 24 years old on basketball away game days. There is little effect for college-aged offenders on those days. Robustness checks that focus on offender ages 18-22 and 21-22 in Table A3 also support this finding. Results in Table 8 correspond to the notion that students are bounded by the student conduct code and university disciplinary process, but people over 24 years old are mostly non-student and they are not disciplined by student conduct code. Therefore, there is a large and significant effect for offenders over 24 years old on basketball away game days. Moreover, Table 8 shows that there is a significant decrease in the probability of sexual assault reports for offenders over 24 years old on basketball home game days and the day before. These results are reasonable because there are usually more police patrols around basketball home game days for special campus events.

Table 9 studies heterogeneity by race of victim. Results imply that the probability of sexual assault reports by white college-aged victims rises by 0.6 percentage points on

[17]Source: `https://www.rainn.org/statistics/perpetrators-sexual-violence`

[18]Around 16% of offenses have missing offender age, which is similar to Lindo et al. (2018). Following their specification, the heterogeneity analysis here excludes these offenses.

basketball away game days. The rise is also observed the day before and after basketball away game days. These results support the observation from Table 1 that students in these universities are predominantly white.

Table 10 shows results by victim ages 17-20, 21-24, and over 24. Table 11 reports results by race of offender. These results imply that effects on basketball away game days are not solely driven by a specific victim age group, nor by black or white offenders. The significant decrease in sexual assault reports for victims over 24 years old on the day before basketball home game days corresponds to the significant decrease for offenders over 24 years old on these days. The significant increase for white offenders on the day before basketball away game days corresponds to the significant increase in white victims on these days.

4.2.4 Emotional Cues Associated with Wins and Losses

Analysis in the paper has focused on effects of basketball game days on sexual assault incidents involving college-aged victims. This subsection considers whether emotional cues associated with wins and losses by college basketball teams affect sexual assault reports. It is motivated by Card & Dahl (2011) who find that emotional cues associated with wins and losses by professional football teams affect family violence. They show that upset losses by the local NFL team increase family violence by 10%. Following their specifications, this subsection defines an upset loss to be a loss when the team is expected to win by over three points and the definition of an upset win is similar.[19] Results from Table 12 indicate that there is little effect for upset wins, upset losses, and close losses by college basketball teams on sexual assault reports. Differences in research focus and sports offer explanations for differences in results. This paper focuses on college-aged sexual assault victims. Card & Dahl (2011) focus on family violence in a different age group. So the research focus is

[19]Card & Dahl (2011) use pregame point spreads from Las Vegas bookmakers to measure expected game outcomes. This subsection follows their specification and uses pregame point spreads from `sportsbookreviewsonline.com` to obtain expected game outcomes. Games that are expected to be close are those with betting market spreads no more than three points because each offense play in basketball commonly yields at most three points.

different. Moreover, the two papers study different sports at different professional levels. As mentioned earlier, basketball games are much more frequent than football games. Also, football is more violent than basketball, and people learn to behave violently by watching violent behaviors (Bandura, 1973). The professional level is another difference. This paper studies college basketball. Card & Dahl (2011) study professional football. Therefore, it is reasonable to have different results. Besides, estimates in Table 12 find that upset wins increase the probability of sexual assault reports the day before basketball game days. This result should be viewed with caution because pregame behaviors should not be affected by game outcomes. Lindo et al. (2018) also observe this phenomenon in their paper.

5 Discussion and Conclusion

This paper finds that the probability of getting sexual assault reports involving college-aged victims increases by roughly 0.7 percentage points on basketball away game days. This is a 14% increase given that the sample mean is 5%. There is little effect on basketball home game days. Further analysis of police departments' location shows that increases in sexual assault reports for college-aged victims on basketball away game days are concentrated in city police departments and incident locations are mostly at residences. There is little increase in sexual assault reports at university police departments on those days. These results support the notion of different watching patterns on basketball home and away game days. Basketball home game days bring people together at basketball arenas on campus, where there are often more police patrols due to special campus events. On basketball away game days, people are largely dispersed off campus, where there are not as many police patrols as basketball home game days. Moreover, heterogeneity analysis by the prominence of teams shows that the effect on basketball away game days is large and significant for more prominent teams. Furthermore, the paper conducts heterogeneity analysis of victims and offenders. The significant increase in offender outside family but known to victim on

basketball away game days is consistent with results from RAINN that most sexual assault victims know offenders. The significant increase in offenders over 24 years old supports the point that they are mostly non-student and thus they are not bounded by the student conduct code. The significant increase in white victims on basketball away game days corresponds to the mostly white student body for universities in the sample. Results for basketball game days are different from results for football game days, which likely reflects differences in viewing and partying behavior across the two sports. Football games are more violent. By the social learning theory, people learn to behave violently when watching violent behaviors (Bandura, 1973). Football games are usually associated with lots of partying and tailgating, which intensifies sexual assault (Lindo et al., 2018). Hence, it is reasonable to have smaller estimated effects for basketball than football.

Results in the paper have policy implications. Sexual assaults incur high social costs. The estimated cost for one sexual assault incident is $267,000 in 2015 dollars (McCollister et al., 2010; Lindo et al., 2018). This implies that basketball games by top teams generate social costs of nearly $60 million in a basketball regular season each year.[20] The estimate is conservative because of price inflation and underreported nature of rapes. Kilpatrick et al. (2007) point out that only 12% of rapes among college-aged women are reported to law enforcement. Elevated sexual assault reports during basketball away game days instead of home game days imply that measures taken on home game days are effective to reduce sexual assault incidents. For example, the University of Washington Police Department staffs university athletic events with uniformed or plainclothes police officers.[21] Police presence has significant crime preventative effects (Dau et al., 2021). Therefore, a policy suggestion for basketball away game days is to have more police patrols in the city.

[20] Calculation follows $267,000 * 43,820 * 0.058/12 = 56,549,710$.

[21] Source: `http://police.uw.edu/aboutus/divisions/operations/specialops/`

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Tables

Table 1: List of Division I basketball schools and their corresponding law-enforcement agencies in the analysis

School	Agencies (Years available in NIBRS from 2008 to 2019)
Baylor University	Waco Police Department (2018-2019)
Clemson University	Clemson Police Department (2008-2019) Clemson University Police (2008-2019)
University of Connecticut	University of Connecticut Police (2008-2019)
Duke University	Durham Police Department (2019)
Indiana University Bloomington	Bloomington Police (2019)
University of Iowa	Iowa City Police Department (2008-2019) University of Iowa Police (2008-2019)
Iowa State University	Ames Police Department (2008-2019) Iowa State University Police (2008-2019)
University of Kansas	Lawrence Police Department (2008-2014) University of Kansas Police Department (2008-2019)
Kansas State University	Kansas State University Police Department (2008-2019)
University of Kentucky	Lexington Division of Police (2010-2019) University of Kentucky Police Department (2008-2019)
University of Louisville	University of Louisville Police Department (2009-2019)
University of Memphis	Memphis Police Department (2008-2019) University of Memphis Police (2008-2019)
University of Michigan-Ann Arbor	Ann Arbor Police Department (2008-2019) University of Michigan of Public Safety Ann Arbor (2008-2019)
Michigan State University	East Lansing Police Department (2008-2019) Michigan State University Police Department (2008-2019)
University of Missouri	Columbia Police Department (2019)
University of North Carolina at Chapel Hill	Chapel Hill Police Department (2019) University of North Carolina-Chapel Hill Public (2019)
University of Notre Dame	South Bend Police Department (2018-2019)
Ohio State University-Columbus	Ohio State University Police Department (2008-2019) Columbus Police Department (2008-2019)
University of Oklahoma	Norman Police Department (2016-2019)
University of Oregon	Eugene Police Department (2013-2019) University of Oregon Police Department (2014-2019)

continued

Table 1: List of Division I basketball schools and their corresponding law-enforcement agencies in the analysis

School	Agencies (Years available in NIBRS from 2008 to 2019)
University of Tennessee	Knoxville Police Department (2008-2019)
	University of Tennessee at Knoxville Police (2008-2019)
University of Texas at Austin	Austin Police Department (2019)
	University of Texas-Austin Police (2019)
Texas A&M University	College Station Police Department (2018-2019)
	Texas A&M University Police Department (2019)
Texas Tech University	Lubbock Police Department (2017-2019)
	Texas Tech University Police Department (2017-2019)
University of Virginia	Charlottesville Police Department (2008-2019)
	University of Virginia Police Department (2008-2019)
West Virginia University	Morgantown Police Department (2008-2019)
	West Virginia University Police Department (2008-2019)
University of Wisconsin-Madison	Madison Police Department (2010-2019)

Note: While the table follows Lindo et al. (2018) to find law enforcement agencies for universities and agencies in the same city as the university, the table does not use Riley county police department for Kansas State University and Louisville metro police department for University of Louisville because they serve counties instead of cities. Also, the table uses Madison police department instead of Madison township police department for University of Wisconsin-Madison according to the university's address.

Table 2: Reported sexual assault incidents per day based on the sample in the main analysis (regular seasons of NCAA basketball from 2008 to 2019)

Sexual Assaults, victims ages 17-24	0.058
Sexual Assaults, victims ages 17-20	0.035
Sexual Assaults, victims ages 21-24	0.022
Sexual Assaults, victims ages >24	0.058
Sexual Assaults, victims ages 17-24, victim is black	0.020
Sexual Assaults, victims ages 17-24, victim is white	0.035

Table 3: Estimated effects of basketball and football home and away game days on the probability of sexual assault reports with college-aged victims

	(1)	(2)	(3)	(4)	(5)
Basketball day before home game	0.00295	0.00230	0.00219	0.00182	0.00165
	(0.00228)	(0.00296)	(0.00316)	(0.00319)	(0.00351)
Basketball home game day	-0.00304	-0.00368	-0.00342	-0.00386	-0.00338
	(0.00455)	(0.00310)	(0.00321)	(0.00326)	(0.00372)
Basketball day after home game	0.00240	0.00177	0.00200	0.00168	0.00251
	(0.00261)	(0.00289)	(0.00312)	(0.00314)	(0.00330)
Basketball day before away game	0.00382	0.00250	0.00254	0.00319	0.00373
	(0.00252)	(0.00360)	(0.00372)	(0.00385)	(0.00338)
Basketball away game day	0.00539*	0.00442	0.00422	0.00544	0.00657*
	(0.00310)	(0.00335)	(0.00333)	(0.00355)	(0.00376)
Basketball day after away game	0.00674***	0.00543	0.00526	0.00586*	0.00695*
	(0.00259)	(0.00331)	(0.00324)	(0.00341)	(0.00370)
Football day before home game	0.0102	0.0109	0.00956	0.0110	0.00547
	(0.0114)	(0.0137)	(0.0120)	(0.0111)	(0.0111)
Football home game day	0.0209	0.0222	0.0202*	0.0226*	0.0171
	(0.0145)	(0.0159)	(0.0120)	(0.0116)	(0.0126)
Football day after home game	0.00151	0.00241	0.00102	0.00265	-0.00200
	(0.00797)	(0.00859)	(0.00797)	(0.00840)	(0.00959)
Football day before away game	0.00470	0.00670	0.00619	0.00661	0.0100
	(0.0112)	(0.0118)	(0.0102)	(0.0107)	(0.0105)
Football away game day	0.0151*	0.0177	0.0177	0.0181*	0.0225*
	(0.00833)	(0.0125)	(0.0113)	(0.0109)	(0.0116)
Football day after away game	0.0155	0.0181*	0.0178*	0.0178*	0.0245**
	(0.00951)	(0.00992)	(0.00920)	(0.00976)	(0.0107)
Day-of-week fixed effects	Yes	Yes	Yes	Yes	Yes
Holiday controls	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	No	No
Agency fixed effects	Yes	No	No	No	No
Agency by month of year fixed effects	No	Yes	No	No	No
Agency by week of year fixed effects	No	No	Yes	No	No
Agency-by-year-by-month fixed effects	No	No	No	Yes	No
Agency-by-year-by-week fixed effects	No	No	No	No	Yes
Schools	27	27	27	27	27
Agencies	44	44	44	44	44
Observations	43820	43820	43820	43820	43820

Estimates in the table are coefficients from linear probability models that use daily data in regular seasons from 2008 to 2019 for law enforcement agencies in the NIBRS corresponding to Division I basketball schools that are ranked in the top 50 in the AP Poll frequency list from 2007-2008 season to 2019-2020 season and have football teams. The outcome variable is whether there are rape reports for college-aged victims (17-24 years old) at an agency on a day. Days are defined to be from 6:00 am to 5:59 am to consider spillovers in the early morning. Standard errors are bootstrapped 200 times.

Table 4: Estimated effects of basketball and football home and away game days on the probability of sexual assault reports with college-aged victims at city and university police departments

	(1) City PD	(2) University PD
Basketball day before home game	0.00371	-0.0000730
	(0.00724)	(0.00240)
Basketball home game day	-0.00604	-0.000674
	(0.00693)	(0.00251)
Basketball day after home game	0.00316	0.00198
	(0.00624)	(0.00228)
Basketball day before away game	0.00297	0.00467*
	(0.00721)	(0.00255)
Basketball away game day	0.0126*	0.00161
	(0.00753)	(0.00270)
Basketball day after away game	0.0173**	-0.00232
	(0.00764)	(0.00233)
Schools	24	20
Agencies	24	20
Observations	20758	23062

This table considers whether there are sexual assault reports involving college-aged victims in city and university police departments on a given day. The estimates are based on the same linear probability model as column (5) of Table 3 (including agency-by-year-by-week fixed effects, day-of-week fixed effects, holiday controls, controls for football home and away game days as well as their one-day leads and lags). Standard errors are bootstrapped 200 times.

Table 5: Estimated effects of basketball and football home and away game days on the probability of sexual assault reports with college-aged victims by the prominence of basketball teams

	(1)	(2)
	Top 25	Top 26-50
Basketball day before home game	0.00305	-0.000157
	(0.00440)	(0.00622)
Basketball home game day	0.00134	-0.0106*
	(0.00416)	(0.00580)
Basketball day after home game	-0.000515	0.00811
	(0.00414)	(0.00558)
Basketball day before away game	0.00538	0.00215
	(0.00453)	(0.00614)
Basketball away game day	0.00789*	0.00589
	(0.00466)	(0.00562)
Basketball day after away game	0.00792*	0.00622
	(0.00453)	(0.00687)
Schools	16	11
Agencies	26	18
Observations	27640	16180

This table considers reports of college-aged sexual assault victims from universities ranked in the top 25 and 26-50 based on the frequency of appearance in the AP Poll from 2007-2008 season to 2019-2020 season. The estimates are based on the same linear probability model as column (5) of Table 3 (including agency-by-year-by-week fixed effects, day-of-week fixed effects, holiday controls, controls for football home and away game days as well as their one-day leads and lags). Standard errors are bootstrapped 200 times.

Table 6: Estimated effects of basketball and football home and away game days on the probability of sexual assault reports with college-aged victims by known and unknown offenders

	(1) Offender known by victim	(2) Offender unknown by victim
Basketball day before home game	0.000890	-0.00275
	(0.00287)	(0.00235)
Basketball home game day	-0.00255	-0.00309
	(0.00327)	(0.00217)
Basketball day after home game	0.000424	0.00142
	(0.00284)	(0.00208)
Basketball day before away game	0.00734**	-0.00522***
	(0.00314)	(0.00200)
Basketball away game day	0.00660**	0.000255
	(0.00321)	(0.00241)
Basketball day after away game	0.00654**	-0.00294
	(0.00301)	(0.00220)
Schools	27	27
Agencies	44	44
Observations	43820	43820

This table considers whether there are sexual assault reports from college-aged victims by offenders who are known and unknown to them. The estimates are based on the same linear probability model as column (5) of Table 3 (including agency-by-year-by-week fixed effects, day-of-week fixed effects, holiday controls, controls for football home and away game days as well as their one-day leads and lags). Standard errors are bootstrapped 200 times.

Table 7: Estimated effects of basketball and football home and away game days on the probability of sexual assault reports with college-aged victims by known offenders within or outside family

	(1)	(2)
	Offender within family	Offender outside family but known to victim
Basketball day before home game	0.000227	0.000482
	(0.000674)	(0.00285)
Basketball home game day	-0.000558	-0.00200
	(0.000671)	(0.00317)
Basketball day after home game	-0.000575	0.000820
	(0.000581)	(0.00283)
Basketball day before away game	0.000351	0.00688**
	(0.000671)	(0.00309)
Basketball away game day	0.0000892	0.00633**
	(0.000632)	(0.00313)
Basketball day after away game	0.00113	0.00544*
	(0.000882)	(0.00289)
Schools	27	27
Agencies	44	44
Observations	43820	43820

This table considers sexual assault reports from college-aged victims by known offenders, which include offenders within family and offenders outside family but known to victim. The estimates are based on the same linear probability model as column (5) of Table 3 (including agency-by-year-by-week fixed effects, day-of-week fixed effects, holiday controls, controls for football home and away game days as well as their one-day leads and lags). Standard errors are bootstrapped 200 times.

Table 8: Estimated effects of home and away game days on the probability of sexual assault reports with college-aged victims by offender age groups

	(1) Offender ages 17-20	(2) Offender ages 21-24	(3) Offender ages >24
Basketball day before home game	-0.000399	0.000758	-0.00477**
	(0.00174)	(0.00163)	(0.00239)
Basketball home game day	0.000252	-0.00165	-0.00467*
	(0.00202)	(0.00165)	(0.00269)
Basketball day after home game	0.000449	0.000603	-0.00298
	(0.00173)	(0.00171)	(0.00245)
Basketball day before away game	0.00159	0.00229	-0.000911
	(0.00207)	(0.00207)	(0.00250)
Basketball away game day	0.000833	-0.00121	0.00478*
	(0.00192)	(0.00182)	(0.00276)
Basketball day after away game	0.000185	0.00162	0.00177
	(0.00180)	(0.00197)	(0.00256)
Schools	27	27	27
Agencies	44	44	44
Observations	43820	43820	43820

This table considers reports of college-aged sexual assault victims involving offenders of different ages. The estimates are based on the same linear probability model as column (5) of Table 3 (including agency-by-year-by-week fixed effects, day-of-week fixed effects, holiday controls, controls for football home and away game days as well as their one-day leads and lags). Standard errors are bootstrapped 200 times.

Table 9: Estimated effects of home and away game days on the probability of sexual assault reports with college-aged victims by victim race

	(1) Black victim	(2) White victim
Basketball day before home game	-0.000960	0.00154
	(0.00223)	(0.00286)
Basketball home game day	-0.00140	-0.00274
	(0.00217)	(0.00308)
Basketball day after home game	-0.000422	0.00276
	(0.00211)	(0.00277)
Basketball day before away game	-0.00267	0.00624**
	(0.00205)	(0.00315)
Basketball away game day	0.00177	0.00552*
	(0.00230)	(0.00313)
Basketball day after away game	-0.000670	0.00677**
	(0.00217)	(0.00316)
Schools	27	27
Agencies	44	44
Observations	43820	43820

This table considers reports of college-aged sexual assault victims with different races. The estimates are based on the same linear probability model as column (5) of Table 3 (including agency-by-year-by-week fixed effects, day-of-week fixed effects, holiday controls, controls for football home and away game days as well as their one-day leads and lags). Standard errors are bootstrapped 200 times.

Table 10: Estimated effects of home and away game days on the probability of sexual assault reports with college-aged victims in different age groups

	(1) Victim ages 17-20	(2) Victim ages 21-24	(3) Victim ages >24
Basketball day before home game	-0.000778	0.00238	-0.00769**
	(0.00295)	(0.00215)	(0.00312)
Basketball home game day	-0.00316	-0.00217	-0.00106
	(0.00301)	(0.00248)	(0.00327)
Basketball day after home game	0.00122	0.00149	-0.00202
	(0.00297)	(0.00224)	(0.00327)
Basketball day before away game	0.00110	0.00119	0.000232
	(0.00305)	(0.00230)	(0.00305)
Basketball away game day	0.00453	0.00307	0.00152
	(0.00308)	(0.00243)	(0.00333)
Basketball day after away game	0.00426	0.00279	-0.00428
	(0.00306)	(0.00268)	(0.00344)
Schools	27	27	27
Agencies	44	44	44
Observations	43820	43820	43820

This table considers reports of sexual assault victims in different age groups. The estimates are based on the same linear probability model as column (5) of Table 3 (including agency-by-year-by-week fixed effects, day-of-week fixed effects, holiday controls, controls for football home and away game days as well as their one-day leads and lags). Standard errors are bootstrapped 200 times.

Table 11: Estimated effects of home and away game days on the probability of sexual assault reports with college-aged victims by offender race

	(1) Black offender	(2) White offender
Basketball day before home game	-0.0000476	-0.00193
	(0.00254)	(0.00227)
Basketball home game day	-0.00335	-0.00271
	(0.00234)	(0.00244)
Basketball day after home game	-0.00206	0.000662
	(0.00236)	(0.00229)
Basketball day before away game	-0.000726	0.00435*
	(0.00226)	(0.00256)
Basketball away game day	0.00247	0.00295
	(0.00237)	(0.00261)
Basketball day after away game	0.00270	0.00293
	(0.00238)	(0.00270)
Schools	27	27
Agencies	44	44
Observations	43820	43820

This table considers reports for college-aged sexual assault victims involving offenders of different races. The estimates are based on the same linear probability model as column (5) of Table 3 (including agency-by-year-by-week fixed effects, day-of-week fixed effects, holiday controls, controls for football home and away game days as well as their one-day leads and lags). Standard errors are bootstrapped 200 times.

Table 12: Estimated effects of unexpected emotional shocks on the probability of getting sexual assault reports with college-aged victims

	(1)
Day before basketball game, expected to lose	0.998
	(0.00575)
Basketball game day, expected to lose	1.000
	(0.00630)
Day after basketball game, expected to lose	1.009
	(0.00599)
Day before basketball game, expected to be close	1.000
	(0.00683)
Basketball game day, expected to be close	1.009
	(0.00682)
Day after basketball game, expected to be close	0.997
	(0.00623)
Day before basketball game, expected to win	1.002
	(0.00361)
Basketball game day, expected to win	0.999
	(0.00324)
Day after basketball game, expected to win	1.005
	(0.00354)
Day before basketball game, expected to lose and won (upset win)	1.021∗
	(0.0120)
Basketball game day, expected to lose and won (upset win)	0.992
	(0.00930)
Day after basketball game, expected to lose and won (upset win)	1.002
	(0.0105)
Day before basketball game, expected to be close and lost (close loss)	1.013
	(0.00972)
Basketball game day, expected to be close and lost (close loss)	1.000
	(0.0103)
Day after basketball game, expected to be close and lost (close loss)	0.998

Table 12: Estimated effects of unexpected emotional shocks on the probability of getting sexual assault reports with college-aged victims

	(1)
	(0.00909)
Day before basketball game, expected to win and lost (upset loss)	0.999
	(0.00716)
Basketball game day, expected to win and lost (upset loss)	1.006
	(0.00729)
Day after basketball game, expected to win and lost (upset loss)	0.997
	(0.00719)
Schools	27
Agencies	44
Observations	42524

Note: The estimates are based on a similar linear probability model as column (5) of Table 3 (including agency-by-year-by-week fixed effects, day-of-week fixed effects, holiday controls, and controls for football home and away game days as well as their one-day leads and lags). Games that are expected to be close are those with betting market spread no more than 3 points. For games with no betting information, the game day and the one-day lead and lag are dropped. Standard errors are bootstrapped 200 times.

Appendix

Table A1: Estimated effects of basketball and football home and away game days on the probability of sexual assault reports with college-aged victims with the logit regression

	(1)
Basketball day before home game	1.041
	(0.0902)
Basketball home game day	0.918
	(0.0851)
Basketball day after home game	1.058
	(0.0942)
Basketball day before away game	1.090
	(0.105)
Basketball away game day	1.155
	(0.111)
Basketball day after away game	1.196*
	(0.116)
Football day before home game	1.122
	(0.263)
Football home game day	1.319
	(0.295)
Football day after home game	0.944
	(0.266)
Football day before away game	1.362
	(0.326)
Football away game day	1.676**
	(0.377)
Football day after away game	2.039***
	(0.503)
Schools	27
Agencies	41
Observations	9433

Estimates in the table are odds-ratios from the logit model with day-of-week fixed effects, holiday controls, and agency-by-year-by-week fixed effects. The table considers the same outcome (whether there are sexual assult reports involving college-aged victims at an agency on a given day). Note that while the same sample as Table 3 is used here, in the fixed effects logit regression Stata drops all positive or all negative outcomes.

Table A2: Estimated effects of basketball home and away game days on the probability of having sexual assault reports with college-aged victims in different time periods

	(1) February and March in basket-ball regular seasons	(2) Omitting consecutive basketball game days in basket-ball regular seasons	(3) Basketball regular and post seasons
Basketball day before home game	0.00143	0.00183	0.00196
	(0.00633)	(0.00363)	(0.00359)
Basketball home game day	0.00104	-0.00300	-0.00330
	(0.00660)	(0.00357)	(0.00358)
Basketball day after home game	0.00425	0.00248	0.00223
	(0.00548)	(0.00329)	(0.00334)
Basketball day before away game	0.000328	0.00368	0.00326
	(0.00566)	(0.00325)	(0.00350)
Basketball away game day	0.00722	0.00743*	0.00737**
	(0.00644)	(0.00389)	(0.00359)
Basketball day after away game	0.00529	0.00676*	0.00555
	(0.00624)	(0.00395)	(0.00369)
Football day before home game		0.00777	0.00568
		(0.0132)	(0.0115)
Football home game day		0.0218*	0.0170
		(0.0129)	(0.0131)
Football day after home game		-0.00318	-0.00287
		(0.00983)	(0.00963)
Football day before away game		0.00917	0.0102
		(0.0113)	(0.0103)
Football away game day		0.0206*	0.0224**
		(0.0125)	(0.0111)
Football day after away game		0.0236**	0.0237**
		(0.00940)	(0.00998)
Schools	26	27	27
Agencies	41	44	44
Observations	14634	42543	51151

The estimates consider the same outcome (whether there are sexual assult reports involving college-aged victims at an agency on a given day) using the same linear probability model as column (5) of Table 3 (including agency-by-year-by-week fixed effects, day-of-week fixed effects, holiday controls) with data in different time periods. Standard errors are bootstrapped 200 times. Column (1) does not have variables for football because there is no football game in the period.

Table A3: Estimated effects of home and away game days on the probability of sexual assault reports with college-aged victims by different offender age groups

	(1) Offender ages 18-22	(2) Offender ages 21-22
Basketball day before home game	-0.000571	-0.000772
	(0.00219)	(0.00151)
Basketball home game day	-0.00284	-0.00208
	(0.00212)	(0.00130)
Basketball day after home game	-0.000344	-0.000208
	(0.00194)	(0.00130)
Basketball day before away game	0.00333	0.000851
	(0.00239)	(0.00166)
Basketball away game day	0.00169	-0.000333
	(0.00223)	(0.00162)
Basketball day after away game	0.00185	0.00103
	(0.00219)	(0.00172)
Schools	27	27
Agencies	44	44
Observations	43820	43820

This table considers sexual assault reports involving college-aged victims with offenders aged 18-22 and 21-22. The estimates are based on the same linear probability model as column (5) of Table 3 (including agency-by-year-by-week fixed effects, day-of-week fixed effects, holiday controls, controls for football home and away game days as well as their one-day leads and lags). Standard errors are bootstrapped 200 times.