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A Gender Discrepancy Analysis of Heterosexual Sexual Behaviors in Two University Samples

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Abstract The current study aimed to (1) offer a large-scale enumeration of college students' lifetime sexual behaviors and sexual behaviors at last event, and (2) apply a gender discrepancy lens to college students' sexual behaviors in order to examine potential gender differences in heterosexual college students' experiences. Nine-hundred and seventy college students between the ages of 18 and 27 from two large universities in the United States participated in the current study. Participants filled out a paper–pencil questionnaire during the last 30 min of class. Measures of lifetime sexual behaviors and engagement in behaviors at last sexual event were replicated from the National Survey of Sexual Health Behavior. Most college students engaged in some form of sexual behavior (manual, oral, vaginal-penile, anal). Men more frequently reported engaging in receptive sexual behaviors (e.g., receiving oral sex) where as women were more likely to engage in performative sexual behaviors (e.g., performing oral sex). At most recent sexual event, men were more likely than women to report being the sexual initiator. Findings highlight gender differences in sexual behavior and provide a foundation for social norms interventions. Holistic sexual health promotion for young adults includes acknowledging and discouraging sites of disparity in equity and pleasure. Therefore, college-level sexual health educators should pay attention to the potential pleasure gap between men and women in heterosexual encounters, and to see pleasure as an important part of sexual health that should be included in social norms campaigns.

Keywords Sexual behaviors · Social norms · Sexual norms · Gender differences

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Introduction

The systematic exploration of recent sexual experiences among college students is useful to provide insight into the most common sexual behaviors for programmatic purposes. This information is also critical for offering opportunities for social critiques of existing sexual health practices.

Sexual health promotion is an essential plank of university-based health promotion programming and 4-year colleges frequently offer sexual health resources to their students [2]. This programmatic and policy focus is based, in part, on the high proportion of new sexually transmitted infections (STIs) among young adults [9]. Generally, sexual health promotion at the college level can be said to have two primary goals: decreasing negative sexual health outcomes such as STIs, Human Immunodeficiency Virus (HIV), and unintended pregnancy; and complimentarily, promoting equity, pleasure, and enjoyment in sexual development and behavior [6, 7, 20, 33] with little specific, formalized attention on the latter. Sexual health educators are increasingly noting that these two domains are not mutually exclusive, and campuses such as Harvard, Columbia, and Indiana Universities, among others, have instituted "Sex Week" programming which focuses on pleasure and fun in addition to risk reduction. Integrating

multiple perspectives on sexual health allows educators and researchers both to engage with notions of sexual safety, and to explore disparities in pleasure-related outcomes.

Social norms theory has undergirded many on-campus health promotion interventions and research initiatives [23, 27], particularly around alcohol [11, 24, 27, 38] and substance use [3, 8, 14, 25]. A basic premise of the use of social norms is that the objective prevalence of students' actual risk behaviors are disproportionate to their perceptions of their peers' engagement in those same risk behaviors. Therefore, given the influence social norms have on college students, if students are made aware of how their peers "really act" and the relative infrequency of risky behavior, students will model the protective behaviors of their peers and adjust their risk-taking behaviors downward accordingly [30].

The relative success of social norms-based approaches has led to arguments for using social norms theory with regards to sexual health and behaviors [25, 32, 36]. In a study of undergraduates across four campuses, Scholly et al. [36] found that students' estimation of peers' number of sexual partners, incidence of sexually transmitted infections, and levels of sexual activity were higher than objective measures, and that students underestimated their peers' rates of condom use. Similarly, Martens et al. [25] found that students in their sample overestimated the normative frequency in the past 30 days of oral sex, vaginal intercourse, and anal intercourse, as well as the number of normative sexual partners.

What this literature still lacks in terms of information about students' sexual behavioral norms is a clearer disaggregation of sexual behaviors, as well as the application of a gender-specific lens to this enumeration. For example, no studies of college students, of which we are aware, that explore behavioral norms have explicitly measured both receiving and giving oral sex, manual stimulation of genitals, use of sexual enhancement products, and perceived quality of a sexual encounter. This disaggregation can be especially important for two reasons. The first has to do with concerns around sexually transmitted infection: potential STI risks for receiving oral sex are qualitatively different than those risks associated with performing oral sex on a partner. The second is that a better understanding of a wider range of sexual behaviors allows for critiques of sexual practices where inequities in pleasure may exist. For example, given that some women report being more likely to have an orgasm from receiving oral sex than engaging in vaginal-penile intercourse [4, 35], a discrepancy in rates of these behaviors may indicate that female college students may be receiving less than equitable focus on their sexual pleasure from male partners. Multiple studies have found disparate rates of cunnilingus and fellatio within heterosexual college relationships [10, 37] which may indicate a site for promotion of gender-specific sexual health.

To address existing gaps in knowledge about college students' sexual behavior, we replicated the behavior-specific measures of the National Survey for Sexual Health and Behavior [19]. In order to conduct accurate sexuality-based social norm programming on college campuses, it is important to continually enumerate and evaluate what existing norms are for sexual behavior. Our goal with this study was twofold: to offer a large-scale enumeration of what college students' sexual behaviors were at their last event, and also to apply a gender lens to this data, in order to gauge whether there is gender equity in pleasure-giving in heterosexual college experiences.

Methods

Recruitment and Participation

One thousand twenty-four students enrolled in introductory health courses at a large Midwestern university and a large Southern University participated in the current study. In order to meet eligibility requirements for the study, students had to be 18 years of age or older and currently enrolled in classes. Introductory health courses were chosen for recruitment because students tend to take such courses as electives. Thus, a diverse range of students in terms of age, class standing, and course majors tend to enroll in such courses. Students were invited to participate in the study via filling out an anonymous survey consisting of 269 closed ended items and one open-ended item during the last 30 min of class. All responses were anonymous and participation in the survey was voluntary. Students had the option of separately entering their email address into a drawing for a chance to win a $50 gift card as incentive for participation; however, their email could not be connected to their survey responses.

Data was collected from multiple classes; therefore students were instructed not to complete the survey if they had completed it in a previous class. There were nine instances in which this occurred and students did not complete the survey again. All students met study inclusion requirements; however, some participants were removed from the study due to incomplete responses ($n = 5$). An additional 49 participants were excluded from the study because they identified as a sexual minority (i.e., gay, lesbian, bisexual, unsure or questioning), and our goal was to focus on heterosexual encounters. As such, the final sample utilized in the current analyses consisted of 970

students. The study protocol was approved by the Institutional Review Board at the institutions of data collection.

Measures

The closed-ended items utilized for the current study consisted of (1) demographic characteristic items; (2) items assessing participants' lifetime sexual behavior; (3) an item assessing participants' sexual activity at their most recent event and (4) an item assessing participants' perception of the quality of their most recent engagement in sexual intercourse. Data from additional items collected in the survey will not be presented in this paper. The items assessing participants' lifetime sexual behavior asked participants to indicate "the most recent time you engaged in the following sexual behaviors" (see Table 2 for the list of behaviors used in this item) with the following response options: past 30 days, past 90 days, in the last year, in your lifetime, never. These category distinctions were based on the NSSHB [19]. The item assessing participants' sexual activity at their most recent event asked participants, "During your most recent sexual event, what behaviors did you engage in" with a "check all that apply" option (see Table 3 for response options). This item included a follow up item aimed at assessing who initiated the behavior with response options also listed in Table 3. The item assessing quality of sexual intercourse asked participants to "rate the overall quality of your last sexual experience in which you engaged in vaginal-penile intercourse" on a 6-point scale with the following response options: excellent (1), very good (2), good (3), fair (4), poor (5), and awful (6).

Data Analysis

The frequency of students reporting engagement in each sexual behavior are reported based on whether that behavior occurred within the past month, past year, or at some other point during one's lifetime [19]. Several 2×5 one-way analyses of variance (ANOVA) with Tukey's post hoc were conducted to explore gender differences across the various sexual behaviors. A Holm-Bonferroni method was applied to the interpretation of data (p values assessing significance) from the ANOVAs to account for multiple group comparisons. The Holm-Bonferroni method is a sequentially rejective multiple test procedure with multiple level significant alphas dependent on the number of statistical comparisons and their rank order [21]. Lastly, Chi squared and Fisher's exact test were utilized to make gender comparisons for participants' last event sexual behavior and an independent samples t test was utilized to make gender comparisons for participants' overall quality of last sexual intercourse.

Results

Participant Characteristics

As shown in Table 1, a larger proportion of participants were female ($n = 621$, 64.0 %). Participants were primarily White ($n = 781$, 80.5 %), between the ages of 18 and 23 years old ($n = 918$, 94.8 %), with a mean age of 21.2 ($SD = 7.03$), and ranged relatively evenly in terms of year in school, with slightly more students who were in their senior year ($n = 269$, 27.7 %). Approximately half of the participants indicated a single relationship status ($n = 557$, 57.5 %), and about a quarter of the participants claimed membership in a fraternity or sorority ($n = 279$, 28.8 %).

Lifetime Sexual Behavior

College students' sexual behaviors are presented in Table 2. Most college students reported engaging in masturbation within the past month, 3 months, year or lifetime (89.7 %) as well as most partnered sexual behaviors: kissing/making out—98.4 %; performative genital touching—93.9 %; receptive genital touching—94.4 %; performative oral sex—86.9 %; receptive oral sex—88.2 %; and vaginal-penile intercourse—87.7 %. Alternatively, most participants reported never engaging in receptive anal sex (84.9 %) and a majority of students reported never using a vibrator or dildo with their partner (76.0 %). Lastly, most students reported never engaging in sexual activity with someone other than their partner while in a committed relationship (83.7 %).

Gender Differences in Lifetime Sexual Behavior

Women and men differed in their frequency of engagement in the following sexual behaviors, meeting the significance criteria set with the Holm-Bonferroni correction for multiple comparisons: masturbation ($\chi^2 = 179.3$, $p < 0.001$), receptive genital touching ($\chi^2 = 12.37$, $p < 0.013$), receptive oral sex ($\chi^2 = 26.52$, $p < 0.001$), performing oral sex ($\chi^2 = 18.26$, $p < 0.007$), engagement in vaginal-penile sex ($\chi^2 = 18.07$, $p < 0.007$) and engagement in receptive anal-penile intercourse ($\chi^2 = 53.03$, $p < 0.001$). Men tended to engage in masturbation, receive genital touching, and receive oral sex more frequently in the past 30 days compared to women. Women more frequently engaged in performing oral sex and reported engaging in more vaginal-penile sex and receptive anal sex in the past 30 days compared to men; the latter is not surprising given the sexual orientation of our sample. Additionally, findings indicate gender differences in college students' engagement in sex with someone other than their partner in the context of a committed relationship

Table 1 Demographics (n = 970)

Characteristic	Differences by gender			
	n (%)	Female n (%)	Male n (%)	Statistic (df)
Gender		621 (64.0)	349 (36.0)	
Age				
18–20	519 (53.6)	352 (56.8)	167 (48.0)	1.26 (df = 968) $p = .208$
21–23	399 (41.2)	242 (39.0)	157 (45.1)	
24 and up	50 (5.2)	26 (4.2)	24 (6.9)	
Race/Ethnicity				
White	781 (80.5)	514 (82.8)	267 (76.5)	13.96 (df = 5) $p = .016$
Black or African American	86 (8.9)	46 (7.4)	40 (11.5)	
Latino or Hispanic	25 (2.6)	16 (2.6)	9 (2.6)	
Asian or Asian American	42 (4.3)	25 (4.0)	17 (4.9)	
Bi or Multiracial	22 (2.3)	16 (2.6)	6 (1.7)	
Another race or ethnicity	14 (1.4)	4 (0.6)	10 (2.9)	
Class Standing				
Freshmen	206 (21.2)	131 (21.1)	75 (21.5)	14.60 (df = 5) $p = .012$
Sophomore	247 (25.5)	166 (26.7)	81 (23.2)	
Junior	248 (25.6)	164 (26.4)	84 (24.1)	
Senior	269 (27.7)	160 (25.8)	109 (31.2)	
Relationship Status				
Single and not dating	308 (31.8)	187 (30.1)	121 (34.7)	8.78 (df = 5) $p = .118$
Single but dating/hanging out with someone	249 (25.7)	149 (24.0)	100 (28.7)	
In a relationship	379 (39.0)	263 (42.3)	116 (33.2)	
Married	21 (2.2)	13 (2.1)	8 (2.3)	
Another relationship status	12 (1.2)	9 (1.4)	3 (0.9)	
Sexual Relationship Status				
Exclusive/Monogamous	421 (43.4)	286 (46.1)	135 (38.8)	18.65 (df = 3) $p < .001$
Non-exclusive/non-monogamous	66 (6.8)	35 (5.6)	31 (8.9)	
Casual Sexual Encounters	284 (29.3)	152 (24.5)	132 (37.8)	
Not engaged in sexual activity right now	198 (20.4)	148 (23.58)	50 (14.3)	
Greek Affiliation				
Involved in Greek Life	279 (28.8)	187 (30.1)	92 (26.4)	1.57 (df = 1) $p = .210$
Not involved in Greek Life	690 (71.2)	433 (69.7)	257 (73.6)	

($\chi^2 = 14.93$, $p < 0.007$), also meeting the significance criteria set forth by the Holm-Bonferroni correction for multiple comparisons. Women more frequently reported never engaging in sex with someone other than their partner while in a committed relationship. There were no differences based on gender for kissing/making out with another person and performative genital touching. Finally, although attaining a p value less than 0.05 using a vibrator or dildo did not meet the significance criteria set with a Holm-Bonferroni correction for multiple comparisons (see Table 2).

Sexual Behavior at Last Event

A summary of the sexual behaviors college students reported engaging in at their last sexual event are presented in Table 3. The largest proportion of college students reported engaging in receptive and performative oral sex ($n = 232$, 24.3 %) at their last sexual event followed by vaginal-penile intercourse ($n = 140$, 14.7 %) and kissing/making out with another person ($n = 130$, 13.6 %). When asked who initiated the behavior, the largest proportion of

Table 2 Sexual behaviors (n = 970)

Behavior	Total n (%)	Male n (%)	Female n (%)	$\chi 2$ (df = 4)
Masturbated alone				179.30[a]
Never	110 (11.3)	1 (0.3)	109 (17.6)	
Past month	535 (55.2)	288 (82.5)	247 (39.8)	
Past 3 months	118 (12.2)	29 (8.3)	89 (14.3)	
Past year	76 (7.8)	13 (3.7)	63 (10.1)	
Lifetime	131 (13.5)	18 (5.2)	113 (18.2)	
Kissed/made out with another person				6.88
Never	16 (1.6)	3 (0.9)	13 (2.1)	
Past month	785 (80.9)	274 (78.5)	511 (82.3)	
Past 3 months	78 (8.0)	31 (8.9)	47 (7.6)	
Past year	65 (6.7)	31 (8.9)	34 (5.5)	
Lifetime	26 (2.7)	10 (2.9)	16 (2.6)	
I touched my partner's genitals				8.95
Never	59 (6.1)	14 (4.0)	45 (7.2)	
Past month	665 (68.6)	235 (67.3)	430 (69.2)	
Past 3 months	103 (10.6)	36 (10.3)	67 (10.8)	
Past year	105 (10.8)	48 (13.8)	57 (9.2)	
Lifetime	38 (3.9)	16 (4.6)	22 (3.5)	
Partner touched my genitals				12.37[a]
Never	54 (5.6)	9 (2.6)	45 (7.2)	
Past month	679 (70.0)	248 (71.1)	431 (69.4)	
Past 3 months	108 (11.1)	38 (10.9)	70 (11.3)	
Past year	93 (9.6)	42 (12.0)	51 (8.2)	
Lifetime	36 (3.7)	12 (3.4)	24 (3.9)	
Gave oral sex to partner				18.26[a]
Never	127 (13.1)	63 (18.1)	64 (10.3)	
Past month	496 (51.1)	159 (45.6)	337 (54.3)	
Past 3 months	149 (15.4)	45 (12.9)	104 (16.7)	
Past year	136 (14.0)	56 (16.0)	80 (12.9)	
Lifetime	62 (6.4)	26 (7.4)	36 (5.8)	
Partner gave me oral sex				26.52[a]
Never	114 (11.8)	20 (5.7)	94 (15.1)	
Past month	504 (52.0)	212 (60.7)	292 (47.0)	
Past 3 months	167 (17.2)	54 (15.5)	113 (18.2)	
Past year	127 (13.1)	45 (12.9)	82 (13.2)	
Lifetime	58 (6.0)	18 (5.2)	40 (6.4)	
Vaginal-penile intercourse				18.07[a]
Never	119 (12.3)	26 (7.4)	93 (15.0)	
Past month	575 (59.3)	203 (58.2)	372 (59.9)	
Past 3 months	119 (12.3)	52 (14.9)	67 (10.8)	
Past year	107 (11.0)	49 (14.0)	58 (9.3)	
Lifetime	50 (5.2)	19 (5.4)	31 (5.0)	
Receptive anal-penile intercourse				53.03[a]
Never	823 (84.9)	334 (95.7)	489 (78.9)	
Past month	34 (3.5)	8 (2.3)	26 (4.2)	
Past 3 months	10 (1.0)	0 (0.0)	10 (1.6)	
Past year	35 (3.6)	2 (0.6)	33 (5.3)	
Lifetime	67 (6.9)	5 (1.4)	62 (10.0)	
Insertive anal-penile intercourse				
Never	899 (92.7)	278 (79.7)	621 (100.0)	–
Past month	19 (5.4)	19 (5.4)		
Past 3 months	3 (0.9)	3 (0.9)		
Past year	18 (5.2)	18 (5.2)		
Lifetime	31 (8.9)	31 (8.9)		
Used vibrators or dildos with partner				9.47
Never	737 (76.0)	273 (78.2)	464 (74.7)	
Past month	64 (6.6)	20 (5.7)	44 (7.1)	
Past 3 months	36 (3.7)	6 (1.7)	30 (4.8)	
Past year	54 (5.6)	16 (4.6)	38 (6.1)	
Lifetime	79 (8.1)	34 (9.7)	45 (7.2)	
While in committed relationship, had sex with someone other than my partner				14.93[a]
Never	812 (83.7)	273 (78.2)	539 (86.8)	
Past month	17 (1.8)	10 (2.9)	7 (1.1)	
Past 3 months	16 (1.6)	6 (1.7)	10 (1.6)	
Past year	34 (3.5)	19 (5.4)	15 (2.4)	
Lifetime	91 (9.4)	41 (11.7)	50 (8.1)	

[a] Significant using Holm Bonferroni's correction, which provides a sequential adjustment for multiple comparisons

students indicated that the sexual activity was mutually initiated ($n = 379$, 39.1 %). There were gender differences in who initiated the sexual activity with men more likely to report that they initiated the activity and women more likely to indicate that their partner initiated the sexual activity ($\chi^2 = 98.9$, $df = 4$, $p < 0.001$).

Gender Differences in Sexual Experiences at Last Event

Results indicate very few gender differences in last event sexual behaviors (see Table 3). After conducting Fisher's exact test, the only statistically significant gender difference occurred for receiving oral sex: men more frequently than women reported receiving oral sex at their last sexual event ($p = 0.006$). In terms of who initiated the sexual activity, statistically significant gender differences did emerge, with men more frequently reporting initiating sexual activity compared to women ($p = 0.003$) and women more frequently indicating that their partner initiated the sexual activity ($p = 0.006$). Lastly, there were gender differences in regard to participants' perceptions of the quality of their most recent experience of vaginal-penile intercourse. Removing participants who reported never engaging in vaginal-penile intercourse, findings indicate that men reported higher mean rating of the quality

of their last engagement in sexual intercourse ($M = 2.01$, $SD = 1.08$) compared to women ($M = 2.69$, $SD = 1.32$, $t = 7.37$, $df = 793$, $p < 0.001$).

Discussion

The basic premise of social norms programming is that there is a discrepancy between perceived and objective rates of engagement in health behaviors. Our results offer an updated account of the descriptive norms of sexual behaviors among college students at large universities, which can be applied directly to campus-based sexual health initiatives premised on social norms approaches. Additionally, previous research suggests that theory-based interventions are effective in promoting behavior change [1, 12, 16, 17]. Some health behavior theories, such as the Reasoned Action Approach (RAA), the most current formulation of the Theory of Planned Behavior and the Integrated Behavioral Model [15], include constructs related to people's perceptions of norms such as the global construct Perceived Norms. The Perceived Norms construct is made up of the lower level, cognitive constructs: injunctive norms (i.e., what do my salient referents think I should do regarding the specific behavior) and descriptive norms (i.e., what are most people like me actually doing, regarding the specific behavior). Our findings may be particularly important to campus health educators interested in designing theory-based interventions which focus on norms as these findings can help provide information about the sexual behaviors college students are actually engaging in (descriptive norms).

Table 3 Sexual behavior at last event (n = 970)

	Total	Male	Female
Sexual behavior			
Masturbated alone	37 (3.9)	22 (6.34)	15 (2.5)
Kissed/made out with another person only	130 (13.6)	39 (11.4)	91 (14.9)
Manual sex/mutual masturbation	69 (7.2)	28 (8.2)	41 (6.7)
Performed oral sex on a partner	15 (1.6)	3 (0.9)	12 (2.0)
Received oral sex from a partner	29 (3.0)	18 (5.3)	11 (1.8)
Performed and received oral sex	42 (4.3)	17 (5.0)	24 (4.1)
Vaginal-penile intercourse	140 (14.7)	34 (9.9)	106 (17.1)
Anal sex	2 (0.2)	1 (0.3)	1 (0.3)
Performed oral sex and vaginal-penile sex	93 (9.7)	8 (2.3)	85 (13.7)
Received oral sex and vaginal-penile sex	98 (10.1)	64 (18.7)	34 (5.5)
Performed/received oral sex and vaginal-penile sex	232 (24.3)	89 (25.5)	143 (23.4)
Anal sex and vaginal-penile sex	2 (0.2)	0 (0.0)	2 (0.3)
Used sex toys and vaginal-penile sex	29 (3.0)	7 (2.0)	22 (3.6)
Oral sex, anal sex, and vaginal-penile sex	15 (1.6)	8 (2.3)	7 (1.1)
Not engaged in any sexual behaviors	21 (2.2)	4 (1.1)	17 (2.8)
Who initiated?			
You	330 (34.0)	180 (51.6)	150 (24.2)
Your partner	206 (21.2)	29 (8.3)	177 (28.5)
Mutually	379 (39.1)	123 (35.2)	256 (41.2)
Hard to tell	42 (4.3)	16 (4.6)	26 (4.2)
Never engaged in any of these behaviors	13 (1.3)	1 (0.3)	12 (1.9)

Gender and last event behavior: $\chi^2 = 107.82$ ($df = 15$) $p < 0.001$

Gender and Initiation: $\chi^2 = 98.93$ (df = 4) $p < 0.001$

Specifically, our measures included estimation of a range of sexual behaviors (giving vs. receiving both oral sex and manual genital stimulation, as well as use of vibrators or dildos with a partner) that have not been disaggregated in previous studies. Furthermore, our results offer a glimpse of behavioral differences in college students' sexual behavior for their most recent sexual event versus their lifetime engagement in various behaviors. Campus-based practitioners who are hoping to develop social norms-based interventions around sexual health can look to our findings for an accounting of current sexual health practices, as well as gain insight into where gender-based discrepancies in sexual behavior may exist.

As expected, according to the current findings most heterosexual college students engage in some form of partnered or solo sexual activity; roughly nine out of ten participants reported lifetime engagement in masturbation, and similar proportions report rates of performing and receiving both oral sex and genital touching, as well as vaginal-penile intercourse. Participants were universally less likely to engage in either performative or receptive anal sex behaviors or using a vibrator or dildo with a partner. When examining sexual behavior at last event, the most common combination of sexual behaviors was performing and receiving oral sex and engaging in vaginal-penile intercourse. It is notable that far more female respondents reported only kissing or making out at their last sexual event than did male participants, which may be an indication of gender differences in which experiences are considered "sexual events." Given that college health professionals frequently are looking for ways to promote healthy and less risky sexual behaviors, health educators and program planners may want to highlight engagement in manual stimulation as a form of safer sexual behavior for

college students, since most of our participants (over 90 % for both giving and receiving) had engaged in mutual masturbation at some point during their sexual experiences. Also, they may consider focusing on potential STI risks inherent in performing oral sex; if women are more likely to engage in this performative behavior, they may also be more likely to contract STIs such as HPV, chlamydia, or gonorrhea. Similarly, this information can be helpful to health educators specifically focused on designing an RAA-based intervention. For example, health educators could promote the descriptive norm that many college students are engaging in manual sexual behavior as part of their interventions to encourage "lower-risk" sexual behaviors.

Significant gender differences emerged when comparing participants' lifetime and last event sexual behaviors. Consistent with gender stereotypes that posit that men are inherently more sexually interested in sex than women [5], more men reported lifetime engagement in masturbation. Men also reported more frequent engagement in receptive behaviors such as receptive genital touching and receptive oral sex in the past 30 days and reported more frequent engagement in receptive oral sex at their last sexual event compared to women. Alternatively, women reported more frequent engagement in performative oral sex during their lifetime and during their last sexual event. These findings highlight an interesting gender disparity that can be interpreted as privileging male sexuality in college student sexual encounters. That is, according to these findings, men more frequently reported engaging in sexual behaviors in which their sexual pleasure is the focus. This may not be surprising as previous research asking college students how they communicate consent to specific sexual behaviors (including oral sex) indicates that some men reported that they would never be willing to perform oral sex on their female partner [22]. Not only were men more likely to report receiving sexual attention, women reported giving more sexual attention, which suggests that both men and women may be focusing more on male sexual pleasure in their sexual behaviors. We certainly do not intend to suggest that some women do not find providing pleasure to their partner pleasurable in and of itself. However, according to these findings, women are less likely to be the focus of receiving pleasure from their partner, which is an issue of gender inequity.

Interestingly, there were no gender differences in regard to use of a vibrator or dildo among men and women, with low percentages of the sample reporting use. Given that women are less likely to experience an orgasm via vaginal-penile sex, use of an enhancement product may help women to reach orgasm, yet only 25.3 % of women and 21.8 % of men in the sample had reported ever using a vibrator or dildo with a sexual partner. Such rates are substantially lower than national rates of vibrator use among men (44.8 %) and women (52.5 %) in the United States [18, 34]. Given that individuals who reported vibrator use in the national studies seemed to be slightly older than the typical college student sample [18, 34], perhaps some individuals in our study who are not using vibrators now may use them in the future. As such, health educators may also consider promoting vibrator or general sex toy use either during solo or partnered sexual behavior as a potentially "lower-risk" sexual behavior in regard to unintended pregnancy and STIs/HIV transmission. Promotion of sexual enhancement product use may also help women experience more pleasurable sex. If educators were to take on this suggestion it would also be important to include discussion of proper safety and cleaning techniques associated with sexual enhancement product use.

When examining sexual initiation at the last sexual event, men most frequently reported initiating the sexual behavior (51.6 %) followed by the behavior being mutually initiated (35.2 %) with only 8.3 % of men reporting that the behavior was initiated by their partner. Alternatively, women most frequently reported sexual behavior being initiated mutually (41.2 %) followed by their partner initiating the behavior (28.5 %) and the behavior being initiated by them (24.3 %). These findings are not surprising given that many college students still endorse the traditional sexual script [13, 22] in which men act as the sexual initiator and women act as the sexual gatekeeper. These rigid roles can be limiting for both men and women in regard to sexual expression. Additionally, men sometimes perceive that women's refusals to engage in sexual activity are not genuine [31] and instead women are engaging in token resistance (i.e., saying no, but meaning yes; [28, 29]. As such, men's consistent role as the sexual initiator could potentially encourage coercive behavior as men may dismiss women's refusals as token and continue to progress in sexual behavior as the sexual initiator [22].

Holistic sexual health promotion for young adults includes acknowledging and discouraging sites of disparity in equity and pleasure. Therefore, college-level sexual health educators should pay attention to the potential pleasure gap between men and women in heterosexual situations, and to see pleasure as an important part of sexual health that should be included in social norms campaigns. There have been calls for increased creativity in the development of sexual health campaigns for college students, given findings of low interest in sexual health education in this population [26]. We suggest that explication of a potential pleasure gap and skills to reduce this discrepancy may offer a focus for sexual health promotion that could be of interest to heterosexual college students.

Limitations

Although this study provides a comprehensive assessment of college students' sexual repertoire, there are important limitations to note. First, data was collected at a large Midwestern university and large Southern university in the United States, providing some geographic diversity within the sample. However, results may not be generalizable to all college students in the United States. Additionally, as with all survey and recall data, there is a possibility of response bias, although this was thought to be minimized as surveys were anonymous. Finally, though we offer a reasonable estimate of descriptive norms for sexual behavior in a college sample, this study did not collect data assessing participants' perceived norms. Therefore, we are unable to make claims about discrepancies between descriptive normative behavior and what students perceive normative sexual behavior to be. As such, continued research on perceptions of normative sexual behavior is warranted.

Conclusions

The current study provides important information that can guide social norms programming around college student sexual health. However, these findings also extend an invitation to campus-level health practitioners to be conscious of disparities in sexual behaviors and potential experiences of pleasure among college students. Health educators may also work toward promoting sexual pleasure in general as part of sexuality education initiatives on campus. These initiatives could specifically highlight opportunities and ways in which women can experience pleasurable sexual encounters. This approach may have the potential to reduce disparities and support women in communicating their sexual needs.

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