Sexual Assault on College Hookups: Risk Factors and Tipping Points for Female Survivors

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ABSTRACT

Sexual assault of women on college campuses is of pressing interest in the U.S. Research on this topic is instrumental in identifying risk factors for sexual assault that can inform prevention efforts. Using a unique dataset focused on college "hookup" behaviors, I examine individual, school and situational predictors of sexual assault for college women during a recent hookup. My analysis expands upon past estimates by using incremental measures of risk factors to provide a better understanding of "tipping points" for increased risk. Results show 2.5% of women experienced a completed sexual assault during a recent hookup. Ostensibly, it may appear that heavy alcohol consumption drives sexual assault. However, a deeper analysis shows that once interpersonal relationships are accounted for, alcohol is only a significant predictor of physically forced intercourse after a female has consumed 9 or more drinks. These findings highlight the need to situate risk factors for sexual assault within individual, school and situational-level contexts.

INTRODUCTION

Sexual assault of women on college campuses is currently of pressing interest in the U.S. Research indicates campuses may not be the "Ivory Tower" safe havens that the public perceives them to be, but environments that pose unique risks for sexual assault (Ullman, Karabatsos et al. 1999, Abbey, Zawacki et al. 2001, Abbey 2002, Abbey, Clinton-Sherrod et al. 2003, Abbey, Zawacki et al. 2004, Fisher, Daigle et al. 2010). The term sexual assault is used in research to describe any type of sexual contact or behavior that occurs without explicit consent from the recipient including forced sexual intercourse, fondling and attempted rape (DOJ 2014). Based on this definition, an estimated 20- 25% of women report experiencing sexual assault during college, and as many as 3% report it during a 9-month academic year (Fisher, Cullen et al. 1999, Krebs, Lindquist et al. 2007). Women ages 18-24 are generally at higher risk of being sexually

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victimized than in any other period of their lifetimes (Fisher and Cullen 2000). However, some data suggest that college women have a higher risk of sexual assault compared to their non-college attending peers (Fisher, Cullen et al. 1999); although a recent study suggested the opposite (Rennison and Addington 2014). Sexual assault is important from a population health perspective because victims suffer mental, physical and health consequences and are also at risk for repeat sexual victimization (Ullman 1996, Brener, McMahon et al. 1999, Silverman, Raj et al. 2001, Abbey 2002, Fisher, Daigle et al. 2010).

One question that has been posed is whether there is something about the college social environment—hookup culture, binge drinking or fraternity parties — that places women at increased risk for sexual assault (Miller, Naimi et al. 2007, Hamilton and Armstrong 2009, Armstrong, England et al. 2012, Garcia, Reiber et al. 2012). Yet our understanding of how the hookup culture intersects with alcohol and other situational factors to produce sexual assault is less understood.

This paper aims to build upon existing research by looking quantitatively at how sexual assault occurs on hookups. The analysis expands upon past research on sexual assault by using measures of social context in a dataset focused on college hookups to provide a better understanding of the mechanisms that contribute to sexual assault. Specifically, the number of alcoholic drinks consumed and increments of familiarity with a male partner are examined to better understand how exactly these situational factors affect likelihood of sexual assault. It is hoped that a better understanding of the context of sexual assault on hookups will contribute to prevention efforts.

Past Research on the Factors that Lead to Sexual Assault

Sociologists and other researchers have spent decades examining the individual and situational risk factors that contribute to sexual assault perpetration and victimization. For the purposes of this paper, I will focus more on the latter since I do not have data on perpetrators. At the individual level, various personal characteristics have been associated with the risk of sexual assault victimization. Public health and policy approaches, for example, tend to situate sexual assault as a negative health

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outcome, working backward to identify how distal and proximate risk factors can be addressed to prevent sexual assault (Forbes and Adams-Curtis 2001, Abbey 2002, Palmer, McMahon et al. 2010). The literature includes some contradictory findings with respect to certain risk factors such as: being a Freshman/Sophomore; a racial minority; in a sorority / living off campus. These characteristics have been associated with sexual assault in some studies, but not others, and are therefore included in my models as controls (Fisher, Cullen et al. 2000, Mohler-Kuo, Dowdall et al. 2004, Krebs, Lindquist et al. 2007, Cranney 2014). There are a few well-documented risk factors that undoubtedly are associated with sexual assault.

Prior Victimization

One of the strongest predictors of sexual assault is prior victimization, e.g. coercion, abuse, assault, rape etc. (Ferraro 1996, Fisher, Cullen et al. 2000, Krebs, Lindquist et al. 2007, Fisher, Daigle et al. 2010). Longitudinal research has shown that women who experience dating violence prior to entering college, are significantly more likely to experience sexual assault in college (Himelein 1995). Less is known about whether past victimization of a certain kind (e.g. unwanted sexual intercourse when incapacitated) increases the likelihood of experiencing that same type of sexual assault in the future, but presumably it does (Krebs, Lindquist et al. 2007). A number of factors such as substance use, age, self-esteem, assertiveness, poor psychological adjustment and depression are thought to mediate the relationship between prior victimization and later assault (Abbey, 2002; Forbes and Adams-Curtis, 2001; Palmer et al. 2010).

Alcohol Consumption

Regardless of past victimization status, alcohol consumption is another well-document risk factor for sexual assault. Studies have found that between 50% and 75% sexual assault incidents among college students involve alcohol consumption by the survivor, perpetrator, or both (Abbey 2002, Abbey, Zawacki et al. 2004, Fisher, Daigle et al. 2010). The Harvard College Alcohol Study found that alcohol use was the single, strongest predictor of physically forced intercourse and incapacitated intercourse (Mohler-Kuo,

Dowdall et al. 2004). Alcohol use of the victim is often related to alcohol use of the perpetrator, and vice versa, and the two together may heighten the risk of assault (Abbey, Zawacki et al. 2004).

Theoretical explanations for the link between alcohol use and sexual assault often stress that the relationship is not causal. Perpetrators of sexual assault, for example, may consciously or unconsciously drink alcohol prior to assaulting someone in order to justify their behavior. Personality traits such as narcissism or witnessing violence in childhood may lead perpetrators to both drink and commit sexual assault (Abbey, Zawacki et al. 2004). Thus the association is spurious, not causal. Likewise, women who drink heavily may be targets for sexual assault. But, women who have experienced past sexual assault may use alcohol as a coping strategy to reduce the anxiety they feel around men. Studies testing the causal direction of alcohol use and victimization generally have concluded that the two are mutually reinforcing and reciprocal (Kilpatrick, Acierno et al. 1997, White and Humphrey 1999). Less is known about the exact tipping point, when the number of drinks consumed becomes more problematic. More importantly, alcohol is generally thought to interact synergistically with other situational variables and interactional factors such as sexual scripts to produce assault(Armstrong, Hamilton et al. 2006, Sweeney 2011).

Interactional/Situational Dynamics

Sexual assault requires two people. Therefore, some theories suggest that it is the interactional dynamics between individuals result in sexual assault. Societal expectations around gender and sexuality presumably structure the interactions and situations that lead to sexual assault (Simon and Gagnon 1986, West and Zimmerman 1987, Ridgeway 1993). Notions such as the sexual double standard—where women are judged more harshly than men for engaging in sexual behavior – and traditional sexual scripts that encourage women to interact in more submissive ways in romantic contexts such as dates or hookups are thought to contribute to rates of sexual assault through a variety of processes (Simon and Gagnon 1986, Armstrong, Hamilton et al. 2006, Hamilton and Armstrong 2009, Littleton, Tabernik et al. 2009). For example, if a female decides to leave a party with a male during a hookup, is it possible that

the male then labels her, or puts her into some kind of category as "easy", due to the sexual double standard. Then, this categorization makes him more likely to sexually assault her. Perhaps if the female is also intoxicated from alcohol, she is even more likely to be categorized this way.

Knowing a partner

It has also been shown that sexual assault is more common with a male that a woman knows, rather than with a total stranger (Ullman 1996, Abbey, Zawacki et al. 2001, Breitenbecher 2001, Abbey, Zawacki et al. 2004, Krebs, Lindquist et al. 2007, Fisher, Daigle et al. 2010).   This may be because these men simply have more access to these women (Cohen and Felson 1979) or because women are less likely to report sexual assault from an acquaintance (Lott, Reilly et al. 1982). Less research has focused on how increments of knowing a partner might affect risk of sexual assault. Some data suggests that if a woman knows a man well, he is less likely to sexually assault here because it would have social consequences, i.e. she could tell their friends (Armstrong, Hamilton et al. 2006).

Social capital explanations shed some insight into how knowing a partner might affect sexual assault on hookups. Social capital can be broadly defined as the set of norms, rules, obligations and trust implanted within social relations and institutions that make it possible to achieve individual and community goals (Narayan-Parker 1997). Studies show that strong sense of social capital among community members significantly reduces violent crime (Brehm and Rahn 1997, Lederman, Loayza et al. 2002). This is because more social capital increases the level of trust and social bonds between community members, whereby the community is better able to mobilize to fight crime and protect its members. In the context of sexual assault on hookups, it is possible that knowing a hookup partner well might work against sexual assault in some settings. That is, is a female knows the male well, or moderately well, and is likely to see him again on campus, then perhaps it would cause problems or break trust in the community is he assaulted her. Therefore, this familiarity with a partner serves to protect the female.

Synergistic Effects of Individual, Interactional and School Factors

To date, some of the most compelling explanations of sexual assault on college hookups suggest that it is a product of synergistic processes at the individual, interactional, and school level (Armstrong, Hamilton et al. 2006, Sweeney 2011). Qualitative studies of sexual assault at fraternities have found that: individual factors, such as being a freshman/ less familiar with the college party scene; interactional expectations for women to act "nice" and "grateful" to men hosting parties; and university policies that prohibit alcohol on campus, but allow it at fraternities, all combine to put certain women at higher risk for sexual assault. Based on these accounts, it is not simply individual characteristics, but rather the interplay of individual traits, school-level factors and interactional/situational factors that reciprocally affect each other to create the risk of sexual assault. These studies also show some support for social capital explanations of sexual assault, whereby knowing males in a fraternity well, and being with a group of sorority sisters provides protection against sexual assault (Armstrong 2006).

While these findings offer some of richest accounts of how sexual assault occurs, they have yet to be backed up quantitatively with larger dataset focused on similar patterns (Armstrong, Hamilton et al. 2006, Ray and Rosow 2010, Sweeney 2011). Many qualitative studies of sexual assault focus on fraternities, although the majority of sexual assault in college occurs outside of fraternity houses (Sanday 1996, Abbey 2002, Fisher, Daigle et al. 2010). Likewise, many studies examine only whether alcohol was consumed (yes or no) and whether the victim knew the perpetrator (yes or no). Less attention is given to exactly how many drinks were consumed and how well the female knew the male. To improve upon existing findings, this paper focuses on the role of the number drinks consumed and familiarity with a male partner on college women's most recent hookup, while controlling for a variety of individual, interactional, and school level variables. I test three primary hypotheses:

1) *Hypothesis 1 (Gender and the Double Standard): Females who drink heavily (consume more than 5 drinks) will experience more sexual assault than females who drink moderately or do not consume alcohol.*

2) *Hypothesis 2 (Social Capital): Females who do not know their male hookup partner well, will experience more sexual assault compared to females who know the partner well.*

3) *Hypothesis 3 (Alcohol X Strangers): Number of drinks consumed and how well a woman knows her partner will interact to increase sexual assault multiplicatively*

DATA AND METHODS

This study uses quantitative data from the Online College Social Life Survey (OCSLS); a self-administered online survey conducted on 22 college and university campuses between 2005 and 2011. The dataset is unique in that it includes variables aimed to capture the circumstances surrounding student's most recent hookup. Undergraduate students were recruited for the survey in courses that offered credit for its completion (or offered a different assignment requiring the same amount of time). Although these data are not based on a probability sample, there were no significant differences in non-response within courses, since nearly every student chose to complete the survey. As such, any bias from the sample would be due to the non-representiveness of the students in the courses (mainly sociology) housing the survey. Of note, the majority of students who took the survey were not sociology majors. While a probability sample would be ideal, no other datasets are currently available with as much information on college hookups. The OCSLS collected data on both men and women, however for the purposes of this paper, only the data on heterosexual women are analyzed.

Given my focus on sexual assault in heterosexual encounters, my analyses began with 8,425 self-identified straight women reporting on a recent hookup with a man. After deleting women who had missing values on any of the main variables of interest, I was left with 7,486 female respondents whose responses were used in all the analyses for this paper. Descriptive statistics on the mean characteristics of these women are provided in Table 2. Means and standard deviations are provided separately in Table 2 for women who experienced a form of sexual assault on their most recent hookup compared to women who did not.

It should be emphasized that the data on sexual assaults are recorded based on a female's most recent hookup. Women were asked to define hookups using "whatever definition of hook up you and your friends generally use. It doesn't have to include sex to count if you and your friends would call it a hook up".

Statistical Models:

Several logistic models were developed to determine the likelihood of whether or not a woman experienced sexual assault on her last hookup. In Tables 3 and 4, the logistic regression models (Models 1-8) include a series of nested models designed to examine the relationship between alcohol consumption, familiarity with a male partner, and likelihood of sexual assault on hookups, controlling for individual, situational and school variables. In Table 3 and 4, the first three models only control for females' individual and school characteristics. The last models in each table (Model 4 and Model 8) include the main variables of interest and all control variables including situational variables using this equation:

$$\text{Log } [P_i / 1 - P_i] = a + \beta 1 X 1 + \beta 2 X 2 + \beta 3 Z$$

In the equation, **Pi** is the probability that a woman experienced sexual assault on a hookup. In this paper sexual assault is measured with two distinct variables: 1) physically forced intercourse and 2) sexual assault due to incapacitation. In the logistic equations above **X1** is alcohol consumption, **X2** is familiarity with the partner, **Z** is the matrix of control characteristics and **β1**, **β2** and **β3** are the constants. Included in **Z** are the control variables explained in the following section of this paper. Predicted probability graphs (Figures 1 and 2) examining the predicted probability of sexual assault by alcohol consumption and familiarity with a partner were also created using this equation.

Many other logistic regression models were run in the process of putting together this paper, including multinomial logistic regression models and analyses of rare events (King and Zeng 2001). These

analyses did not did not produce findings that were different in a way that would affect conclusions or more informative than those presented here and are thus not included.

Variables:

   Dependent Variable*:* Sexual assault was recorded in the OCSLS dataset by asking women these yes or no questions: 1) *Did you have sexual intercourse that you felt was physically forced on you?*; and 2) *Did someone have sexual intercourse with you that you did not want when you were drunk, passed out, asleep, drugged, or otherwise incapacitated?* To analyze potential predictors of victimization, I examined rates of sexual assault through women's responses to these three questions separately. I termed these two types of assault: physically forced intercourse and incapacitated sexual assault.

   Independent Variables*:*

  Alcohol consumption: Information on alcohol consumption during the hookup was recorded by asking the open-ended question: *how much alcohol did you drink before or during the hookup?.* For my analyses, responses were recoded into 0 drinks, 1-2 drinks, 3-4 drinks, 5-6 drinks, 7-8 drinks and 9 or more drinks.

  Familiarity with the male partner: One question was used to gage how well females knew their male partner. Respondents were asked the question: *How well did you know the person you hooked up with before you hooked up?* Respondents chose: *Not at all, A little bit, Somewhat, Moderately well,* or *Very well.*

  Control Variables*:*

Control variables were included in analyses based on their theoretical relevance to the outcome of interest or their documented importance in past research. These control variables were added into a series of nested models (Model 1-8) to examine their significance in predicting physically forced sexual assault and incapacitated sexual assault. The control variables are added in this way in order to see how the role of individual, school and situational variables combine to affect sexual assault. My control variables first include **individual exogenous variables only (Model 1 & 4):** her mother's education (less than high school, some college, bachelor's degree, graduate degree); race/ethnicity (recorded by asking the respondent to check all racial/ethnic categories that apply, which were recoded into: white, black,

Hispanic, Asian, and other); born in the US (yes or no); and parents are married (yes or no). Next, along with individual exogenous variables, I add in **school variables (Model 2 & 5):** dichotomous variables, for all 21 colleges/universities. Then, variables for female's **individual characteristics at school** are also added into the models (**Model 3 & 6**). These include: year in college (freshman, sophomore, junior, senior, or older undergraduate/graduate student); educational ambition (less than BA/BS, Bachelor's degree, master's degree, or JD/MD/PhD); residence (on campus, off campus, with parents); whether she was an athlete or in a sorority; her self-rated physical attractiveness (1-10); and past experience of sexual assault prior to the hookup (yes or no to either physically forced intercourse or incapacitated sexual assault). Finally, all of the above control variables as well as **situational control variables** (**Model 4 & 8)** are included: where the hookup began (in a dorm/on campus, fraternity party, other party, at a bar or club, another location); whether the partner attended the same college; and whether the female and her partner had the same race or not (this was recoded for all races into pairings, such as white-white; white-non-white etc.)

RESULTS

Descriptive analyses show that 2.4% of women experienced a form of sexual assault on their most recent hookup with a male (Table 1). Out of two distinct forms of sexual assault, incapacitated sexual assault (2.0%) was more common than physically forced intercourse (0.9%).

[TABLE 1 ABOUT HERE]

Table 2 shows differences in the mean characteristics of women who were sexually assaulted on a recent hookup compared to those who were not. This table alone presents some very interesting findings. On average, women who experienced sexual assault (either physically forced or incapacitated sexual assault) had consumed more drinks at the time of the hookup and did not know their partner as well. Survivors of sexual assault had lower mean values on mother's education and self-rated physical attractiveness; less of them were in a sorority and less lived on campus. Women who experienced sexual assault had higher mean values for educational ambition, past sexual assault, higher year in college and

more often the hookup began at a bar or club. There were no differences in mean values for whether the respondents' parents were married. For physically forced sexual assault, survivors were more likely to be immigrants and a racial/ethnic minority. For incapacitated sexual assault, survivors were less likely to be athletes. To see whether some of these variables were significant predictors of sexual assault, several logistic regression models were run.

[TABLE 2 ABOUT HERE]

Determinants of Sexual Assault in Women's Hookups

I now turn to the results from the regression analyses predicting women's experience of physically forced intercourse (Table 3) and incapacitated sexual assault (Table 4). To help the reader visualize the effect of the two main variables of interest, predicted probability graphs (Figures 1 and 2) were created based on the regression equations in Model 4 and Model 8. These figures show the likelihood of a female experiencing sexual assault in her most recent hookup based on the number of drinks she consumes (Figure 1) and how well she knows the male partner (Figure 2), with all other variables held constant at their means, using the average marginal effects command.

Physically Forced Intercourse: Alcohol and Strangers

Table 3 shows the importance of alcohol consumption and familiarity with a male partner for sexual assault. In these models, I first begin with exogenous individual control variables only, adding in school and situational control variables to create a model which situates alcohol use and knowing a partner on a hookup within a context of other individual, school and situational factors. The significance of the control variables is discussed in later on in the paper.

Model 4 shows that the odds of experiencing physically forced intercourse are 2.45 times higher for women who consumed 9 or more drinks, compared to women who did not drink ($p<0.05$). The relationship between alcohol consumption (≥ 9 drinks) and physically forced intercourse is still highly

significant even when controlling for all control variables in the model. It is also important to note that women who had 1-2 drinks, 3-4 drinks, 5-6 drinks and even 7-8 drinks did not have a significantly higher likelihood of experiencing physically forced intercourse. It was only after the tipping point of 9 or more drinks, that the risk of this sexual assault experience became significant.

Table 3 also shows a strong effect of familiarity with a partner on women's odds of experiencing physically forced intercourse. The odds of experiencing physically forced intercourse in hookups were significantly (p<0.05) decreased when the woman knew the partner: *A little bit, Somewhat, Moderately Well,* and *Very well* compared to not knowing the partner at all. Model 4 shows a monotonic pattern, showing a decreased odds of experiencing sexual assault among women on a hookup, for each increment in increased familiarity the partner. Specifically, if a woman knew the partner *Somewhat* or *Moderately well,* her odds of experiencing sexual assault were less than half that of a woman who did not know the partner at all. If a woman knew her partner *Very well* before the hookup, her odds of experiencing sexual assault were about a tenth of those of a woman who did not know her partner at all.

[TABLE 3 ABOUT HERE]

Incapacitated Sexual Assault: Alcohol and Strangers

Table 4 shows that the odds of experiencing incapacitated unwanted sex are higher for women who consumed 3 or more drinks, compared to women who did not drink (p<0.001). In order to be incapacitated, a woman most likely needs to have consumed alcohol or another drug. As such, these findings are less interesting because alcohol use is more or less built into the dependent variable. Particularly, because we know alcohol is consumed heavily on college campuses. With this said, however, the question for this variable did also include being asleep ("*Did someone have sexual intercourse with you that you did not want when you were drunk, passed out, asleep, drugged, or otherwise incapacitated?*"), so technically a woman did not have to be using drug or alcohol to be incapacitated. From these findings, it is clear that alcohol is clearly a drug—most likely the main drug—that leads to an incapacitated state. And

alcohol use (≥3 drinks) is significantly associated with incapacitated sexual assault, even when controlling for all control variables in the model.

Table 4 again highlights the strong effect of familiarity with a partner on women's odds of experiencing incapacitated unwanted sex. The odds of experiencing incapacitated unwanted sex during a hookup were significantly (p<0.01) decreased when the woman knew the partner: *Somewhat, Moderately Well* and *Very well* compared *Not at All*. These findings were somewhat monotonic, though not as strongly as they were for physically forced intercourse. Model 8 shows if a woman knew the partner *Somewhat* or *Moderately well,* her odds of experiencing sexual assault were less than half that of a woman who did not know the partner at all. If a woman knew her partner *Very well* before the hookup, her odds of experiencing sexual assault were about a quarter of those of a woman who reported knowing the partner *Not at All*, after controlling for relevant individual, school and situational factors.

[TABLE 4 ABOUT HERE]

What stands out about these findings is that even after controlling for nearly 20 other relevant variables, how well a female knows the male is highly associated with the risk of both forms of sexual assault. While it is possible there is a selection effect going on, such that, if a woman has an assault experience with a male, she is much less likely to see him again and vice versa, this finding still sheds important insight into the social context of sexual assault on hookups. It is clear that knowing the male partner well decreases the odds of sexual assault on a hookup.

Individual, School and Situational Control Variables

Controls for past experience of sexual assault were also significant in the models. In particular, women were more likely to experience the same forms of sexual assault again. For example, for women who had experienced physically forced intercourse were 5.51 times more likely to have experienced physically forced intercourse in the past, compared to women who had never experienced this type of sexual assault. Importantly, women who women who physically forced intercourse were more likely to have experienced both forms of sexual assault: physically forced and incapacitated in the past compared

to women who had never experienced sexual assault. This finding was not true for incapacitated sexual assault. Table 4 shows that women who experienced incapacitated sexual assault were likely to have experienced incapacitated sexual assault in the past, but not physically forced intercourse. This suggests that women who experience incapacitated sexual assault may be more prone to this type of sexual assault than say all forms of sexual violence. Moreover, these results indicate a profound relationship between past sexual violence and likelihood of experiencing sexual assault on the most recent hookup. This finding is consistent with the literature.

Other control variables were also significant in the models, yet a high number of them were not significant at all. For example, having a partner who did not attend the same college or whether the hookup began at a fraternity party or other party were not significant. Immigrant status, campus residence and self-rated physical attractiveness also had no effect. Being in sorority and being an athlete appeared to be protective against incapacitated sexual assault, suggesting perhaps that a having a more organized group of women may protect against this type of assault. Finally, dichotomous variables for each school/university were included in Table 3 and 4. There were no significant effects by school for physically forced intercourse. For incapacitated sexual assault, all schools, with the exception of three, were insignificantly different than the large public school (Indiana University) I chose as the reference. There was no pattern in terms of school size, selectivity, geographic location or Greek life that explained this trend.

Compared to women whose educational ambitions involved completing a bachelor's degree, women who aimed to obtain a PhD, JD or MD had higher-odds of experiencing incapacitated sexual assault ($p < 0.05$), but not physically forced sexual assault. This could potentially reflect a kind of "work-hard, play-hard" mentality where these women are high-achieving in the academic and party scene, thereby putting themselves at higher risk for incapacitated sexual assault. Alternatively, if these women spend more time studying, they may be less experienced at drinking and therefore more likely to become incapacitated. Interestingly, women whose mother's had less than a high school education, and those

whose mothers had a graduate degree were more likely to experience physically forced sexual assault, compared to women whose mothers had a bachelor's degree. This finding was not present for incapacitated sexual assault. Finally, Asian and other race women appeared to have higher odds of experiencing both forms of sexual assault.

Predicted Probability Graphs

[FIGURE 1 ABOUT HERE]

Figure 1 examines the predicted probability of physically forced intercourse based on the number of drinks consumed, holding all other variables in Table 3 constant. Graphs for incapacitated sexual assault are not shown here because the independent variable is built into the dependent variable. The predictive probability of experiencing physically forced intercourse appears to increase after a woman has had 5-6 drinks. Thus, 7 drinks may be the so-called tipping point where risk of sexual assault begins to creep up. Interestingly, the risk of physically forced intercourse seems relatively stable between 0 drinks and 6 drinks, suggesting light to moderate drinking may not be a risk factor. This finding provides support for Hypothesis 1 above. Females who drink heavily will experience more sexual assault than females who drink moderately or do not consume alcohol. Importantly, the risk of sexual assault begins to increase notably after a 6 drinks, but not before then.

[FIGURE 2 ABOUT HERE]

Figure 2 predicts a woman's probability of experiencing sexual assault by how well she knows her male partner. For both types of sexual assault, knowing the partner *Not at all* results in the highest likelihood of experiencing sexual assault and knowing the partner *Very well* results in the lowest likelihood. For incapacitated sexual assault, knowing the partner only a little bit, also shows a high probability of assault. This predictive probability graph demonstrates that for each increment of knowing a partner better, women have a lower probability of experiencing sexual assault. Hence, knowing a

partner only *Moderately Well* comprises a sort of tipping point, where after, knowing him any less than this, increases the risk of sexual assault. This finding provides support for Hypothesis 2 above regarding social capital. It appears that knowing a male well is protective, which may be due to the ways trust and norms would be broken in a community if a male acquaintance were to sexually assault a female.

Overall, the results from this section confirm that even after controlling for a variety of personal characteristics of the female, her school, her partner and the situation, higher alcohol consumption and less familiarity with a partner on a hookup significantly increase the odds of sexual assault for women.

These findings do not provide support for Hypothesis 3 on the interaction of alcohol use and familiarity with a partner. An interaction term was added into the models in Tables 3 and 4 in analyses not shown. The odds ratio for this interaction term was not significant in any models, indicating that alcohol consumption and knowing a partner does not increase risk for sexual assault multiplicatively.

Regression Diagnostics and Sensitivity analyses:

To explore the possibility of other causal interpretations, various sensitivity analyses were run which controlled for all the variables in Table 2 in both simple and more complex models. Interaction variables were tested for significance (e.g. I tried multiplying where the hookup began and whether the partner went to the same college; as well as other theoretically possible combinations). More conservative logistic regression models with robust standard errors were run and my main findings were still significant.

As noted above, the question measuring incapacitated sexual assault (*Did someone have sexual intercourse with you that you did not want when you were drunk, passed out, asleep, drugged, or otherwise incapacitated?*) implies the use of alcohol in the question, which could theoretically lead to simultaneity bias in regression models. For this reason, I ran multinomial logistic regression models to examine findings in a different way. In the multinomial regression, sexual assault is constructed as part of a series of possible outcomes ranging from (0-4). These include: a consensual hookup without sex; a consensual

hookup with sex; a hookup with physically forced intercourse; and a hookup with incapacitated assault. I ran the models first using "a consensual hookup without sex" as the reference category, and then next, using "a consensual hookup with sex" as the reference category. Careful review of these models did not present any strong new findings beyond those already discussed.

DISCUSSION

Past studies have sought to understand factors related to being sexually victimized such as alcohol use, mental health measures, age, past sexual abuse and relationship with the perpetrator (Forbes and Adams-Curtis 2001, Abbey 2002, Messman-Moore, Coates et al. 2008, Palmer, McMahon et al. 2010). Some of these studies have suggested that certain demographic characteristics of the female and her partner, such as class background, being in a sorority or fraternity, and the partner's age, may put women at higher risk for sexual assault (O'Sullivan, Byers et al. 1998, Abbey 2002, Jewkes, Fulu et al. 2013). Other theories suggest socio-structural factors such as gender inequality and social capital contribute to sexual assault. Findings here, however, emphasize the prominence to two situational *tipping points* in the context of sexual assault: the amount of alcohol consumed and how well the female knows the partner.

The finding that sexual assault experiences were more likely to happen with someone the woman knew *a little*, *not at all* or for *less than a month* supports some existing literature on sexual violence, providing support for social capital interpretations (Ullman, Karabatsos et al. 1999, Lederman, Loayza et al. 2002, Fisher, Daigle et al. 2010). Studies have found that a strong sense of social capital among community members has a negative effect on violent crime. It seems possible that social capital or social norms could work against sexual assault in some settings. That is, if a female knows the male well or his friends know her well, then perhaps, he is less likely to assault her since it could cause problems and break trust in the community. The analyses here provide support for this interpretation since knowing a male *not at all* carries the most risk, while knowing him *very well* carries the least.

Some of the qualitative work on sexual assault sheds important insight into the processes that make knowing a partner important. Studies show women are most at risk of "party rape" (a form of sexual assault associated with alcohol intoxication) from in-network strangers that the women know, but do not know well (Armstrong, Hamilton et al. 2006, Sweeney 2011). As such, not all forms of "knowing someone" are equally dangerous or dangerous in the same ways. For example, a boyfriend or an ex-boyfriend will more likely engage in stalking, inter-personal violence, or rape without much alcohol (Abbey, Zawacki et al. 2004, CDC 2013). But sexual assault on hookups is often related to the college party scene, therefore the logic and hierarchies of the party scene predicts who is most likely to be victimized. High status women (e.g. in high status sororities, who know a lot of people, who have public formalized boyfriend relationships with fraternity members) are often considered off limits for rape (Armstrong, Hamilton et al. 2006). These women are protected by their romantic and friendship liaisons with high status men. For example, freshmen girls who are unaffiliated with a sorority are unlikely to be friends with male fraternity members (unless they have an older brother on campus). Until these women get into a sorority, they must act particularly deferential and polite. If they accuse someone of sexual assault when they arrive on campus, they fear they will be socially ruined or experience retaliation. As a result, women who are lower status (i.e freshman) and do not know a male partner well are at higher risk for sexual assault and are less likely to report it if they do experience it (Armstrong, Hamilton et al. 2006, Sweeney 2011).

Findings in this paper also confirm some of the past research on the link between binge drinking and sexual assault. However, in these analyses, this relationship was only highly significant for physically forced intercourse after the women had consumed 9 or more drinks. This finding could lend support to hypothesis that males are more likely to assault women who are intoxicated due to the sexual double standard and the broader use of coercive sexual scripts in society. Since these women are both participating in a hookup and consuming alcohol, it is possible that males may place them in a stereotypical category as "easy" whereby they are more likely to assault them.

Interestingly, recent studies on the role of alcohol in accounts of rape have prompted much debate in the public as to who is responsible when women who are very intoxicated are raped, particularly if the perpetrators are also inebriated (Abbey 2002, Coughlin, Smith et al. 2013). One proposed solution is for women to curb their drinking to protect themselves from rape and sexual assault. Opponents to this solution claim that it blames the victim and perpetuates a culture that condones sexual violence. Clearly, this issue remains politically sensitive. Perhaps, the findings presented in this paper can contribute to this debate, by shedding light onto the fact that alcohol is only a significant predictor of physically forced intercourse at high levels of alcohol consumption.

Past experiences of sexual assault clearly put women at risk of being sexually assaulted on their most recent hookup. As noted previously, the relationship between past sexual violence and future victimization is well documented (Breitenbecher 2001, Krebs, Lindquist et al. 2007). However, these findings provide more insight into how that future victimization may be happening. My findings show women tend to experience the same forms of sexual assault that they have in the past. This suggests sexual assault is not completely random (e.g. a stranger coming out of the bushes), but rather that some women may be at more risk than others. For example, it appears that women who have experienced sexual assault when they were incapacitated through alcohol or drugs are at higher risk for ending up in similar situation on their most recent hookup. This finding has important implications for interventions on college campuses. Ideally, if colleges are able to identify women who have experienced sexual assault in the past, they may be able to prevent it in the future by working with these women and the college community to prevent future assault. Also, future research may want to focus on when the past or initial experiences of sexual assault occurred. If they tend to occur on campus, then campus-wide efforts may need to focus more heavily on preventing these initial assault experiences, as well as preventing re-victimization.

Finally, it is hoped that these findings will not only contribute to the research base, but also to future prevention efforts. Despite the pervasiveness of sexual assault for college women, many women

remain silent about their sexual victimization experiences (Fisher, Daigle et al. 2010). More interventions

are needed to prevent sexual assault and help survivors of sexual assault realize they are not alone. To

prevent sexual assault, the Centers for Disease Control and Prevention (CDC) recommends raising

awareness and identifying risk factors to inform the development and testing of interventions (CDC

2013). By drawing more attention to instances of sexual assault on recent hookups, as measured in this

paper, I aim to provide researchers and the public with more insight into some of the individual, school,

and situational variables that affect sexual assault on a recent hookup, and thus with a better

understanding of how to prevent sexual assault on college campuses.

Table 1. **Percent of Women who Experienced Sexual Assault on Last Hookup**	**All Hookups**
Physically Forced Intercourse: *Did you have sexual intercourse that you felt was physically forced on you?*	0.9%
Incapacitated: *Did someone have sexual intercourse with you that you did not want when you were drunk, passed out, asleep, drugged, or otherwise incapacitated?*	2.0%
Sexual Assault: *Yes to either*	2.4%
TOTAL WOMEN REPORTING	7,486

Table 2. Means and SDs of Heterosexual Women on Recent Hookup

	Physically Forced Intercourse	No Physically Forced Intercourse	Incapacitated Sexual Assault	No Incapacitated Sexual Assault
Number of Drinks Consumed				
None	0.26 (0.44)	0.32 (0.47)	0.05 (0.21)	0.33 (0.47)
1-2	0.06 (0.24)	0.09 (0.28)	0.01 (0.12)	0.09 (0.28)
3-4	0.10 (0.31)	0.16 (0.37)	0.11 (0.31)	0.16 (0.37)
5-6	0.13 (0.34)	0.20 (0.40)	0.22 (0.41)	0.20 (0.40)
7-8	0.18 (0.38)	0.12 (0.33)	0.18 (0.39)	0.12 (0.32)
9+ drinks	0.26 (0.44)	0.11 (0.31)	0.43 (0.50)	0.11 (0.31)
How Well the Female Knows the Male				
Not at all	0.31 (0.47)	0.11 (0.32)	0.26 (0.44)	0.11 (0.32)
A little bit	0.24 (0.43)	0.19 (0.39)	0.32 (0.47)	0.18 (0.39)
Somewhat	0.19 (0.40)	0.21 (0.41)	0.16 (0.37)	0.21 (0.41)
Moderately well	0.21 (0.41)	0.24 (0.43)	0.18 (0.38)	0.25 (0.43)
Very well	0.06 (0.24)	0.25 (0.43)	0.08 (0.27)	0.25 (0.43)
Mother's Educational Attainment				
High School or Less	0.32 (0.47)	0.22 (0.41)	0.25 (0.43)	0.22 (0.41)
Some College	0.21 (0.41)	0.25 (0.43)	0.25 (0.43)	0.25 (0.43)
Bachelor's Degree	0.19 (0.40)	0.32 (0.47)	0.30 (0.46)	0.32 (0.47)
Graduate Degree	0.28 (0.45)	0.21 (0.41)	0.20 (0.40)	0.21 (0.41)
Respondent's Race				
White	0.59 (0.50)	0.73 (0.45)	0.72 (0.45)	0.73 (0.45)
Black	0.09 (0.29)	0.05 (0.22)	0.03 (0.16)	0.05 (0.22)
Hispanic	0.06 (0.24)	0.10 (0.30)	0.07 (0.26)	0.10 (0.30)
Asian	0.18 (0.38)	0.08 (0.28)	0.12 (0.33)	0.08 (0.28)
Other Race	0.09 (0.29)	0.04 (0.20)	0.06 (0.24)	0.04 (0.20)
Immigrant				
Born in the US				
Immigrant	0.15 (0.36)	0.08 (0.26)	0.07 (0.26)	0.08 (0.26)
School				
Arizona	0.07 (0.26)	0.08 (0.27)	0.03 (0.18)	0.08 (0.27)
Beloit	0.00 (0.00)	0.01 (0.09)	0.00 (0.00)	0.01 (0.09)
Carroll	0.03 (0.17)	0.01 (0.08)	0.03 (0.18)	0.01 (0.08)
Evergreen	0.00 (0.00)	0.00 (0.06)	0.00 (0.00)	0.00 (0.06)
Framingham	0.01 (0.12)	0.05 (0.22)	0.06 (0.24)	0.05 (0.21)
Harvard	0.00 (0.00)	0.01 (0.09)	0.01 (0.08)	0.01 (0.09)
Indiana	0.09 (0.29)	0.06 (0.23)	0.09 (0.29)	0.06 (0.23)
Ithaca	0.01 (0.12)	0.03 (0.16)	0.01 (0.12)	0.03 (0.16)
Middle Tennessee State U	0.06 (0.24)	0.01 (0.11)	0.03 (0.18)	0.01 (0.11)
Ohio State	0.10 (0.31)	0.06 (0.25)	0.11 (0.32)	0.06 (0.25)
Penn	0.01 (0.12)	0.02 (0.15)	0.00 (0.00)	0.02 (0.16)
Radford	0.00 (0.00)	0.01 (0.07)	0.00 (0.00)	0.01 (0.07)
Stanford	0.03 (0.17)	0.06 (0.24)	0.01 (0.08)	0.06 (0.24)
Stonybrook	0.07 (0.26)	0.05 (0.21)	0.06 (0.24)	0.05 (0.21)
U Mass	0.13 (0.34)	0.17 (0.37)	0.13 (0.34)	0.17 (0.37)
UC Merced	0.01 (0.12)	0.00 (0.07)	0.01 (0.08)	0.00 (0.07)
UC-Riverside	0.03 (0.17)	0.04 (0.19)	0.06 (0.24)	0.04 (0.19)
UC-Santa Barbara	0.16 (0.37)	0.18 (0.39)	0.22 (0.41)	0.18 (0.39)
UI-Chicago	0.09 (0.29)	0.07 (0.25)	0.07 (0.25)	0.07 (0.25)
Washington	0.01 (0.12)	0.03 (0.16)	0.02 (0.14)	0.03 (0.16)
Whitman	0.06 (0.24)	0.05 (0.23)	0.04 (0.20)	0.06 (0.23)
Ed. Aspirations				

Less than BA/BS	0.04 (0.21)	0.02 (0.13)	0.02 (0.14)	0.02 (0.13)
BA/BS	0.21 (0.41)	0.26 (0.44)	0.23 (0.42)	0.26 (0.44)
MA/MS	0.28 (0.45)	0.43 (0.49)	0.40 (0.49)	0.43 (0.49)
JD/MD/PhD	0.47 (0.50)	0.29 (0.46)	0.35 (0.48)	0.30 (0.46)
Parents are Married				
No				
Yes	0.68 (0.47)	0.68 (0.47)	0.67 (0.47)	0.68 (0.47)
Athlete				
Did not participate in college sports				
College athlete	0.09 (0.29)	0.07 (0.26)	0.01 (0.12)	0.07 (0.26)
In a Sorority				
No				
Yes	0.15 (0.36)	0.17 (0.38)	0.10 (0.30)	0.17 (0.38)
Physical Attractiveness				
Self-rated physical attractiveness	6.94 (1.83)	7.11 (1.35)	7.00 (1.62)	7.11 (1.35)
Residence				
On Campus	0.53 (0.50)	0.58 (0.49)	0.51 (0.50)	0.58 (0.49)
Off Campus	0.38 (0.49)	0.35 (0.48)	0.36 (0.48)	0.35 (0.48)
With Parents	0.09 (0.29)	0.07 (0.26)	0.13 (0.34)	0.07 (0.26)
Past Experience with Physically Forced Intercourse				
Never experienced	0.35 (0.48)	0.91 (0.28)	0.59 (0.49)	0.91 (0.28)
Experienced once	0.47 (0.50)	0.07 (0.26)	0.31 (0.46)	0.07 (0.25)
Experienced More than Once	0.18 (0.38)	0.02 (0.13)	0.09 (0.29)	0.02 (0.13)
Past Experience with Incapacitated Sexual Assault				
Never experienced	0.51 (0.50)	0.89 (0.31)	0.27 (0.45)	0.90 (0.30)
Experienced once	0.34 (0.48)	0.09 (0.28)	0.53 (0.50)	0.08 (0.27)
Experienced More than Once	0.15 (0.36)	0.02 (0.15)	0.20 (0.40)	0.02 (0.14)
Year of College				
Freshman Year	0.31 (0.47)	0.33 (0.47)	0.32 (0.47)	0.33 (0.47)
Sophomore Year	0.19 (0.40)	0.23 (0.42)	0.22 (0.41)	0.23 (0.42)
Junior Year	0.19 (0.40)	0.21 (0.40)	0.17 (0.38)	0.21 (0.40)
Senior Year	0.28 (0.45)	0.20 (0.40)	0.26 (0.44)	0.20 (0.40)
Older Undergraduate or Graduate Student	0.03 (0.17)	0.04 (0.19)	0.04 (0.20)	0.04 (0.19)
Partner Attends Same College				
Partner does not attend same college or don't know				
Partner attends same college	0.54 (0.50)	0.59 (0.49)	0.57 (0.50)	0.59 (0.49)
Respondent and Her Partner's Race				
White and White	0.47 (0.50)	0.64 (0.48)	0.63 (0.48)	0.64 (0.48)
White and Non-White	0.12 (0.32)	0.09 (0.28)	0.09 (0.28)	0.09 (0.28)
Black and Black	0.06 (0.24)	0.04 (0.19)	0.02 (0.14)	0.04 (0.19)
Black and Non-Black	0.03 (0.17)	0.01 (0.12)	0.01 (0.08)	0.01 (0.12)
Hispanic and Hispanic	0.03 (0.17)	0.05 (0.22)	0.04 (0.20)	0.05 (0.22)
Hispanic and Non-Hispanic	0.03 (0.17)	0.05 (0.21)	0.03 (0.18)	0.05 (0.21)
Asian and Asian	0.09 (0.29)	0.03 (0.18)	0.07 (0.25)	0.03 (0.18)
Asian and Non-Asian	0.09 (0.29)	0.05 (0.22)	0.05 (0.23)	0.05 (0.22)
Other Race and Other Race	0.00 (0.00)	0.00 (0.07)	0.00 (0.00)	0.00 (0.07)
Other Race and Non-Other Race	0.09 (0.29)	0.04 (0.19)	0.06 (0.24)	0.04 (0.19)
Where the Hookup Began				
Dorm or on campus	0.19 (0.40)	0.24 (0.42)	0.10 (0.30)	0.24 (0.43)
Fraternity party	0.15 (0.36)	0.12 (0.33)	0.14 (0.35)	0.12 (0.33)
Other party	0.32 (0.47)	0.33 (0.47)	0.47 (0.50)	0.33 (0.47)
Bar or club	0.18 (0.38)	0.12 (0.32)	0.16 (0.37)	0.12 (0.32)
Another location	0.16 (0.37)	0.19 (0.39)	0.13 (0.34)	0.19 (0.39)
Observations	68	7418	148	7338

Table 3. Logistic Regression of Physically Forced Intercourse on Most Recent Hookup

	Model 1-	Model 2-	Model 3-	Model 4-

	Individual Exogenous Factors Only	Individual + School Factors	Individual Factors at School	Individual, School and Situation
Number of Drinks Consumed				
None (Reference)				
1-2				0.78
3-4				0.67
5-6				0.71
7-8				1.68
9+ drinks				2.45*
How Well the Female Knows the Male				
Not at all (Reference)				
A little bit				0.43*
Somewhat				0.37*
Moderately well				0.36**
Very well				0.09***
Mother's Educational Attainment				
High School or Less	2.56**	2.37*	2.44*	2.36*
Some College	1.44	1.37	1.39	1.35
Bachelor's Degree (Reference)				
Graduate Degree	2.24*	2.42*	2.31*	2.21*
Respondent's Race				
White (Reference)				
Black	2.00	2.08	2.05	
Hispanic	0.59	0.69	0.68	
Asian	2.18*	2.84**	2.84**	
Other Race	2.32	2.96*	2.79*	
Immigrant				
Born in the US (Reference)				
Immigrant	1.52	1.58	1.42	1.42
Parents are Married				
No (Reference)				
Yes	1.00	1.06	1.04	1.00
School		✓	✓	✓
Ed. Aspirations				
Less than BA/BS			3.50^	3.91*
BA/BS (Reference)				
MA/MS			0.83	0.80
JD/MD/PhD			1.94	1.96
Year of College				
Freshman Year (Reference)				
Sophomore Year			0.92	1.00
Junior Year			1.04	1.24
Senior Year			1.49	1.96
Older Undergraduate or Graduate Student			0.69	1.01
Residence				
On Campus (Reference)				
Off Campus			0.77	0.75
With Parents			0.95	0.98
In a Sorority				
No (Reference)				
Yes			0.91	0.82
Athlete				
Did not participate in college sports (Reference)				
College athlete			1.71	1.84
Physical Attractiveness (1-10)				
Self-rated physical attractiveness			0.88	0.93
Has Experienced Physically Forced Intercourse in the Past				
No (Reference)				
Yes			5.70***	5.51***

Has Experienced Incapacitated Intercourse in the Past				
No (Reference)				
Yes			3.61**	3.17*
Where the Hookup Began				
Dorm or on campus (Reference)				
Fraternity party				1.09
Other party				0.81
Bar or club				0.85
Another location				1.00
Respondent and Her Partner's Race				
White and White (Reference)				
White and Non-White				2.18
Black and Black				2.23
Black and Non-Black				3.43
Hispanic and Hispanic				0.85
Hispanic and Non-Hispanic				0.61
Asian and Asian				4.73**
Asian and Non-Asian				2.87*
Other Race and Non-Other Race				3.80**
Partner Attends Same College				
Partner does not attend same college or don't know (Reference)				
Partner attends same college				0.95
Intercept	0.00***	0.01***	0.01***	0.02***
Observations	7294	7294	7294	7294

*p≤0.05; **p≤0.01; p≤0.001

Table 4. Logistic Regression of Incapacitated Sexual Assault on Most Recent Hookup

	Model 1- Individual Exogenous Factors Only	Model 2- Individual + School Factors	Model 3- Individual Factors at School	Model 4- Individual, School and Situation
Number of Drinks Consumed				
None (Reference)				
1-2				1.08
3-4				5.54***
5-6				8.39***
7-8				12.29***
9+ drinks				30.75***
How Well the Female Knows the Male				
Not at all (Reference)				
A little bit				1.01
Somewhat				0.47**
Moderately well				0.47**
Very well				0.25***
Mother's Educational Attainment				
High School or Less	1.28	1.06	1.05	1.05
Some College	1.10	0.97	0.94	0.89
Bachelor's Degree (Reference)				
Graduate Degree	0.98	1.06	0.96	0.92
Respondent's Race				
White (Reference)				
Black	0.50	0.49	0.50	
Hispanic	0.72	0.76	0.70	
Asian	1.51	1.66	1.72	
Other Race	1.44	1.72	1.91	
Immigrant				
Born in the US (Reference)				
Immigrant	0.87	0.91	0.76	0.85
Parents are Married				

No (Reference)				
Yes	0.90	0.93	0.94	0.91
School		✓	✓	✓
Ed. Aspirations				
Less than BA/BS			1.62	1.35
BA/BS (Reference)				
MA/MS			1.22	1.22
JD/MD/PhD			1.63*	1.71*
Year of College				
Freshman Year (Reference)				
Sophomore Year			1.05	1.10
Junior Year			0.92	1.00
Senior Year			1.40	1.79
Older Undergraduate or			0.88	1.20
Graduate Student				
Residence				
On Campus (Reference)				
Off Campus			0.77	0.72
With Parents			1.54	1.92
In a Sorority				
No (Reference)				
Yes			0.58^	0.48*
Athlete				
Did not participate in college sports (Reference)				
College athlete			0.20*	0.18*
Physical Attractiveness (1-10)				
Self-rated physical attractiveness			0.93	1.00
Has Experienced Physically Forced Intercourse in the Past				
No (Reference)				
Yes			1.78	1.73
Has Experienced Incapacitated Intercourse in the Past				
No (Reference)				
Yes			10.29***	8.25***
Where the Hookup Began				
Dorm or on campus (Reference)				
Fraternity party				0.87
Other party				0.94
Bar or club				0.80
Another location				1.20
Respondent and Her Partner's Race				
White and White (Reference)				
White and Non-White				1.37
Black and Black				1.59
Black and Non-Black				0.47
Hispanic and Hispanic				1.01
Hispanic and Non-Hispanic				0.60
Asian and Asian				4.10**
Asian and Non-Asian				1.34
Other Race and Non-Other Race				2.41*
Partner Attends Same College				
Partner does not attend same college or don't know (Reference)				
Partner attends same college				1.14
Intercept	0.02***	0.03***	0.05***	0.00***
Observations	7174	7174	7174	7174

*p≤0.05; **p≤0.01; p≤0.001

Figure 1. Predicted Probability that a women experiences physically forced intercourse on her most recent hookup by number of drinks consumed
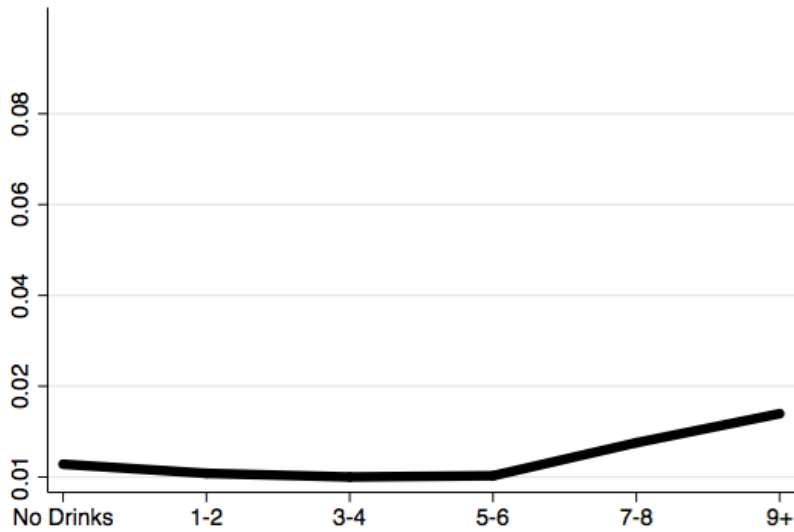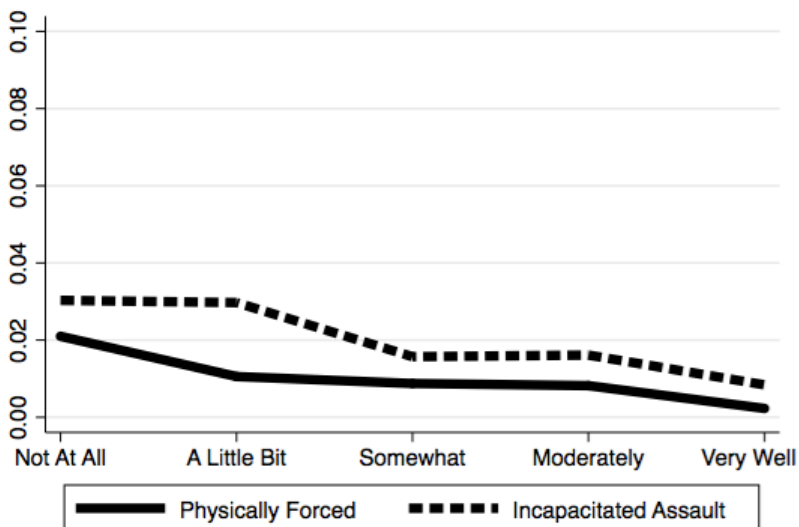

Figure 2. Predicted Probability that a Woman Experiences Sexual Assault on her Most Recent Hookup by How Well She Knows the Male

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