



## The Situational Contexts of Sexual Experiences among Urban College Students: An Event-Based Analysis

Patrick A. Wilson, Aaron Sarvet, Kate Walsh, Melanie Wall, Jessie V. Ford, Louisa Gilbert, John Santelli, Jennifer S. Hirsch, Shamus Khan & Claude A. Mellins

**To cite this article:** Patrick A. Wilson, Aaron Sarvet, Kate Walsh, Melanie Wall, Jessie V. Ford, Louisa Gilbert, John Santelli, Jennifer S. Hirsch, Shamus Khan & Claude A. Mellins (2020) The Situational Contexts of Sexual Experiences among Urban College Students: An Event-Based Analysis, *International Journal of Sexual Health*, 32:3, 199-215, DOI: [10.1080/19317611.2020.1772440](https://doi.org/10.1080/19317611.2020.1772440)

**To link to this article:** <https://doi.org/10.1080/19317611.2020.1772440>



Published online: 24 Sep 2020.



Submit your article to this journal [↗](#)



Article views: 140



View related articles [↗](#)



View Crossmark data [↗](#)



Citing articles: 2 View citing articles [↗](#)



## The Situational Contexts of Sexual Experiences among Urban College Students: An Event-Based Analysis

Patrick A. Wilson<sup>a</sup>, Aaron Sarvet<sup>b</sup>, Kate Walsh<sup>c</sup>, Melanie Wall<sup>b</sup>, Jessie V. Ford<sup>a</sup>, Louisa Gilbert<sup>d</sup>, John Santelli<sup>e</sup>, Jennifer S. Hirsch<sup>a</sup>, Shamus Khan<sup>f</sup> and Claude A. Mellins<sup>g</sup>

<sup>a</sup>Department of Sociomedical Sciences, Columbia University Mailman School of Public Health, New York, NY, USA; <sup>b</sup>Department of Psychiatry, Columbia University Medical Center, New York, NY, USA; <sup>c</sup>Ferkauf Graduate School of Psychology, Yeshiva University, New York, NY, USA; <sup>d</sup>Department of Social Work, Columbia University, New York, NY, USA; <sup>e</sup>Department of Population and Family Health, Columbia University Mailman School of Public Health, New York, NY, USA; <sup>f</sup>Department of Sociology, Columbia University, New York, NY, USA; <sup>g</sup>Department of Psychiatry, Division of Gender, Sexuality and Health, New York State Psychiatric Institute, Columbia University Medical Center, New York, NY, USA

### ABSTRACT

**Objectives:** Research examining sex among college students has frequently focused on negative sexual experiences. This study aimed to understand situational predictors of various dimensions of students' sexual experiences. **Methods:** 427 college students participated in a 60-day daily survey; 213 reported sex and were asked questions about each sexual encounter. **Results:** 1,664 sexual encounters were reported. 72.5% were described as very pleasurable, 26.6% as lacking communication, and 9.1% as lacking control. Factors associated with pleasure, control, and communication included partner type and emotional closeness. Substance use and partner age were associated with outcomes differently by gender. **Conclusions:** Sexual health interventions for college students should focus on communication and pleasure.

### ARTICLE HISTORY

Received 5 March 2019  
Revised 11 May 2020  
Accepted 16 May 2020

### KEYWORDS

Event-level analysis; college students; sexual behaviors; pleasure; communication

### Introduction

To date, the majority of research on sex in college has focused on negative or unhealthy sexual experiences (Armstrong et al., 2012; Higgins et al., 2011; Parsons et al., 2000, Schalet, 2004), such as sexual victimization and unprotected sexual intercourse (Messman-Moore et al., 2008; Testa et al., 2010). The studies that have examined predictors of pleasurable and/or fulfilling sexual experiences among college students have focused primarily on women (Armstrong et al., 2012; Auslander et al., 2007; Herbenick et al., 2011; Higgins et al., 2011; Impett et al., 2008; Impett & Tolman, 2006), with more limited research on the quality of sexual experiences among young men or gender non-conforming (GNC) persons. In this study, we examine sexual experiences of college students using a daily-diary approach to examine situational determinants of positive and negative sexual experiences. Our aim

is to join other scholars in expanding the focus of sexuality research on college student populations beyond adverse sexual outcomes to include other dimensions of their sexual experiences, including those related to pleasure, control, and communication between sexual partners. This contextualizes the important adverse sexual experiences that are all too common by looking at them in relation to what the broader sex research literature has found: that the majority of sexual experiences are positive (Armstrong et al., 2012; Auslander et al., 2007; Higgins et al., 2011; Impett & Tolman, 2006; Mark & Jozkowski, 2013). Moreover, given the limited number of evidence-based interventions that exist to prevent negative sexual experiences such as sexual assault or to promote facilitators of pleasurable sexual encounters (Armstrong et al., 2012; DeGue et al., 2014), understanding factors associated with positive sexual experiences may be an important step

in addressing these gaps (Ford et al., 2019; Gidycz & Dardis, 2014; Kettrey & Marx, 2019).

### ***The need for event-level studies of sexual experiences among college students***

Until recently, the majority of research examining sexual health outcomes on college campuses has been cross-sectional in nature. This growing body of literature shows that a complex array of factors including substance use, knowledge about sex, and sexual expectations shape sexual outcomes (Abbey, 2002; Armstrong et al., 2012; Higgins et al., 2011; Messman-Moore et al., 2008; Muehlenhard et al., 2016; Parsons et al., 2000, Schalet, 2004). Yet, existing research has frequently explored associations using one-time surveys, which cannot measure event-specific scenarios across time. Diary studies allow us to hone in on what is happening at the event-level by examining, for instance, how specific situational factors reported during a sexual encounter may increase the likelihood of reporting sexual pleasure.

Event-level diary data also allow us to adjust for within-person characteristics to account for repeated sexual encounters for a given student. Some students may be more likely to engage in drinking alcohol and this may be related to having a negative sexual experience. Also, students who have had a greater number of sexual experiences might be more likely to report sexual satisfaction due to their sexual histories (Armstrong et al., 2012). These person-level attributes are important to consider but do not explain all variation in positive and negative sexual encounters that college students experience. Because this selection issue is important for making claims about the effects of situational factors related to perceptions of sexual encounters, we use a within-person approach to examine situational factors related to positive and negative sexual experiences. We believe that this approach builds upon the findings obtained in previous studies focused on person-level factors related to positive and negative sexual experiences among college students.

Given the significantly different rates of reports of negative sex by gender (Elliott et al., 2004;

Gable & Impett, 2012; Mellins et al., 2017), it is important to explore event-level factors related to negative and positive experiences among college women and men, and GNC college students. Existing event-level research on sexual experiences among college students has primarily focused on women only, and on associations between alcohol use or substance use and sexual assault and/or condom use. For example, one event-level diary study on the effects of drinking alcohol during a sexual event among women in college found an important within-person effect, such that each drink consumed above one's average alcohol consumption resulted in a 13% increase in the likelihood of reporting unwanted sexual attention (Scaglione et al., 2014). Parks and Fals-Stewart (2004) employed a Timeline Followback Interview (TLFB) to examine temporal associations between college women's alcohol use and their experiences of sexual victimization across a six-week period. Findings showed that the odds of experiencing sexual assault were nine times greater on days when women consumed alcohol, compared to non-drinking days. This association between alcohol use and sexual victimization has been consistently reproduced in cross-sectional and other types of studies (Abbey 2002; Abbey et al., 2014; Ford, 2017). Diary studies of condom use in the context of alcohol use have also shown that drinking alcohol before a sexual encounter often increases the likelihood of condomless sex with casual partners; though this effect does not always extend to steady partners (Brown & Vanable, 2007; Kiene et al., 2009; Parks & Fals-Stewart, 2004). Daily diary studies conducted with adult populations, including men who have sex with men and HIV-infected men and women, have observed similar associations between alcohol use and risky sexual behavior more generally (Kiene et al., 2008; Mustanski, 2008).

Event-level studies of relationship and sexual satisfaction have also been conducted in samples of women and men. For example, Strachman and Impett (2009) conducted a 14-day daily diary study of college students in dating relationships to explore how attachment orientation was associated with relationship satisfaction and condom use. Findings suggested that relationship satisfaction was inversely related to condom use.

Another diary study examining attachment and sex among heterosexual college students in dating relationships suggested that gender was an important factor in understanding reasons for having sex and sexual pleasure. In that study men with partners who had anxious attachment styles were less likely to engage in sex to increase women's pleasure, whereas women with partners characterized by anxious attachment styles were more likely to engage in sex to increase men's sexual pleasure (Impett et al., 2008). Other event-level studies have examined correlates of sexual satisfaction, but they have been conducted primarily with women and men in ongoing heterosexual intimate (e.g. married, cohabitating, or long-term) relationships (Day et al., 2015; Debrot et al., 2017; Herbenick et al., 2011; Impett et al., 2019; Mark & Jozkowski, 2013; Muise et al., 2017; 2019; Rosen et al., 2015). The current study adds to the literature by examining sexually active college students who may or may not be in an intimate relationship and who may be in same-sex relationships.

### ***Understanding different aspects of sexual encounters among college students***

In order to develop effective interventions to improve sexual health among college students research is needed to (1) understand the characteristics of different types of sexual encounters and (2) expand our understanding of how specific situational factors shape these encounters. Notably, examining the situational characteristics of both negative and positive experiences—specifically those that are pleasurable, those that involve a lack of control, and those in which a desire for sex is not communicated—can provide greater nuance to our understanding of healthy sexual encounters, as well as those encounters that may be more detrimental to the health and well-being of college students. College students are at an important developmental stage in which many make their sexual debut and/or increase their number of sexual partners, and develop a sense of sexual identity (Paul & Hayes, 2002). Research has also suggested that college may present unique risks (e.g. fraternities, alcohol cultures, etc.) for negative sexual experiences for women

and men (Muehlenhard et al., 2016). In many college contexts it is also a time of experimentation and risk taking with limited supervision for the first time for many that renders young adults vulnerable to sexually transmitted diseases, unwanted pregnancies, and other behaviors such as binge drinking and condomless sex that can negatively impact sexual health (Messman-Moore et al., 2008; Parsons et al., 2000). Thus, the college student population, and the college setting, are important targets for sexual health interventions. Ultimately, it is our hope that a deeper understanding of how situational factors shape the quality of sexual experiences can inform interventions that promote sexual health.

From a theoretical perspective, the analysis for this paper is rooted in the concept of *behavior settings* (Barker, 1978; Barker & Wright, 1949; Ross et al., 2011). Using a behavior settings approach, we posit that behavior varies based on characteristics of specific situations. This enables us to examine how situations, in addition to personal characteristics, drive behaviors. Drawing upon (Ross and Ferreira-Pinto (2000) argument that health behaviors cannot be understood outside of the context of the settings and situations in which they occur, we examine sex partner characteristics (i.e. partner age, gender, type), substance use behaviors (i.e. alcohol and drug use), sexual behaviors (i.e. oral, vaginal, and anal sex, condom use), feelings of emotional closeness, the setting of the encounter, and whether sex was planned. These are analyzed as time-varying features of sexual situations, and potential predictors of different types of sexual encounters. In terms of outcomes, we examine (1) sexual encounters described as pleasurable, (2) those in which students feel a lack of control, and (3) those in which communication about a desire for sex has not occurred. These dimensions of sexual experiences were identified based on findings from formative work conducted with an advisory board of college students, as described in the Methods section. Using data on sexual encounters reported by sexually-active college students participating in this 60-day daily diary study, we explore how situation-level characteristics of sexual encounters differ for men, women, and GNC students. We examine encounters by gender given research

suggesting the frequency and predictors of positive and negative sexual experiences may differ across gender groups (Elliott et al., 2004; Gable & Impett, 2012; Mellins et al., 2017).

## Methods

### *Recruitment and sample*

The research presented here comes from a large, mixed-methods study of sexual assault and sexual health among undergraduates attending Columbia University and Barnard College, the Sexual Health Initiative to Foster Transformation (SHIFT) (Hirsch et al., 2018; Mellins et al., 2017). All study procedures were approved by the Institutional Review Board at Columbia University Medical Center (IRB-AAAP0458). SHIFT's research included a random-sample survey, sixteen months of ethnographic research, and the quantitative diary study described here. Data collection for the diary study occurred between September and December 2016. An Undergraduate Advisory Board (UAB) comprised of students at Columbia and Barnard provided input on the study design and implementation (for details, see Hirsch et al., 2018 and Wolferman et al., 2019). To recruit for the diary study, which only included students at Columbia University, the SHIFT research team sent an email to all undergraduates in the fall of 2015 ( $N=8,159$ ), asking students interested in participating in the diary study to complete a brief (10-item) screener survey. Those completing the screener were not provided an incentive for doing so, but were told that if they were selected for the study they would receive compensation. A total of 1,152 (14.1%) completed the screener. Of those, a sample of 506 participants – stratified by gender and international status – were randomly selected to participate in the study. Additionally, we included all GNC participants in the selected sample to allow for adequate representation of this group. Four-hundred and twenty-seven (84.4%) provided written (online) consent and agreed to participate. The current study focuses on the 213 participants (49.9%) who reported at least one sexual experience of any type during the 60-day study period.

### *Procedures and measures*

Upon enrolling, participants completed a baseline electronic structured survey, then began a 60-day daily survey. The baseline survey was used to assess demographics and person-level constructs, while the diary was used to assess situational, time-variant constructs. The baseline and daily diary surveys were administered via a secure web-based platform that participants could access using a smartphone, tablet, or computer. We employed a compensation plan that utilized loss avoidance tactics (i.e. small penalties for non-completion of daily surveys) and variable reinforcement (i.e. a daily, weekly, and monthly lotteries; escalating incentives). Participants were eligible to earn approximately \$150 in total for full completion of the diary (not including lotteries).

The baseline survey assessed several constructs relevant to the overall study. The current analysis employs demographic information from the baseline survey. Other key measures come from the daily diary assessment. This assessment obtained information on affect/mood, daily positive and negative experiences (including stress, support, and gender-based stress), and substance use, using validated measures from previous diary studies (Bolger et al., 1989; Bolger & Schilling, 1991; Boone et al., 2013; McNair et al., 1971; Swim et al., 2001) which, in some cases, were adapted for use in the current study. Additionally, each day, participants were asked “Have you had oral, vaginal, or anal sex since your last diary entry/in the last 24 hours?” If they had not had sex, they were asked a series of questions about daily health behaviors, social activities, and media consumption instead. If they indicated having sex, they were asked detailed questions about these sexual encounters. These questions, which are the focus of analyses presented here, assessed information on different situational factors of this recent sexual event, including information on sexual acts, characteristics of sexual partners and setting characteristics, substance use, emotion, communication and planning, and control and coercion. The diary items asking about sexual encounters were adapted from items used in previous studies on

sexual health (Wilson et al., 2008, 2014), and from input from the UAB. Specifically, UAB members provided feedback on the content and phrasing of questions and response options that they thought were important for a study of their peers. Detailed information about the UAB and the process of obtaining input on the research design and methods for SHIFT can be found in Hirsch et al. (2018) and Wolferman et al. (2019). Questions asked about sexual encounters are noted in Table 1.

### Data analyses

Basic descriptive statistics were used to examine the frequency of sexual encounter characteristics for all students, as well as by different gender groups (i.e. men, women, GNC persons). Our main independent variables of interest included: partner gender, age, and type; sexual behaviors engaged in; participant and partner alcohol and drug use during the encounter; setting; and, emotional closeness toward the partner. Outcome variables were obtained through answers to the following questions: (1)

“Was your experience with [your] partner pleasurable?” (in which “very pleasurable” responses were compared to “somewhat pleasurable” and “not at all pleasurable”); (2) “Did you feel as in control as you wanted to be during the sexual encounter with [your] partner?” (yes/no); and, (3) “Did you verbally communicate a desire to have sex with [your] partner?” (yes/no). Crosstabs with chi-square tests were used to compare sexual encounter characteristics on outcome variables.<sup>1</sup> Logistic regression analyses, with a random individual-level intercept to account for repeated sexual encounters within person, were used to examine situation-level predictors of the three dichotomous outcome variables.<sup>2</sup> Because one of the goals of the study was to examine differences in sexual experiences by gender, analyses were conducted separately for women, men and GNC persons. Also, analyses were adjusted for year in school. GNC participants were not examined in multivariate analyses due to the limited number of participants and encounters, and thus a lack of statistical power to conduct analyses. Additionally, frequencies for demographic variables are deliberately not presented for GNC

**Table 1.** Questions Assessing Situational Characteristics of College Students’ Sexual Encounters.

Domain	Question	Response Options
Sexual behaviors	• Please check off the sexual activities you engaged in with your partner:	Oral sex, Vaginal sex, Anal sex
	• Did you use a condom for vaginal or anal sex with your partner?	Yes, No
	• Did you use a condom or dental dam for oral sex with your partner?	Yes, No
Sex partner characteristics	• Was your partner male, female, or transgender/other gender identified?	Male, Female, Transgender/Other
	• What was your partner’s age in years?	Fill in the blank
	• Was your partner your:	Main partner, Friend/reoccurring casual partner, One-time casual partner, Other
Substance use	• Were you under the influence of alcohol during your sexual encounter(s) with your partner?	Yes, No
	• Were you under the influence of drugs during your sexual encounter(s) with your partner?	Yes, No
	• Was your partner under the influence of alcohol during this sexual encounter?	Yes, No, Don’t know
	• Was your partner under the influence of drugs during this sexual encounter?	Yes, No, Don’t know
Setting characteristics	• Where did you have sex with your partner?	Your own home/dorm room, Your sex partner’s home/dorm room, Someone else’s home/dorm room, A public place on campus (library, common room, etc.), Another public place (public restroom, park, car, etc.), Some other place
Emotion	• Did you feel emotionally close to your partner?	Yes, No
	• Was your experience with your partner pleasurable?	Very pleasurable, Somewhat pleasurable, Not at all pleasurable
Communication & planning	• Did you verbally communicate a desire to have sex with your partner?	Yes, No, Don’t Know
Control & coercion	• Was your sexual encounter with your partner planned?	Yes, No
	• Did you feel as in control as you wanted to be during the sexual encounter with your partner?	Yes, No
	• Were you forced or coerced into sexual activity with your partner?	Yes, No

**Table 2.** Characteristics of Women and Men in the Study Sample.

	All respondents <i>N</i> = 213		Women <i>N</i> = 102		Men <i>N</i> = 99	
	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%
# of sexual encounters [mean (std); min–max]	7.7 (7.7); 1–39		7.5 (7.5); 1–33		7.7 (7.9); 1–39	
Age						
17–20	120	56.3	59	57.8	59	59.6
21–23	64	30.0	29	28.4	27	27.3
24+	29	13.6	14	13.7	13	13.1
Assigned sex at birth						
Female	111	52.1	102	100.0	0	0.0
Male	102	47.9	0	0.0	99	100.0
Sexual identity						
Bisexual	27	12.7	16	15.7	10	10.1
Heterosexual	142	66.7	74	72.5	67	67.7
Homosexual	20	9.4	3	2.9	16	16.2
Pansexual/Queer/Other	24	11.3	9.0	8.8	6.0	6.0
Gender attracted to						
Men only	74	34.7	59	57.8	15	15.2
Women only	68	31.9	8	7.8	59	59.6
Men and women only	23	10.8	16	15.7	7	7.1
GNC individuals	48	22.5	19	18.6	18	18.2
Ethnicity						
Not of Hispanic, Latino, or Spanish origin	175	82.2	82	80.4	84	84.8
Hispanic, Latino, or Spanish origin	38	17.9	20	19.6	15	15.2
Race						
Hispanic	38	17.8	20	19.6	15	15.2
Black	13	6.1	6	5.9	6	6.1
White	103	48.4	43	42.2	53	53.5
Asian or Indian	39	18.3	22	21.6	16	16.2
Other	20	9.4	11	10.8	9	9.1
Born in the United States						
No	159	74.6	81	79.4	69	69.7
Yes	54	25.4	21	20.6	30	30.3
International student						
No	169	79.3	81	79.4	77	77.8
Yes	44	20.7	21	20.6	22	22.2
Year in school						
First year	34	16.0	11	10.8	21	21.2
Second year	55	25.8	27	26.5	25	25.3
Third year	72	33.8	39	38.2	31	31.3
Fourth year	44	20.7	23	22.5	16	16.2
Fifth or more year	8	3.8	2	2.0	6	6.1
Relationship status						
Not in a relationship	97	45.5	46	45.1	48	48.5
In a relationship	116	54.5	56	54.9	51	51.5

participants due to the very limited sample size ( $N = 12$ ) and the importance of maintaining confidentiality regarding the identities of GNC study participants. All analyses were conducted using SUDAAN 11.0.1.

## Results

Among the 213 participants who reported having sex at least once over the 2-month study time period, 102 (47.9%) were women, 99 (46.5%) were men, and 12 (5.6%) were GNC. Participants reported an average of 7.7 sexual encounters over the study time period; 7.5, 7.7, and 7.2 encounters were reported by women, men, and GNC individuals, respectively. Table 2 provides characteristics for women and men in the sample.

### Overall characteristics of sexual encounters

A total of 1,664 sexual encounters were reported (804 encounters for women, 773 for men, 87 for GNC persons). The majority (72.5%,  $n = 1,206$ ) of sexual encounters were described as “very pleasurable.” One hundred and fifty-two encounters (9.1%) were described as encounters in which the participant reported feeling not as in control as they wanted to be. In 26.6% ( $n = 442$ ) of sexual encounters, participants reported not communicating a desire for sex (or not knowing if they did).

Among the experiences that students described as “very pleasurable,” 62% ( $n = 548$ ) of students also described being as in control as they wanted to be and that the encounter included communication about a desire for sex. Nearly one in five (17.9%,  $n = 297$ ) episodes of sex were described as “very

pleasurable” despite the fact that students did not communicate (or remember communicating) a desire for sex. A much smaller proportion (2.4%,  $n = 40$ ) of students described encounters as “very pleasurable” when they were not as in control as they wanted to be. There was overlap across the three sexual encounter outcomes (see Figure 1).

In terms of women’s experiences (Table 2), 65.4% of women’s sexual encounters were described as “very pleasurable.” This was significantly ( $p < .01$ ) lower than the frequency in which men’s and GNC participants’ sexual encounters were described as very pleasurable—78.8% and 81.6% of the time, respectively. A lack of communication regarding a desire for sex was reported in 29.5, 24.7, and 16.1% of encounters of sexual encounters reported by women, men, and GNC participants, respectively. This difference was statistically significant for women vs. men, women vs. GNC participants, and men vs. GNC participants ( $ps < .01$ ).

### Characteristics of pleasurable sexual encounters

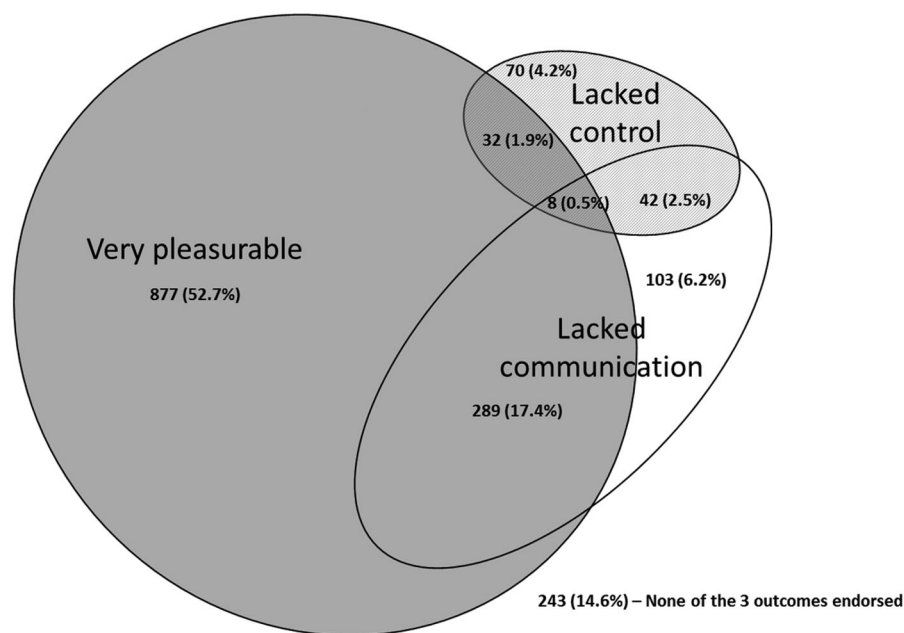
#### Women

Women were more likely to describe a sexual encounter as very pleasurable when their partner was GNC ( $n = 23$ , 92.0%,  $p = 0.02$ ), versus a man (Table 3). They were also more likely to say the encounter was pleasurable when they reported

feeling emotionally close to their partner ( $n = 492$ , 70.1%,  $p < .01$ ) compared to when they did not feel emotional closeness. Women were less likely to say their encounter was very pleasurable when their partner was a friend or recurring casual partner ( $n = 61$ , 56.5%,  $p = .05$ ) or a one-time casual partner ( $n = 15$ , 37.5%,  $p < .01$ ), compared to when the encounter involved a main partner. Women were also less likely to indicate the encounter was very pleasurable when they were not sure if their partner was under the influence of alcohol ( $n = 12$ , 41.4%,  $p = .02$ ) or drugs ( $n = 17$ , 37.8%,  $p < .01$ ) compared to when their partner was not under the influence. Also, women were less likely to say the encounter was very pleasurable when condoms were used for vaginal or anal intercourse ( $n = 107$ , 56.0%,  $p < .01$ ) compared to when they were not used.

#### Men

Men were more likely to describe a sexual encounter as very pleasurable when the encounter involved vaginal sex ( $n = 441$ , 81.4%,  $p = 0.05$ ), as compared to when vaginal intercourse did not occur. They were also more likely to indicate that an encounter was very pleasurable when they were more than 2 years older than their partners ( $n = 58$ , 90.6%,  $p = .02$ ) compared to when they



**Figure 1.** Venn diagram depicting overlap in sexual encounters described as very pleasurable (dark shaded ellipse), those in which participants were less in control than they wanted to be (light shaded ellipse) and those in which the participant did not communicate a desire for sex (transparent ellipse).



**Table 3.** Characteristics of participants' reports of very pleasurable sexual encounters ( $n = 1,206$ ).

Independent variables	Women		Men		GNC	
	$n = 526, 65.4\%$		$n = 609, 78.8\%$		$n = 71, 81.6\%$	
	%	$p$	%	$p$	%	$p$
Partner gender						
Male	64.7	REF	68.1	.02	50.0	REF
Female	62.3	ns	81.2	REF	90.5	<.01
GNC	92.0	<.01	100.0	–	70.0	ns
Partner number						
One	65.7	REF	78.9	REF	82.6	REF
More than one	46.2	ns	66.7	–	0.0	–
Sexual behaviors						
Only oral sex	57.1	ns	70.1	.02	80.9	ns
Vaginal sex	66.0	ns	81.4	.05	87.8	ns
Anal sex	57.1	ns	85.9	ns	50.0	–
Other sex act	77.0	.10	75.0	ns	75.0	ns
Condom use						
Condom use for vaginal/anal sex	56.0	.02	78.0	ns	62.5	ns
Condom use for oral sex	66.7	ns	84.4	ns	50.0	–
Partner age						
>2 years older than partner	72.7	ns	90.6	.02	33.3	–
$\pm 2$ years of partner	65.9	REF	79.3	REF	88.6	REF
>2 years younger than partner	63.9	ns	64.3	.01	57.1	<.01
Partner type						
Main partner	69.0	REF	84.1	REF	93.8	REF
Friend/reoccurring casual partner	56.5	.05	67.8	<.01	55.6	.04
One-time casual partner	37.5	<.01	45.5	<.01	22.2	–
Other	20.0	–	100.0	–	75.0	–
Respondent under the influence of alcohol						
Yes	59.8	ns	69.6	.10	58.3	ns
No	66.4	REF	80.0	REF	85.3	REF
Respondent under the influence of drugs						
Yes	69.6	ns	84.6	ns	100.0	–
No	65.1	REF	78.6	REF	82.5	REF
Partner under the influence of alcohol						
Yes	66.7	ns	75.5	ns	58.3	ns
No	66.3	REF	79.7	REF	85.1	REF
Don't know	41.4	.02	20.0	–	100.0	–
Partner under the influence of drugs						
Yes	71.3	ns	89.5	ns	83.3	ns
No	66.6	REF	78.2	REF	82.5	REF
Don't know	37.8	<.01	75.0	–	0.0	–
Setting						
Your own home/dorm room	62.4	REF	80.2	REF	87.5	REF
Your sex partner's home/dorm room	70.3	ns	78.6	ns	79.5	ns
Public place	50.0	ns	69.2	ns	0.0	–
Some other private place	73.9	ns	64.0	ns	33.3	–
Respondent felt emotionally close to partner						
Yes	70.1	<.01	85.2	<.01	90.5	–
No	33.3	REF	44.7	REF	30.8	REF
Encounter was planned						
Yes	66.0	ns	79.0	ns	76.7	ns
No	65.1	REF	78.6	REF	84.2	REF

Note. – not reported due to  $n < 5$  for cell.

were less than 2 years older than their sexual partners. Men were also more likely to describe a sexual encounter as very pleasurable when they reported feeling emotionally close to their partners ( $n = 554$ ,  $p < .01$ ) compared to when they did not feel emotionally close to their partners. Men were less likely to say their encounter was very pleasurable when their partners were other men ( $n = 98$ ,  $68.1\%$ ,  $p = .02$ ) compared to when their partners were women. They were less likely

to describe a sexual encounter as very pleasurable when the encounter involved only oral sex ( $n = 117$ ,  $70.1\%$ ,  $p = .02$ ), as opposed to other sexual behaviors. Finally, men were less likely to indicate that their sexual encounter was very pleasurable when their partner was a friend or recurring casual partner ( $n = 101$ ,  $67.8\%$ ,  $p < .01$ ) or a one-time casual partner ( $n = 20$ ,  $45.5\%$ ,  $p < .01$ ), compared to when the encounter involved a main partner.

**Table 4.** Characteristics of sexual encounters in which the participant described being not as in control as they wanted to be ( $n = 152$ ).

Independent variables	Women		Men		GNC	
	$n = 77, 9.6\%$		$n = 71, 9.2\%$		$n = 4, 4.6\%$	
	%	<i>p</i>	%	<i>p</i>	%	<i>p</i>
Partner gender						
Male	10.3	REF	11.8	ns	21.4	REF
Female	3.8	–	8.6	REF	0.0	–
GNC	0.0	–	0.0	–	10.0	–
Partner number						
One	9.5	REF	9.1	REF	4.7	REF
More than one	15.4	–	16.7	–	0.0	–
Sexual behaviors						
Only oral sex	8.0	ns	11.4	ns	4.3	–
Vaginal sex	10.4	ns	8.5	ns	4.1	–
Anal sex	31.8	.03	11.3	ns	0.0	–
Other sex act	3.3	–	8.3	–	5.0	–
Condom use						
Condom use for vaginal/anal sex	13.1	ns	7.4	ns	12.5	–
Condom use for oral sex	16.7	–	15.4	–	0.0	–
Partner age						
>2 years older than partner	9.1	–	7.8	ns	33.3	–
±2 years of partner	9.6	REF	8.6	REF	1.4	REF
>2 years younger than partner	10.4	ns	17.1	ns	14.3	–
Partner type						
Main partner	8.0	REF	7.4	REF	0.0	–
Friend/reoccurring casual partner	13.9	ns	11.4	ns	0.0	–
One-time casual partner	22.5	.04	25.0	.02	44.4	–
Other	60.0	–	0.0	–	0.0	–
Respondent under the influence of alcohol						
Yes	12.0	ns	14.1	ns	25.0	–
No	9.5	REF	8.5	REF	1.3	REF
Respondent under the influence of drugs						
Yes	11.4	–	7.7	–	0.0	–
No	10.0	REF	8.9	REF	3.8	REF
Partner under the influence of alcohol						
Yes	13.9	ns	14.3	ns	16.7	–
No	8.4	REF	8.4	REF	2.7	REF
Don't know	27.6	.07	20.0	–	0.0	–
Partner under the influence of drugs						
Yes	11.3	ns	2.6	–	16.7	–
No	8.0	REF	9.4	REF	3.8	REF
Don't know	35.6	<.01	25.0	–	0.0	–
Setting						
Your own home/dorm room	10.3	REF	7.9	REF	0.0	REF
Your sex partner's home/dorm room	7.5	ns	9.4	ns	9.1	–
Public place	18.8	–	23.1	–	0.0	–
Some other private place	10.9	ns	20.0	.10	0.0	–
Respondent felt emotionally close to partner						
Yes	7.0	<.01	6.9	.01	1.4	–
No	27.5	REF	21.1	REF	23.1	REF
Encounter was planned						
Yes	8.9	ns	8.1	ns	0.0	–
No	10.4	REF	10.0	REF	7.0	REF

Note. – not reported due to  $n < 5$  for cell.

### GNC participants

GNC participants were more likely to describe a sexual encounter as very pleasurable when the encounter occurred with a woman ( $n = 57, 90.5\%$ ,  $p < .01$ ) compared to when the encounter was with a man. The sentence reports on a finding in which a cell size was less than  $n = 5$ . We note in the table that findings from analyses of data with less than 5 participants in a cell are not reported. GNC

participants were less likely to rate their encounter as very pleasurable when they were more than 2 years younger than their partners ( $n = 8, 57.1\%$ ,  $p < .01$ ) compared to when they were within a 2-year age range of their sexual partner. They were also less likely to indicate that their sexual encounter was very pleasurable when partners were a friend or recurring casual partner ( $n = 5, 55.6\%$ ,  $p = .04$ ) compared to a main partner.

### **Characteristics of sexual encounters involving a lack of control**

#### **Women**

Women were more likely to describe a sexual encounter as involving feelings of not being as in control as they wanted to be ( $n=77$ ) when anal intercourse occurred ( $n=7$ , 31.8%,  $p=.03$ ), compared to when they had oral, vaginal, or other types of sexual intercourse (Table 4). They were also more likely to report an encounter that was lacking control when their sexual partner was a one-time casual partner ( $n=9$ , 22.5%,  $p=.04$ ) compared to when they had a main partner. Women were also more likely to report having had a sexual encounter in which they lacked control if they were not sure if their partner was under the influence of drugs ( $n=16$ , 35.6%,  $p<.01$ ). Lastly, when women reported feeling emotionally close to their partners ( $n=49$ , 7.0%,  $p<.01$ ) they were less likely to describe the encounter as not in control compared to when they reported not feeling emotionally close.

#### **Men**

Men were more likely to describe a sexual encounter as involving feelings of not being as in control as they wanted to be ( $n=71$ ) when they were with a one-time casual partner ( $n=11$ , 25%,  $p=.02$ ), compared to when they were with a main partner. Men were less likely to describe a sexual encounter as lacking control when they reported feeling emotionally close to their sexual partner ( $n=45$ , 6.9%,  $p<.01$ ) compared to when they were not emotionally close to their partner.

### **Characteristics of sexual encounters involving a lack of communication**

#### **Women**

Women were less likely to report a lack of communication regarding a desire for sex in planned sexual encounters ( $n=46$ , 15.2%,  $p<.01$ ) compared to encounters that were not planned (Table 5).

#### **Men**

Men were less likely to report a lack of communication regarding a desire for sex when their

encounters involved condom use for vaginal/anal intercourse ( $n=37$ , 13.1%,  $p<.01$ ) compared to encounters in which condoms were not used. Men were also less likely to report a lack of communication about a desire for sex in encounters in which they were 2 or more years older than their partner ( $n=7$ , 10.9%,  $p<.01$ ), compared to when they were within 2 years of the age of their sexual partners. Finally, men were less likely to report a lack of communication about a desire for sex in planned sexual encounters ( $n=40$ , 12.0%,  $p<.01$ ) compared to encounters that were not planned.

#### **GNC participants**

GNC participants were more likely to report a lack of communication regarding a desire for sex during encounters with a friend or reoccurring casual sex partner ( $n=6$ , 66.7%,  $p=.01$ ) compared to encounters with a main partner. They were also less likely to report a lack of communication regarding a desire for sex when their encounter was with a woman ( $n=5$ , 7.9%,  $p<.01$ ) as compared to a man. GNC participants were more likely to report a lack of communication in encounters that involved a partner who was 2 or more years older ( $n=9$ , 64.3%,  $p<.01$ ) compared to when their partner was within 2 years of their age.

### **Independent predictors of sexual encounters involving pleasure, control, and communication**

#### **Women**

After mutually adjusting for all variables shown to be significant in bivariate analyses, both having a sexual partner that was GNC (91% vs. men, 64%;  $p<.01$ ) and feeling emotionally close to one's sex partner (70% vs. not feeling emotionally close, 34%;  $p<.01$ ) were independently associated with encounters that women described as very pleasurable. Not knowing if one's partner was under the influence of drugs (21% vs. partner not under the influence of drugs, 8%;  $p=.03$ ) and not feeling emotionally close to one's sex partner (27% vs. feeling emotionally close, 7%;  $p=.05$ ) were independently associated with encounters in which women felt not as in control as they wanted to be. Lastly, situational

**Table 5.** Characteristics of sexual encounters in which the participant did not communicate a desire for sex ( $n = 442$ ).

Independent variables	Women		Men		GNC	
	$n = 237, 29.5\%$		$n = 191, 24.7\%$		$n = 14, 16.1\%$	
	%	<i>p</i>	%	<i>p</i>	%	<i>p</i>
Partner gender						
Male	30.4	REF	31.3	ns	64.3	REF
Female	30.2	ns	23.1	REF	7.9	<.01
GNC	0.0	–	100.0	–	0.0	–
Partner number						
One	29.5	REF	24.4	REF	16.3	REF
More than one	30.8	–	66.7	–	0.0	–
Sexual behaviors						
Only oral sex	39.3	ns	31.1	ns	21.3	–
Vaginal sex	28.3	ns	23.4	ns	20.4	–
Anal sex	28.6	ns	21.1	ns	0.0	–
Other sex act	18.0	ns	25.0	ns	5.0	–
Condom use						
Condom use for vaginal/anal sex	19.4	ns	13.1	.01	37.5	–
Condom use for oral sex	16.7	–	32.2	–	0.0	–
Partner age						
>2 years older than partner	27.3	–	10.9	.01	0.0	–
±2 years of partner	32.2	REF	25.6	REF	7.1	REF
>2 years younger than partner	23.7	ns	27.1	ns	64.3	<.01
Partner type						
Main partner	29.6	REF	26.1	REF	7.7	REF
Friend/reoccurring casual partner	24.1	ns	16.1	.10	66.7	.01
One-time casual partner	37.5	ns	34.1	ns	22.2	–
Other	60.0	–	50.0	–	25.0	–
Respondent under the influence of alcohol						
Yes	27.4	ns	25.0	ns	25.0	–
No	29.8	REF	24.7	REF	14.7	REF
Respondent under the influence of drugs						
Yes	22.8	ns	26.9	ns	66.7	–
No	30.8	REF	24.5	REF	13.8	REF
Partner under the influence of alcohol						
Yes	27.8	ns	21.4	ns	33.3	–
No	28.9	REF	25.1	REF	12.2	REF
Don't know	48.3	ns	40.0	–	100.0	–
Partner under the influence of drugs						
Yes	25.0	ns	23.7	ns	50.0	–
No	29.3	REF	24.8	REF	12.5	REF
Don't know	40.0	ns	25.0	–	100.0	–
Setting						
Your own home/dorm room	29.2	REF	25.7	REF	7.5	REF
Your sex partner's home/dorm room	30.1	ns	23.3	ns	22.7	–
Public place	31.3	ns	46.2	ns	0.0	–
Some other private place	28.3	ns	16.0	–	33.3	–
Respondent felt emotionally close to partner						
Yes	28.3	ns	24.6	ns	13.5	–
No	37.3	REF	25.2	REF	30.8	REF
Encounter was planned						
Yes	15.2	<.01	12.0	<.01	26.7	ns
No	38.1	REF	34.4	REF	10.5	REF

Note. – not reported due to  $n < 5$  for cell.

variables that were independently associated with women's encounters that involved a lack of communication regarding a desire for sex included indicating that the encounter was not planned (37%, vs. encounter was planned, 16%;  $p < .01$ ).

### Men

Independent predictors of men's very pleasurable sexual encounters included being more than two years older than sex partners (92% vs. within  $\pm 2$  years of partner, 78%;  $p < .01$ ), and feeling

emotionally close to one's sex partner (84% vs. not feeling emotionally close, 50%;  $p < .01$ ). Situational variables that were independently positively associated with men's encounters that involved a lack of communication regarding a desire for sex included not using condoms for vaginal/anal sex (29% vs. using condoms for vaginal/anal sex, 15%;  $p < .01$ ), not being 2 or more years older than sex partners (12% vs. within  $\pm 2$  years of partner, 78%;  $p = .03$ ), and indicating that the encounter was not planned (33% vs. encounter was planned, 13%;

$p < .01$ ). There were no independent predictors of men's sexual encounters in which they reported not being as in control as they wanted to be.

## Conclusions

This study adds to the research literature by providing event-level daily diary data aimed at deconstructing the situational context of college students' sexual experiences. A key finding of this study is that almost three-quarters of the 1,664 sexual encounters in our sample were described as "very pleasurable." This finding stands in contrast not just to a focus in popular media on campuses as contexts for harmful sexual interactions (Green, 2020), but also to research that has focused on problematic sexual activity, notably sexual assault, on college campuses (Flack et al., 2016; Ford et al., 2019; Messman-Moore et al., 2008; Testa et al., 2010). That said, it is consistent with other studies reporting that sex among diverse populations is often considered pleasurable (Armstrong et al., 2012; Auslander et al., 2007; Higgins et al., 2011; Impett & Tolman, 2006; Mark & Jozkowski, 2013). This study also indicates that research on pleasurable dimensions of young adult's sexual experiences may present a potential avenue for sexual health promotion as well as an opportunity for reduction of sexual assault.

Although the majority of sexual encounters were described as pleasurable, we found significant gender differences in these descriptions. Notably, men's and GNC students' sexual encounters were more often described as very pleasurable compared to women's sexual encounters. This contrasts with cross-sectional research that has shown equal levels of overall sexual satisfaction among young men and women (Auslander et al., 2007; Higgins et al., 2011), but aligns with recent research on college campuses showing substantial gender differences in sexual pleasure (Armstrong et al., 2012). It should be noted that gender differences in pleasure are not considered to be innate, or due to gender itself, and that contextual and social factors that affect women, men and GNC persons may also influence the experience of pleasure (Auslander et al., 2007).

Our findings also show a strong connection between emotional connectedness, partner types, and pleasurable sex for college students. Among all

participants, sexual encounters were more likely to be pleasurable when they occurred with a main partner compared to a friend or recurring casual partner. This is consistent with past work documenting that sexual pleasure is learned and that women are more likely to experience sexual pleasure in more committed relationships. For example, Armstrong et al. (2012) found that college women were more likely to report orgasms with relationships partners compared to hookup partners. The authors concluded that having a regular partner may relate to greater trust and equity in a relationship, translating into sex that is more egalitarian than sex in casual encounters. These higher levels of pleasure reported in committed relationships have been documented elsewhere in the literature (Pedersen & Blekesaune, 2003; Richters et al., 2006). In a similar vein, we find that sexual encounters were more pleasurable when they occurred with a partner with whom students felt emotionally close. This relationship held for men and women in multivariate analyses, suggesting that it is not solely due to other personal characteristics.

Our findings include some important differences by gender. Specifically, several factors distinguished women's, men's and GNC participants' pleasurable encounters. First, partner gender was related to whether an encounter was rated as pleasurable in different ways across gender groups. Compared to when partners were men, women were more likely to indicate their encounter was very pleasurable when their partner was a GNC individual, and similarly, GNC participants were more likely to indicate this when their partner was a woman. Men were less likely to describe a sexual encounter as very pleasurable when they had a partner who was male, compared to when they had a female partner. These findings highlight potentially important themes related to differences between men's and women's perceptions of pleasure when they have same vs. different-gender partners, and the gender-based meanings of sexual pleasure. Research has suggested that lesbian couples report higher levels of intimacy and relationship satisfaction, which may be related to sexual pleasure, compared to heterosexual couples (Kurdek, 1998, 2006). However, little work has been done with college-aged samples.

Other factors that distinguished experiences of pleasure by gender were condom use (for women), type of sexual behaviors engaged in (for men), and partner age difference (for men and GNC participants). Prior research has suggested that condoms may negatively affect women's sexual pleasure (Higgins et al., 2008; Higgins & Hirsch, 2008), and has indicated that vaginal penetration may be connected to masculinity and pleasure among young men (Marston & King, 2006; Richters et al., 2006). The finding that men experienced more pleasurable sex when they were older than the partner is novel and warrants further inquiry. It is possible that the age differences translate to power differences rooted in masculine norms. Young men may experience pleasure from the power afforded to them by being older than their partner, and they correspondingly might also experience less pleasure as a result of a perceived power imbalance in an encounter with an older partner. This is consistent with research suggesting that young men who endorse traditional male gender roles experience greater sexual satisfaction than those who do not (Pedersen & Blekesaune, 2003).

Notably, in roughly 10% of sexual encounters, participants reported feeling a lack of control. In our sample, we specifically asked about encounters in which participants were not as in control *as they wanted to be*. For women and men, encounters with a one-time casual partner were more likely to be lacking in control. Women and men were both less likely to indicate feeling emotionally close to their partner in sexual encounters that lacked control. In recent years, a great deal of attention has been placed on the relationship between "hooking ups"—i.e. having sexual encounters typically lasting one night and occurring between two people who are strangers or casual acquaintances (Paul et al., 2000)—and negative sexual experiences on college campuses, including sexual assault (Flack et al., 2016; Lewis et al., 2012; Testa et al., 2010). Our findings are consistent with the notion that sexual encounters with casual partners may be more likely to be perceived negatively by college students.

We observed that women were more likely to report lacking control in encounters involving anal sex and those where the woman did not know whether her partner was under the

influence of drugs. One study has suggested that heterosexual young adults do not experience much sexual pleasure during anal sex, as it can be associated with coercion (Marston & Lewis, 2014). Additionally, there has been significant research documenting the association between substance use and negative/coerced sexual encounters (Abbey, 2002; Abbey et al., 1996; Messman-Moore et al., 2008; Testa et al., 2010).

Results revealed several important findings regarding communication. First, a desire for sex was not verbally communicated in over 25% of sexual encounters. Compared to men, women in the sample were significantly more likely to report sexual encounters without communication. This finding may relate to existing research showing that women are more likely to use verbal communication during sex, while men tend to employ nonverbal cues (Jozkowski et al., 2014). As a result, these patterns which relate to gendered and sexual scripts (Jozkowski & Peterson, 2013), can lead to mismatched styles of communication. Multivariate analyses revealed that planning for a sexual encounter was inversely related to communication. Specifically, if an encounter was planned, it was more likely to involve communication and the inverse was also true. Perhaps, this is not surprising given that students reported planning sexual encounters in a variety of ways (i.e. texting, planning to meet in someone's dorm room, etc.) (Hirsch et al., 2019; Hirsch & Khan, 2020). In addition to planning for sex, analyses also showed that, for men's sexual encounters, being more than 2 years older than one's partner and using condoms for vaginal/anal sex were independently and positively related to communication regarding a desire for sex. Given the age of the sample (half of the participants were 17–20 years of age), men may have perceived it was important, for many reasons, to communicate with younger partners about having sex. Additionally, condom use may, in some situations, necessitate a conversation about engaging in sexual behaviors (Noar et al., 2006).

Several limitations should be considered when interpreting the findings. First, our study using a convenience sample, examined the experiences of undergraduates at one urban university.

Therefore, students who participated in the study may not be representative of the university, nor of college students as a whole. While our sample did include many forms of diversity, there are significant limitations to generalizing our findings to different populations and contexts. The relatively low response rate to the initial screener (14.1%) is a limitation. Additionally, while the event-level approach we employed is novel, the analyses conducted do not allow for temporal ordering of relationships. These data had relatively small numbers of GNC students which limited our power to detect some differences. Lastly, our findings point to areas where more detailed measures and observations (e.g. the meanings of pleasure, additional partner characteristics, etc.) might have further expanded our understanding.

The research presented here points to several possible interventions and policies for college campuses and health professionals to consider. First, we find that pleasurable sexual encounters are typically those that do not involve a lack of control. This suggests that campus programs may want to adopt the idea of sexual pleasure as a part of sexual health and wellness. For instance, correlates of pleasurable encounters, such as communication or emotional closeness, could be targets of interventions. As with other studies, our findings point to potential difficulties that some students report with more casual sex (Flack et al., 2016; Lewis et al., 2012; Paul & Hayes, 2002). Despite the normalization of sex outside of the context of committed exclusive relationships in some college settings, our findings showed that sexual encounters were more pleasurable with a main partner and/or someone with whom the student felt emotionally connected.

The persistent significance of age differences in shaping sexual experiences is also critical to note. Research on power inequalities in undergraduate sexual relationships has placed a great deal of emphasis on gender inequality; the gender differences in our findings resonate with those, but the significance of age suggests the need for future research to look at additional social sources of power inequality. Lastly, our data highlight the need for interventions focused on helping students contemplate and make decisions about when, and how and with whom they want to

have sexual relationships and how to enhance healthy, safe and pleasurable sexual encounters for both themselves and their partners. Interventions are greatly needed to enhance communication about sex among college students. These need to be focused not solely on consent, but on desires, expectations, sexual histories, and pleasure. Overall, interventions undoubtedly would be enhanced with robust and comprehensive sexual health education programs, both prior to and during college, that include a focus on comfort with and skill in talking about sex.

This research was funded by Columbia University through generous support from multiple donors. The authors thank our research participants; the Undergraduate Advisory Board; Columbia University, and the entire SHIFT team who contributed to the development and implementation of this ambitious effort particularly our Program Director, Leigh Reardon, and quantitative research assistants Karimata Bah and Stephanie Benson.

### **Ethical approval**

This research was approved by the Institutional Review Board of Columbia University Medical Center (IRB-AAAP0458).

### **Conflict of interest**

The authors report no conflicts of interest. The authors alone are responsible for the content and writing of the paper.

### **Notes**

1. Cells with small sample size (i.e. less than 5 responses) were not tested due to lack of validity of chi-square results for small cell counts.
2. In cases where more than one variable emerged as significant ( $p < 0.05$ ), we conducted multivariate analyses in order to examine the effects of each situational variable after controlling for the effects of other predictors. Of note, adjusted prevalence estimates of different types of sexual encounters were calculated from predicted marginal log-odds derived from the multivariate logistic regression models (Bieler et al., 2010). Adjusted prevalences were compared via t-tests.

## Funding

This research was funded by Columbia University through generous support from multiple donors. The authors thank our research participants; the Undergraduate Advisory Board; Columbia University, and the entire SHIFT team who contributed to the development and implementation of this ambitious effort particularly our Program Director, Leigh Reardon, and quantitative research assistants Karimata Bah and Stephanie Benson.

## References

- Abbey, A. (2002). Alcohol-related sexual assault: A common problem among college students. *Journal of Studies on Alcohol*, Supplement, 14, 118–128. <https://doi.org/10.15288/jsas.2002.s14.118>
- Abbey, A., Ross, L., McDuffie, D., & McAuslan, P. (1996). Alcohol and dating risk factors for sexual assault among college women. *Psychology of Women Quarterly*, 20(1), 147–169. <https://doi.org/10.1111/j.1471-6402.1996.tb00669.x>
- Abbey, A., Wegner, R., Woerner, J., Pegram, S., & Pierce, J. (2014). Review of survey and experimental research that examines the relationship between alcohol consumption and men's sexual aggression perpetration. *Trauma, Violence & Abuse*, 15(4), 265–282. <https://doi.org/10.1177/1524838014521031>
- Armstrong, E., England, P., & Fogarty, A. (2012). Accounting for women's orgasm and sexual enjoyment in college hookups and relationships. *American Sociological Review*, 77(3), 435–462. <https://doi.org/10.1177/0003122412445802>
- Auslander, B., Rosenthal, S., Fortenberry, J., Biro, F., Bernstein, D., & Zimet, G. (2007). Predictors of sexual satisfaction in an adolescent and college population. *Journal of Pediatric and Adolescent Gynecology*, 20(1), 25–28. <https://doi.org/10.1016/j.jpag.2006.10.006>
- Barker, R. (1978). *Habitats, environments, and human behavior*. Jossey-Bass.
- Barker, R., & Wright, H. (1949). Psychological ecology and the problem of psychosocial development. *Child Development*, 20(3), 131. <https://doi.org/10.2307/1125869>
- Bieler, G., Brown, G., Williams, R., & Brogan, D. (2010). Estimating model-adjusted risks, risk differences, and risk ratios from complex survey data. *American Journal of Epidemiology*, 171(5), 618–623. <https://doi.org/10.1093/aje/kwp440>
- Bolger, N., & Schilling, E. (1991). Personality and the problems of everyday life: The role of neuroticism in exposure and reactivity to daily stressors. *Journal of Personality*, 59(3), 355–386. <https://doi.org/10.1111/j.1467-6494.1991.tb00253.x>
- Bolger, N., DeLongis, A., Kessler, R., & Schilling, E. (1989). Effects of daily stress on negative mood. *Journal of Personality and Social Psychology*, 57(5), 808–818. <https://doi.org/10.1037/0022-3514.57.5.808>
- Boone, M., Cook, S., & Wilson, P. (2013). Substance use and sexual risk behavior in HIV-Positive Men Who Have Sex With Men: An episode-level analysis. *AIDS and Behavior*, 17(5), 1883–1887. <https://doi.org/10.1007/s10461-012-0167-4>
- Brown, J., & Venable, P. (2007). Alcohol use, partner type, and risky sexual behavior among college students: Findings from an event-level study. *Addictive Behaviors*, 32(12), 2940–2952. <https://doi.org/10.1016/j.addbeh.2007.06.011>
- Day, L., Muise, A., Joel, S., & Impett, E. (2015). To do it or not to do it? How communally motivated people navigate sexual interdependence dilemmas. *Personality & Social Psychology Bulletin*, 41(6), 791–804. <https://doi.org/10.1177/0146167215580129>
- Debrot, A., Meuwly, N., Muise, A., Impett, E., & Schoebi, D. (2017). More than just sex: Affection mediates the association between sexual activity and well-being. *Personality & Social Psychology Bulletin*, 43(3), 287–299. <https://doi.org/10.1177/0146167216684124>
- DeGue, S., Valle, L., Holt, M., Massetti, G., Matjasko, J., & Tharp, A. (2014). A systematic review of primary prevention strategies for sexual violence perpetration. *Aggression and Violent Behavior*, 19(4), 346–362. <https://doi.org/10.1016/j.avb.2014.05.004>
- Elliott, D., Mok, D., & Briere, J. (2004). Adult sexual assault: Prevalence, symptomatology, and sex differences in the general population. *Journal of Traumatic Stress*, 17(3), 203–211. <https://doi.org/10.1023/b:jots.0000029263.11104.23>
- Flack, W., Hansen, B., Hopper, A., Bryant, L., Lang, K., Massa, A., & Whalen, J. (2016). Some types of hookups may be riskier than others for campus sexual assault. *Psychological Trauma : theory, Research, Practice and Policy*, 8(4), 413–420. <https://doi.org/10.1037/tra0000090>
- Ford, J. (2017). Sexual assault on college hookups: The role of alcohol and acquaintances. *Sociological Forum*, 32(2), 381–405. <https://doi.org/10.1111/socf.12335>
- Ford, J. V., Corona Vargas, E., Finotelli Jr, I., Fortenberry, J. D., Kismödi, E., Philpott, A., Rubio-Aurioles, E., & Coleman, E. (2019). Why pleasure matters: Its global relevance for sexual health, sexual rights and wellbeing. *International Journal of Sexual Health*, 31(3), 217–230. <https://doi.org/10.1080/19317611.2019.1654587>
- Gable, S., & Impett, E. (2012). Approach and avoidance motives and close relationships. *Social and Personality Psychology Compass*, 6(1), 95–108. <https://doi.org/10.1111/j.1751-9004.2011.00405.x>
- Gidycz, C., & Dardis, C. (2014). Feminist self-defense and resistance training for college students: A critical review and recommendations for the future. *Trauma, Violence & Abuse*, 15(4), 322–333. <https://doi.org/10.1177/1524838014521026>
- Green, E. (2020). New campus sexual misconduct rules will tackle dating violence. *The New York Times*, Retrieved May 4, 2020, from <https://www.nytimes.com/2020/02/10/us/politics/devos-sexual-misconduct-rules.html>



- Herbenick, D., Reece, M., Hensel, D., Sanders, S., Jozkowski, K., & Fortenberry, J. (2011). Association of lubricant use with women's sexual pleasure, sexual satisfaction, and genital symptoms: a prospective daily diary study. *The Journal of Sexual Medicine*, 8(1), 202–212. <https://doi.org/10.1111/j.1743-6109.2010.02067.x>.
- Higgins, J., & Hirsch, J. (2008). Pleasure, power, and inequality: Incorporating sexuality into research on contraceptive use. *American Journal of Public Health*, 98(10), 1803–1813. <https://doi.org/10.2105/ajph.2007.115790>.
- Higgins, J., Hoffman, S., Graham, C., & Sanders, S. (2008). Relationships between condoms, hormonal methods, and sexual pleasure and satisfaction: An exploratory analysis from the women's well-being and sexuality study. *Sexual Health*, 5(4), 321–330. <https://doi.org/10.1071/sh08021>.
- Higgins, J., Mullinax, M., Trussell, J., Davidson, J., & Moore, N. (2011). Sexual Satisfaction and Sexual Health Among University Students in the United States. *American Journal of Public Health*, 101(9), 1643–1654. <https://doi.org/10.2105/AJPH.2011.300154>
- Hirsch, J., & Khan, S. (2020). *Sexual citizens: A landmark study of sex. Power and assault on campus*. WW.
- Hirsch, J., Khan, S., Wamboldt, A., & Mellins, C. (2019). Social dimensions of sexual consent among cisgender heterosexual college students: Insights from ethnographic research. *The Journal of Adolescent Health: Official Publication of the Society for Adolescent Medicine*, 64(1), 26–35. <https://doi.org/10.1016/j.jadohealth.2018.06.011>.
- Hirsch, J. S., Reardon, L., Khan, S., Santelli, J. S., Wilson, P. A., Gilbert, L., Wall, M., & Mellins, C. A. (2018). Transforming the campus climate: Advancing mixed-methods research on the social and cultural roots of sexual assault on a college campus. *Voices*, 13(1), 23–54. <https://doi.org/10.1111/voic.12003>.
- Impett, E., & Tolman, D. (2006). Late adolescent girls' sexual experiences and sexual satisfaction. *Journal of Adolescent Research*, 21(6), 628–646. <https://doi.org/10.1177/0743558406293964>
- Impett, E., Gordon, A., & Strachman, A. (2008). Attachment and daily sexual goals: A study of dating couples. *Personal Relationships*, 15(3), 375–390. <https://doi.org/10.1111/j.1475-6811.2008.00204.x>.
- Impett, E., Muise, A., & Harasymchuk, C. (2019). Giving in the bedroom: The costs and benefits of responding to a partner's sexual needs in daily life. *Journal of Social and Personal Relationships*, 36(8), 2455–2473. <https://doi.org/10.1177/0265407518787349>
- Jozkowski, K., & Peterson, Z. (2013). College students and sexual consent: Unique insights. *Journal of Sex Research*, 50(6), 517–523. <https://doi.org/10.1080/00224499.2012.700739>
- Jozkowski, K., Peterson, Z., Sanders, S., Dennis, B., & Reece, M. (2014). Gender differences in heterosexual college students' conceptualizations and indicators of sexual consent: implications for contemporary sexual assault prevention education. *Journal of Sex Research*, 51(8), 904–916. <https://doi.org/10.1080/00224499.2013.792326>
- Kettrey, H., & Marx, R. (2019). Does the gendered approach of bystander programs matter in the prevention of sexual assault among adolescents and college students? A systematic review and meta-analysis. *Archives of Sexual Behavior*, 48(7), 2037–2053. <https://doi.org/10.1007/s10508-019-01503-1>.
- Kiene, S., Barta, W., Tennen, H., & Armeli, S. (2009). Alcohol, helping young adults to have unprotected sex with casual partners: Findings from a daily diary study of alcohol use and sexual behavior. *The Journal of Adolescent Health: Official Publication of the Society for Adolescent Medicine*, 44(1), 73–80. <https://doi.org/10.1016/j.jadohealth.2008.05.008>
- Kiene, S., Simbayi, L., Abrams, A., Cloete, A., Tennen, H., & Fisher, J. (2008). High rates of unprotected sex occurring among HIV-positive individuals in a daily diary study in South Africa: The role of alcohol use. *Journal of Acquired Immune Deficiency Syndromes (1999)*, 49(2), 219–226. <https://doi.org/10.1097/qai.0b013e318184559f>.
- Kurdek, L. (1998). Relationship outcomes and their predictors: Longitudinal evidence from heterosexual married, gay cohabiting, and lesbian cohabiting couples. *Journal of Marriage and the Family*, 60(3), 553. <https://doi.org/10.2307/353528>.
- Kurdek, L. (2006). Differences between partners from heterosexual, gay, and lesbian cohabiting couples. *Journal of Marriage and Family*, 68(2), 509–528. <https://doi.org/10.1111/j.1741-3737.2006.00268.x>.
- Lewis, M., Granato, H., Blayney, J., Lostutter, T., & Kilmer, J. (2012). Predictors of hooking up sexual behaviors and emotional reactions among U.S. college students. *Archives of Sexual Behavior*, 41(5), 1219–1229. <https://doi.org/10.1007/s10508-011-9817-2>.
- Mark, K., & Jozkowski, K. (2013). The mediating role of sexual and nonsexual communication between relationship and sexual satisfaction in a sample of college-age heterosexual couples. *Journal of Sex & Marital Therapy*, 39(5), 410–427. <https://doi.org/10.1080/0092623x.2011.644652>.
- Marston, C., & King, E. (2006). Factors that shape young people's sexual behaviour: A systematic review. *The Lancet*, 368(9547), 1581–1586. [https://doi.org/10.1016/S0140-6736\(06\)69662-1](https://doi.org/10.1016/S0140-6736(06)69662-1)
- Marston, C., & Lewis, R. (2014). Anal heterosex among young people and implications for health promotion: A qualitative study in the UK. *BMJ Open*, 4(8), e004996. <https://doi.org/10.1136/bmjopen-2014-004996>.
- McNair, D., Lorr, M., & Droppleman, L. (1971). *EITS manual for the profile of mood states*. Educational & Industrial Testing Services (EITS).
- Mellins, C. A., Walsh, K., Sarvet, A. L., Wall, M., Gilbert, L., Santelli, J. S., Thompson, M., Wilson, P. A., Khan, S., Benson, S., Bah, K., Kaufman, K. A., Reardon, L., & Hirsch, J. S. (2017). Sexual assault incidents among college undergraduates: Prevalence and factors associated

- with risk. *PLOS One*, 12(11), e0186471. <https://doi.org/10.1371/journal.pone.0186471>
- Messman-Moore, T., Coates, A., Gaffey, K., & Johnson, C. (2008). Sexuality, substance use, and susceptibility to victimization: Risk for rape and sexual coercion in a prospective study of college women. *J Interpers Violence*, 23(12), 1730–1746. <https://doi.org/10.1177/0886260508314336>.
- Muehlenhard, C., Humphreys, T., Jozkowski, K., & Peterson, Z. (2016). The complexities of sexual consent among college students: A conceptual and empirical review. *Journal of Sex Research*, 53(4–5), 457–487. <https://doi.org/10.1080/00224499.2016.1146651>.
- Muise, A., Harasymchuk, C., Day, L., Bacev-Giles, C., Gere, J., & Impett, E. (2019). Broadening your horizons: Self-expanding activities promote desire and satisfaction in established romantic relationships. *Journal of Personality and Social Psychology*, 116(2), 237–258. <https://doi.org/10.1037/pspi0000148>
- Muise, A., Kim, J., Impett, E., & Rosen, N. (2017). Understanding when a partner is not in the mood: sexual communal strength in couples transitioning to parenthood. *Archives of Sexual Behavior*, 46(7), 1993–2006. <https://doi.org/10.1007/s10508-016-0920-2>
- Mustanski, B. (2008). Moderating effects of age on the alcohol and sexual risk taking association: An online daily diary study of men who have sex with men. *AIDS and Behavior*, 12(1), 118–126. <https://doi.org/10.1007/s10461-007-9335-3>.
- Noar, S., Carlyle, K., & Cole, C. (2006). Why communication is crucial: Meta-analysis of the relationship between safer sexual communication and condom use. *Journal of Health Communication*, 11(4), 365–390. <https://doi.org/10.1080/10810730600671862>
- Parks, K., & Fals-Stewart, W. (2004). The temporal relationship between college women's alcohol consumption and victimization experiences. *Alcoholism, Clinical and Experimental Research*, 28(4), 625–629. <https://doi.org/10.1097/01.alc.0000122105.56109.70>
- Parsons, J., Halkitis, P., Bimbi, D., & Borkowski, T. (2000). Perceptions of the benefits and costs associated with condom use and unprotected sex among late adolescent college students. *Journal of Adolescence*, 23(4), 377–391. <https://doi.org/10.1006/jado.2000.0326>
- Paul, E., & Hayes, K. (2002). The casualties of 'casual' sex: A qualitative exploration of the phenomenology of college students' hookups. *Journal of Social and Personal Relationships*, 19(5), 639–661. <https://doi.org/10.1177/0265407502195006>
- Paul, E., McManus, B., & Hayes, A. (2000). "Hookups": Characteristics and correlates of college students' spontaneous and anonymous sexual experiences. *Journal of Sex Research*, 37(1), 76–88. <https://doi.org/10.1080/00224490009552023>
- Pedersen, W., & Blekesaune, M. (2003). Sexual satisfaction in young adulthood. *Acta Sociologica*, 46(3), 179–193. <https://doi.org/10.1177/00016993030463001>
- Richters, J., de Visser, R., Rissel, C., & Smith, A. (2006). Sexual practices at last heterosexual encounter and occurrence of orgasm in a national survey. *Journal of Sex Research*, 43(3), 217–226. <https://doi.org/10.1080/00224490609552320>
- Rosen, N., Muise, A., Bergeron, S., Delisle, I., & Baxter, M. (2015). Daily associations between partner responses and sexual and relationship satisfaction in couples coping with provoked vestibulodynia. *The Journal of Sexual Medicine*, 12(4), 1028–1039. <https://doi.org/10.1111/jsm.12840>
- Ross, L., Nisbett, R., & Gladwell, M. (2011). *The person and the situation*. Pinter & Martin Ltd.
- Ross, M., & Ferreira-Pinto, J. (2000). Toward a public health of situations: the re-contextualization of risk. *Cadernos de Saude Publica*, 16(1), 59–71. <https://doi.org/10.1590/s0102-311x2000000100007>
- Scaglione, N., Turrisi, R., Mallett, K., Ray, A., Hultgren, B., & Cleveland, M. (2014). How much does one more drink matter? Examining effects of event-level alcohol use and previous sexual victimization on sex-related consequences. *Journal of Studies on Alcohol and Drugs*, 75(2), 241–248. <https://doi.org/10.15288/jsad.2014.75.241>
- Schalet, A. (2004). Must we fear adolescent sexuality? *Medscape General Medicine*, 6(4), 44.
- Strachman, A., & Impett, E. (2009). Attachment orientations and daily condom use in dating relationships. *Journal of Sex Research*, 46(4), 319–329. <https://doi.org/10.1080/00224490802691801/>.
- Swim, J., Hyers, L., Cohen, L., & Ferguson, M. (2001). Everyday sexism: Evidence for its incidence, nature, and psychological impact from three daily diary studies. *Journal of Social Issues*, 57(1), 31–53. <https://doi.org/10.1111/0022-4537.00200>.
- Testa, M., Hoffman, J., & Livingston, J. (2010). Alcohol and sexual risk behaviors as mediators of the sexual victimization-revictimization relationship. *Journal of Consulting and Clinical Psychology*, 78(2), 249–259. <https://doi.org/10.1037/a0018914>
- Wilson, P., Cook, S., McGaskey, J., Rowe, M., & Dennis, N. (2008). Situational predictors of sexual risk episodes among men with HIV who have sex with men. *Sexually Transmitted Infections*, 84(6), 506–508. <https://doi.org/10.1136/sti.2008.031583>
- Wilson, P., Stadler, G., Boone, M., & Bolger, N. (2014). Fluctuations in depression and well-being are associated with sexual risk episodes among HIV-positive men. *Health Psychology*, 33(7), 681–685. <https://doi.org/10.1037/a0035405>
- Wolferman, N., Hunter, T., Hirsch, J., Khan, S., Reardon, L., & Mellins, C. (2019). The advisory board perspective from a campus community-based participatory research project on sexual violence. *Progress in Community Health Partnerships: research, Education, and Action*, 13(1), 115–119. <https://doi.org/10.1353/cpr.2019.0014>