

The Incidental Orgasm: The Presence of Clitoral Knowledge and the Absence of Orgasm for Women

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ABSTRACT. Women report anorgasmia and other difficulties achieving orgasm. One approach to alleviating this problem is to teach women about the clitoris. This assumes that women lack information about the clitoris and that knowledge about the clitoris is correlated with orgasm. Using a non-random sample of 833 undergraduate students, our study investigates both assumptions. First, we test the amount of knowledge about the clitoris, the reported sources of this knowledge, and the correlation between citing a source and actual knowledge. Second, we measure the correlation between clitoral knowledge and orgasm in both masturbation and partnered sex. Among a sample of undergraduate students, the most frequently cited sources of clitoral knowledge (school and friends) were associated with the least amount of tested knowledge. The source most likely to correlate with clitoral knowledge (self-exploration) was among the most rarely cited. Despite this, respondents correctly answered, on average, three of the five clitoral knowledge measures. Knowledge correlated significantly with the frequency of women's or-

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gasm in masturbation but not partnered sex. Our results are discussed in light of gender inequality and a social construction of sexuality, endorsed by both men and women, that privileges men's sexual pleasure over women's, such that orgasm for women is pleasing, but ultimately incidental. [Article copies available for a fee from The Haworth Document Delivery Service: 1-800-HAWORTH. E-mail address: <docdelivery@haworthpress.com> Website: <<http://www.HaworthPress.com>> © 2005 by The Haworth Press, Inc. All rights reserved.]

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Whether sexual information successfully translates into knowledge and whether this information and knowledge is reflected in behavior is an empirical question. We investigate this by analyzing whether sources of information about sex convey knowledge about the clitoris and whether knowledge about the clitoris is related to the occurrence of orgasm for women. Our study had two parts. First, individuals may not know or investigate practical information about the clitoris or its function. We investigated the degree of knowledge about the clitoris among individuals, and, if respondents were informed, where this knowledge was acquired. Second, cultural conditions may suppress the use of that knowledge when it exists. The link between the experience of orgasm and knowledge has not, until now, been investigated quantitatively. We explored whether clitoral knowledge was associated with the frequency of orgasm experienced by women. In sum, focusing on clitoral knowledge as our central variable, we explored the relationships between sources of information about the clitoris, clitoral knowledge, and women's experience of orgasm. We were particularly interested in whether gender inequality mediated the transmission of knowledge and its application.

BACKGROUND

Our approach was social constructionist in that we understood sexuality to be historically and culturally contingent instead of biologically determined (Foucault, 1978; Weeks, 1985). Heterosexuality is a "political institution" in that it serves to enforce gender hierarchy with prescribed rules of femininity and masculinity (Rich 1980, p. 637; see also Connell, 1987; Weeks, 1985). The institution of heterosexuality oper-

ates, in part, through the social construction of the sexual body, the “nature” of sexuality, and the manifestation of these ideas in our bodies and bodily processes (Connell, 1987; Laqueur, 1990). If a pattern in sexuality emerges, we interpret it as a product of social, instead of biological, forces because of the different socialization and structural positions of women and men and the tendency to emphasize gender difference over similarity (Laqueur, 1990; Tiefer, 1995; Weeks, 1985). We are thus not interested in positing an essential sexuality for women or men, nor are we positing an essential difference or similarity between male and female sexuality. Instead, differences and similarities are interpreted as outcomes of social processes. Some may interpret the frequency with which men and women, on average, experience orgasm as natural and find it unproblematic. Others may interpret the pattern as problematic and propose a solution (implying a moral best or ideal). In contrast to both of these interpretations, we are interested in the pattern as a social artifact that illuminates Western cultural values and their contradictions.

One aspect of the social construction of the sexual body relevant to this study is the relative invisibility of the clitoris. In various kinds of texts, the vagina is often presented as the primary site of female sexual pleasure and the clitoris is ignored or presented in greater brevity than the vagina or the penis (Braun & Kitzinger, 2001 on dictionaries; Holland et al., 1998 and Moore & Clarke, 1995 on anatomy texts; Levine, 2002 and Ogletree & Ginsburg, 2000 on sex education texts; Scully & Bart, 1972 on gynecology texts). While sex manuals and therapy have paid explicit attention to female sexual pleasure, critics argue that they reinforce gender hierarchy in that her orgasm is something that “. . . men are expected to master and control” (Vance, 1989, p. 12; see also Altman, 1989; Jackson & Scott, 1997). Furthermore, clitoral stimulation often remains only a prelude to coitus or “real sex” (Maines, 1999; McPhillips et al., 2001; Pitts & Rahman, 2001; Sanders & Reinisch, 1999).

Sex education is deeply gendered in ways that reflect this social construction of the body and of sexuality. Boys’ sexuality is generally overtly linked with pleasure, for example, the insistence of the male sex drive, wet dreams, and orgasm in the context of reproduction (Vance, 1989). Conversely, sex education associates female sexuality primarily with reproduction (Beyer & Ogletree, 1996; Holland et al., 1998; Levine, 2002) or presents females solely as victims of coercion (Beyer & Ogletree, 1996; Fine, 1988). As with teachers in the classroom, parents at home often do not discuss the location, function, existence of the cli-

toris (Kreinin, 2002; Ogletree & Ginsburg, 2000) or pleasurable aspects of sex (Brock & Jennings, 1993; Tolman, 1994). Holland and colleagues (1998, p. 80) argue that “[n]one of the sources from which young women learn about sex encourages or equips them to pursue sexual autonomy” (see also Thompson, 1989). Instead, girls are taught to think about their sexuality as something that can “get them into trouble” and are more likely than teenage boys to associate sexual desire with violence, disease, pregnancy, and social opprobrium (Tolman, 1994).

The effects of the erasure of the clitoris from discourse and the concurrent privileging of male sexual pleasure can be seen in adult women’s reports of their experiences. The most recent representative national survey of sexuality (Laumann et al., 1994) reported that, while 75 percent of heterosexual men reported having orgasms from partnered sex on a regular basis, only about 29 percent of women reported the same (see also Kinsey, 1958). We argue that, if our society intensely valued female orgasm, women would experience orgasms at a high rate *regardless of any biological predisposition*. (Note that women who have sex with women report orgasms about 83% of the time [Douglass & Douglass, 1997; see also Thompson, 1989].)

We do not propose an ideal rate of orgasm for women or that the gap between men and women naturally is or morally should be closed. Instead, we interpret the different rates of orgasm as symbolic of the devaluing of women’s orgasm and the privileging of male sexual pleasure encoded in the institution of heterosexuality. Since it is the “. . . male body and its needs that shape the normalized heterosexual encounter” (Holland et al., 1998, p. 108), we would expect “real sex” to be conflated with coitus because it largely results in orgasm for men (Laumann et al., 1994). We suspect that, if either partner prioritizes male pleasure or believes the other to do so, knowledge about female orgasm may be absent or remain unapplied. An empowerment politics, in which women are taught about their sexual pleasure and how to negotiate it (Holland et al., 1998; Vanwesenbeeck, 1997), assumes that men and women have equal resources and power with which to negotiate (Jackson & Scott, 1997). However, in a system of gender inequality, her subordinate position may be less important to the woman than the (sometimes critical) benefits she gains from her relationship to her partner. In this case, “. . . half of the heterosexual couple is expected to sacrifice orgasmic mutuality in order to avoid the inevitable stresses on the relationship caused by rocking the androcentric boat” (Maines, 1999, p. 119). Furthermore, if the orgasm gap is interpreted as biological (Pastor, n.d.), some women may not expect their sexual encounters to be orgasmic, while the rest

quickly learn that it is not and adjust their expectations accordingly (Holland et al., 1998; Levine, 2002; Vanwesenbeeck, 1997).

The social construction of the sexual body and sexual activity combined with the erasure of the clitoris in scientific and educational discourses suggests that the relatively low rate of orgasm for women may be related to a lack of knowledge. Furthermore, if heterosexuality enforces female passivity (in sex and elsewhere), knowledge may be mired in power relations that inhibit its application. These theoretical interests motivated our study. First, we explored the sources of information respondents believed were helpful in learning about the clitoris. Second, we assessed their level of knowledge about the clitoris. Third, we explored the relationship between the sources respondents reported using and their level of knowledge to investigate whether some sources were associated with greater clitoral knowledge than others. Last, we investigated the extent to which levels of clitoral knowledge were related to differences in the frequency of orgasm reported by women with masturbation and partnered sex. This allowed us to investigate whether clitoral knowledge might contribute to closing the orgasm gap.

METHODOLOGY

Study Sample

Our University human subjects board reviewed and approved our survey on the condition that we remove questions related to the respondent's race (to ensure confidentiality when there are so few non-white students). All respondents received and signed a letter that explained informed consent and the voluntary and anonymous nature of their participation. The survey of 28 questions addressing respondents' high school sex education, sexual knowledge, behaviors, and experiences was administered to 985 undergraduates at the University of Wisconsin-Madison during Spring and Fall 2002. The survey was administered in three introductory level sociology courses: Survey of Sociology, Criminology, and Human Sexuality. Each of these courses fulfills a general education requirement and draws a wide range of students. In the Fall, respondents were first asked if they had filled out the survey in the Spring and to refrain from filling it out if they answered "yes." The Fall survey included some questions not included in the Spring. Unless otherwise noted, all variables discussed were included in both versions. Surveys were distributed as respondents entered the classroom. After

class officially began, respondents were asked to volunteer and were given 20 minutes. The students in the Human Sexuality class were surveyed the first day. Comparing the responses from the Sexuality class and the other classes did not reveal a pattern of significant differences.

Ninety-eight percent of the surveys were returned. Respondents who skipped critical questions (64) were excluded, as were the self-identified gay or lesbian respondents (18), since too few of them were included for meaningful quantitative analysis. Our final sample consisted of 657 women and 226 men, for a total of 883 respondents (of these, 389 women and 140 men were given the second version of the survey in the Fall of 2002 with additional questions). Male and female respondents were, on average, 19.66 and 19.32 years old respectively. Respondents were overwhelmingly freshmen or sophomores (76 percent of women and 72 percent of men), and 99 percent of both men and women were single and had never been married. Comparison of the demographics of our sample with the demographics of the University as a whole (not shown) suggested that our sample was fairly representative of the general population of the University, though they were more likely to be female and freshman.

Measures

To measure the *sources of clitoral knowledge*, respondents were asked to indicate the importance of "school (sex education classes)," "books about reproduction or puberty," "parents," "friends," "sexual partners," "self-exploration" (for women), and media. Media were divided into pornographic and non-pornographic television, magazines, and websites. Respondents ranked each source on a 4-point scale ranging from 0 ("I have not gotten any information from this source") to 3 ("I've gotten a lot of information from this source"). Principal components analysis (not shown) suggested that pornographic television, magazines, and website variables each measured a single component ($\alpha = .82$ for women and $.86$ for men). This was also the case with the non-pornographic variables ($\alpha = .62$ for women and $.83$ for men). These six media variables were then combined into two measures: all pornographic versus all non-pornographic media (hereafter: pornographic media and media). All source variables were coded as dummy variables (0 = I have not gotten any information from this source; 1 = I have gotten a little to a lot of information from this source). Getting information from any one kind of media (television, magazine, or website) was

coded as marking media as important. In other words, if a respondent indicated that the Internet was important, but television and magazines were not, the dummy variable indicates that media was important. In the Fall, respondents were also asked to rank their most important source.

Though the experience of sexual pleasure for women is complex and multidimensional, we restricted our inquiry to knowledge about the clitoris. Knowledge about the clitoris is relevant because it is the primary organ for orgasm in women and orgasm contributes to sexual pleasure for women. We measured *clitoral knowledge* by presenting respondents with a straightforward diagram of the vulva with lines pointing to different structures. Respondents were asked to indicate which arrow pointed to the clitoris. Those who indicated the arrows pointing to the head of the clitoris, the clitoral hood, or both were considered correct. In addition, we included four true/false questions (with an “I don’t know” option) about the clitoris. These true/false questions (listed in Table 2) address myths about the clitoris, its role in sexual pleasure for women, and the idea that penile-vaginal intercourse is the main source of pleasure for both men and women.

Respondents were further asked to provide some information about their own *experiences of orgasm* during masturbation and sexual activity with a partner. “Sexual activity,” while less precise than intercourse, avoided privileging intercourse and acknowledged that our respondents were involved in a range of sexual activities even if they never had intercourse (Remez, 2000; Schuster et al., 1996; Schwartz, 1999). Since female orgasm does not rely primarily on intercourse, this was the most accommodating choice. For both masturbation and sexual activity with a partner, respondents were asked how frequently they experienced orgasm (“How often does masturbation lead to orgasm?” and “How often does sex with a partner lead to orgasm?”). Their answers were on a 6-point Likert scale from 0 (never) to 5 (always). Though we focus exclusively on clitoral orgasm, we do not mean to conflate it with women’s sexual pleasure.

Data Analysis

First, to explore the sources respondents reported to be helpful in learning about the clitoris, we present the percentage of men and women that cited each source of knowledge to be important. Statistical significance of sex differences in percentage were determined with chi-square tests.

Second, to assess the level of knowledge about the clitoris we report the percentage of correct answers to four true/false questions about the clitoris and accurate identification of the clitoris on a diagram of the vulva. Statistical significance of sex differences in percentage were determined with chi-square tests. The diagram question had a relatively high percentage of non-response (approximately 13 percent of both men and women). Preliminary analyses showed that non-responders scored especially poorly on the true/false questions, which were very rarely skipped (both men and women had a response rate of at least 98% for these questions). Findings using a collapsed diagram measure (correct and incorrect/no answer) were the same as findings with a sample in which non-responders were dropped.

Using the collapsed diagram measure and the true/false measures, we built a *clitoral knowledge measure*. The clitoral knowledge measure is a count of the number of items respondents answered correctly. For respondents who skipped one of the true/false questions, the total number of questions correct was divided by four and multiplied by five to calculate the expected number of questions right if the respondent had answered all five questions. This allowed us to retain the largest number of cases, avoid assuming that respondents did not know answers to skipped questions, and preserve the easily interpretable 0 through 5 measure. A comparison of results using this strategy with analyses in which missing questions were considered incorrect did not substantively or significantly change the results.

Third, to explore whether some sources were associated with a higher level of clitoral knowledge than others, we compared the mean score on the clitoral knowledge measure for respondents who reported each source as “important.” Respondents could choose as many sources as they wanted. Statistical significance of mean difference in clitoral knowledge given the citing of a source were determined with an Anova. To complement our bivariate results, we performed multivariate linear regression on the relationship between citing a source as important and clitoral knowledge. This revealed the relationship between citing each source while controlling for the citing of other sources. Examination of the correlation matrix and the multicollinearity diagnostics did not reveal any problems of multicollinearity. To differentiate more clearly between reliance on different sources, we used a one-way Anova to measure the significance of differences in clitoral knowledge among those who cited each source as “most important” (in this case, respondents were only allowed to choose one source). Only respondents in the second version of the survey were asked to report the “most important”

source. Results of the bivariate and multivariate analysis for citing a source as “important” were not significantly different if respondents from the first version of the survey were excluded.

Fourth, we investigated the extent to which levels of clitoral knowledge were related to the frequency of orgasm reported by women. We report the frequencies of each behavior and reported occurrence of orgasm. We then compared the mean on the clitoral knowledge measure for women who “never” experienced an orgasm or experienced them “sometimes,” “about half the time,” “usually,” or “always.” We performed separate analyses for their experiences in masturbation and partnered sex. Significance levels were determined by bivariate regression.

All statistical analyses were performed using SPSS software. The data set was stratified by gender for analyses.

RESULTS

Sources of Clitoral Knowledge

Table 1 displays the percentage of respondents who indicated each source as important in providing information about the clitoris. Significance levels refer to a sex difference in reporting that source.

TABLE 1. A Comparison of Women and Men Who Reported Each Source of Knowledge as Important (657 Women and 226 Men)

<i>Source</i>	<i>Women</i>		<i>Men</i>	
	%	(<i>n</i> responding)	%	(<i>n</i> responding)
Secondary School	73.3	(630)	73.0	(217)
Books	65.6	(623)	60.6	(216)
Non-Pornographic Media	61.8	(649)*	53.1	(220)
Pornographic Media	19.2	(647)***	61.9	(222)
Parents	16.1	(627)	13.7	(212)
Friends	77.8	(632)*	83.2	(216)
Sexual Partners	63.3	(631)***	79.6	(216)
Self-Exploration	52.4	(625)	N/A	

For test of sex difference in percentage, *** $p < .001$, ** $p < .01$, * $p < .05$.

For women, the most frequently ranked sources were friends, school, books, media, sexual partners, and self-exploration (in that order). All of these are cited by over half the respondents. Pornographic media and parents were the most rarely utilized sources, with parents reported the least frequently. Men reported the same hierarchy of sources, with the exception of partners and pornography, which they ranked higher than women. Overall, men and women seemed to be using similar sources, with the exception of pornographic media, which women reported infrequently, but men reported using more often than media.

For both women and men, friends are the most commonly cited source of information about the clitoris and parents were the least, with approximately 85 percent of respondents reporting that they learned nothing about the clitoris from their parents. Second, though studies discussed in the literature review suggest that school sex education does not address female sexual pleasure, men and women ranked it second and third respectively. Third, despite the fact that self-exploration is the most accessible source of information for women, it ranked sixth, just above pornography and parents. Men ranked their sexual partners second behind friends. Fourth, 61 percent of men reported that pornography was an important source of clitoral knowledge. Fifth, the sex difference in reporting of sources indicated that, after friends and school, women relied more heavily on media (see also Holland et al., 1998) and while men relied more on their partners and pornography in addition to media.

Clitoral Knowledge

The next step in our study was to measure how much students know about the clitoris. Table 2 presents the results of the diagram question. We found that only 29 percent of women and 25 percent of men were unable to locate the clitoris on a diagram of the vulva.

It is important to remember that women had access to a clitoris their entire lives, and the men in our sample had gained access, if at all, only recently. For this reason, it is surprising that women were not *more* likely than men to be able to locate the clitoris on a diagram (the lack of a statistically significant sex difference was robust across all classes surveyed). Moreover, given cultural emphasis on heterosexual penile-vaginal intercourse, we expected that the most common mistake in answering the diagram would be to choose the vaginal opening as the site of the clitoris. However, incorrect answers did not cluster around this location.

TABLE 2. Gender Difference in Frequencies of Answers to “Where exactly on the body is the clitoris located?” and a Comparison of Correctly Answered True/False Questions (657 Women and 226 Men)

<i>Clitoral Knowledge Measures</i>	<i>Women</i>		<i>Men</i>	
	%	(<i>n</i> responding)	%	(<i>n</i> responding)
<i>Diagram (all)</i>				
Correct	70.8	(657)	75.2	(226)
Vaginal Opening	5.9		4.9	
Other Vulva	7.3		5.8	
Other Non-Vulva	2.6		0.4	
No Answer	13.4		13.7	
<i>True/False Questions</i>				
“The clitoris is on the front wall of the vaginal canal.”	38.8	(648)	33.6	(222)
“The clitoris is directly stimulated by (penis-vagina) intercourse.”	68.9	(644)	62.4	(221)
“Most women will have an orgasm from (penis-vagina) intercourse.”	75.2	(651)*	67.3	(223)
“The g-spot is another name for the clitoris.”	58.4	(652)**	70.8	(226)

For test of sex difference in percentage, *** $p < .001$, ** $p < .01$, * $p < .05$.

Table 2 also presents the percentage of women and men who answered the four true/false questions correctly (“I don’t know” answers were not counted as correct). As presented in Table 2, all of the true/false questions were false. Over half and up to three quarters of respondents correctly answered three out of the four true/false questions. Women were significantly more knowledgeable about whether women typically have an orgasm from coitus, and men were significantly more likely to correctly answer whether the g-spot is another name for the clitoris. However, overall, neither men nor women out-performed the other sex on the clitoral knowledge measures.

The collapsed diagram measure and all four true/false measures (Table 2) were summed together into a single variable, the *clitoral knowledge measure* (see the discussion under Data Analysis for more information). The mean score on the clitoral knowledge measure was 3.15 for women and 3.12 for men (Scores could range from 0-5).

***The Relationship Between Reported Sources
and Clitoral Knowledge***

Table 3 presents the relationship between men's and women's mean score on the clitoral knowledge measure and whether the respondent re-

TABLE 3. Men and Women's Means on the Clitoral Knowledge Measure by Whether the Respondent Cited Each as an Important Source of Information About the Clitoris

Source	Women			Men		
	<i>n</i>	<i>M</i>	SD	<i>n</i>	<i>M</i>	SD
Secondary School						
No	168	3.10	(1.54)	52	3.17	(1.22)
Yes	461	3.22	(1.46)	165	3.16	(1.35)
Books						
No	192	2.87	(1.58)***	79	2.95	(1.30)†
Yes	430	3.32	(1.42)	137	3.30	(1.32)
Non-Pornographic Media						
No	243	2.82	(1.56)***	100	2.95	(1.36)*
Yes	405	3.37	(1.43)	120	3.31	(1.28)
Pornographic Media						
No	520	3.08	(1.52)**	82	3.23	(1.41)
Yes	126	3.52	(1.38)	140	3.11	(1.27)
Parents						
No	521	3.18	(1.50)	181	3.20	(1.32)
Yes	105	3.22	(1.41)	31	2.85	(1.34)
Friends						
No	121	2.99	(1.69)	28	3.36	(1.47)
Yes	510	3.24	(1.43)	188	3.14	(1.30)
Sexual Partners						
No	214	2.78	(1.63)***	36	3.04	(1.46)
Yes	416	3.41	(1.36)	180	3.19	(1.29)
Self-Exploration						
No	280	2.69	(1.50)***	N/A		
Yes	344	3.59	(1.35)	N/A		

For Anova test of mean difference between those who cite and do not cite each source, *** $p < .001$, ** $p < .01$, * $p < .05$, † $p < .06$.

ported each source of clitoral knowledge as important. Respondents could indicate as many sources as they wished.

Women who reported the use of books on reproduction or puberty, media, pornographic media, sexual partners, and self-exploration had a significantly higher level of clitoral knowledge than women who did not report these sources. This result may reflect the fact that respondents who wanted to know sought out sources so that respondents who cited sources have encountered more information than those who have not. Women who cited friends, school, and parents, however, were not more likely to know about the clitoris than those who did not. A multiple linear regression performed on this relationship (see Table 4) revealed that citing media or self-exploration specifically was significantly related to a higher level of clitoral knowledge ($p < .01$ and $p < .001$, respectively).

In fact, controlling for other sources, self-exploration appears to be the most helpful source of information for learning about the clitoris (citing it is related to twice the increase in clitoral knowledge that comes

TABLE 4. Unstandardized Regression Coefficients and Standard Errors Measuring the Relationship Between Women's and Men's Clitoral Knowledge and Citing a Source of Knowledge as "Important" (607 Women and 205 Men)

Source	Women		Men	
	B	(SE)	B	(SE)
Constant	2.276	0.176	3.054	0.353
Secondary School	0.037	0.131	0.019	0.219
Books	0.223	0.129	0.332	0.203
Non-Pornographic Media	0.350	0.123**	0.408	0.199*
Pornographic Media	0.076	0.148	-0.155	0.200
Parents	-0.102	0.153	-0.490	0.271
Friends	-0.133	0.153	-0.381	0.276
Sexual Partners	0.379	0.128	0.167	0.246
Self-Exploration	0.707	0.126***	N/A	N/A
R ²		0.131		0.057
Adjusted R ²		0.119		0.024

*** $p < .001$, ** $p < .01$, * $p < .05$.

with citing media). In this context, though not significant, citing parents and friends were both negatively related to clitoral knowledge, suggesting that these were not helpful sources or provided misinformation.

To gain a clearer understanding of how heavy reliance on a source related to clitoral knowledge, we investigated the relationship between knowledge and citing a source as “most important.” Respondents could choose only one source as the most important (this question includes less respondents because it was asked only in the second version of the survey). A one-way Anova confirmed a significant difference in the mean clitoral knowledge demonstrated by those citing different sources as most important (see Table 5) ($p < .01$ for women). Relying primarily on media, books, sexual partners, or (to a slightly lesser degree) self-exploration was associated with higher levels of clitoral knowledge. Notably, school and friends, associated with the lowest levels of clitoral knowledge, were two of the three most commonly cited sources (with sexual partners). Despite its usefulness and accessibility, self-exploration was the fifth most frequently relied upon source. Many women do not use the most direct source of information of clitoral knowledge—their own bodies—instead relying heavily on the least helpful sources: friends and school.

TABLE 5. Results of One-Way Anova Measuring the Significance of Mean Differences in Clitoral Knowledge for Men and Women Who Cited Each Source of Information as “Most Important” (342 Women and 121 Men)

Source	Women			Men		
	<i>n</i>	Mean	(SD)	<i>n</i>	Mean	(SD)
Secondary School	64	2.766*	1.163	15	3.000	1.363
Books	32	3.258	1.304	7	3.286	1.380
Non-Pornographic Media	55	3.273	1.672	8	3.625	1.188
Pornographic Media	--- ^a			13	3.539	1.127
Parents	--- ^a			--- ^a		
Friends	84	2.792	1.450	24	2.875	1.329
Sexual Partners	66	3.235	1.432	53	3.392	1.096
Self-Exploration	37	3.105	1.514	N/A		

*** $p < .001$, ** $p < .01$, * $p < .05$.

^a n smaller than 5.

For men, citing books, non-pornographic media, and sexual partners as important sources of information about the clitoris were all positively related to clitoral knowledge (see Table 3). The relationship between knowledge and media was significant ($p < .05$) and the relationship between knowledge and books approached significance ($p < .06$). Conversely, citing pornographic media, parents, and friends, though not statistically significant, were negatively related to clitoral knowledge. The direction of these relationships was confirmed by linear regression (see Table 4) (non-pornographic media was statistically significant at $p < .05$). A one-way Anova, measuring the significance of differences in the mean level of clitoral knowledge for men who cited each source as “most important,” was not significant (though the decreased number of men made significant findings less likely) (see Table 5). This finding, combined with the low R^2 in the regression, suggests that men’s clitoral knowledge was not as easily predicted by their source use as it was for women.

Orgasm

Table 6 displays the percentage of respondents who engaged in masturbation or partnered sex and their reported frequencies of orgasm in each activity. Three of the four variables that directly measured the experience of pleasure showed that men experienced significantly more (each $p < .001$ in each case). The orgasm gap was 52 percent: 39 percent of women, compared to 91 percent of men, usually or always experienced orgasm in partnered sex. This is similar to the findings from the most recent, representative national survey of sexuality (Laumann et al., 1994). The only sexual behavior that was not significantly different by sex was whether respondents have had partnered sex.

Clitoral Knowledge and the Experience of Orgasm for Women

Among all sexually active women in our sample, 39 percent usually or always had an orgasm in partnered sex. Among the 105 sexually active women who earned a perfect score on the clitoral knowledge measure, 40 percent usually to always had an orgasm with a partner (not shown). A perfect score on our clitoral knowledge measure was associated with an increased rate of orgasm for women of only one percent. This suggests that knowledge alone did not translate into orgasm for women.

Next we explored whether increased knowledge of the clitoris correlated with a higher rate of orgasm in masturbation and partnered sex

TABLE 6. Comparison of Frequency of Masturbation and Partnered Sex and Frequency of Orgasm in Each (657 Women and 226 Men)

Variable	Women		Men	
	%	(n responding)	%	(n responding)
Ever Masturbated	53.4	(633)***	88.1	(218)
Ever Sexually Active with a Partner	85.7	(655)	88.1	(226)
Frequency of Orgasm in Masturbation				
“Never”	17.3	(295)***	1.0	(112)
“Sometimes”	13.6		7.1	
“About ½ the time”	3.4		1.5	
“Usually”	27.1		33.5	
“Always”	38.6		56.9	
Frequency of Orgasm with a Partner				
“Never”	28.4	(437)***	2.7	(184)
“Sometimes”	23.3		2.7	
“About ½ the time”	9.2		3.3	
“Usually”	32.7		54.3	
“Always”	6.4		37.0	

For test of sex difference in percentage, *** $p < .001$, ** $p < .01$, * $p < .05$.

(Table 7). For women who reported masturbating, clitoral knowledge correlated highly and positively with the rate of orgasm in masturbation ($p < .001$, $R^2 = .062$). The lowest mean score was among women who never have orgasms with masturbation and the highest mean score, almost 20 percent better, was among women who always did. In contrast, the relationship between clitoral knowledge and frequency of orgasm in partnered sex was not statistically significant. Variation in knowledge accounted for very little of the difference in frequency of orgasm in partnered sex ($R^2 = .001$). Furthermore, women who always had an orgasm with their partner shared the highest mean score with women who never did. If only a few such women were observed they could, perhaps, be explained away as “anorgasmic” women who sought out knowledge about the clitoris specifically because they did not have orgasms with their partners. Women who did not experience orgasm with their part-

TABLE 7. Women's Mean Score on the Clitoral Knowledge Measure by Frequency of Orgasm in Masturbation and Partnered Sex

<i>Frequencies of Orgasm</i>	<i>M</i>	<i>SD</i>	<i>n</i>
Frequency of Orgasm in Masturbation (<i>n</i> = 295)			
"Never"	2.98	(1.74)***	51
"Sometimes"	3.20	(1.60)	40
"About ½ the time"	3.80	(1.23)	10
"Usually"	3.65	(1.31)	80
"Always"	3.92	(1.41)	114
Frequency of Orgasm with a Partner (<i>n</i> = 437)			
"Never"	3.60	(1.26)	124
"Sometimes"	3.20	(1.52)	102
"About ½ the time"	3.15	(1.36)	40
"Usually"	3.34	(1.39)	143
"Always"	3.60	(1.31)	28

*** $p < .001$ according to bivariate regression.

ners, however, accounted for 28 percent of the sexually active women in the sample. The fact that women who never had orgasms with their partners scored as well on the clitoral knowledge measure as women who always did helps explain why the orgasm gap is not closed significantly when considering only the most knowledgeable women.

These 124 knowledgeable women who never experienced orgasm with their partners, when compared with other women, were approximately the same age, were as likely to cite any particular source as most important, and experienced orgasm with masturbation at approximately the same rate. They also were not significantly different in likelihood of receiving clitoral stimulation, faking orgasm, extent of their secondary school sex education, and length of relationships (a discussion of these measures is available on request). Not only did they not differ on these measures, when they did significantly differ, it was in the directions expected to *increase* the frequency of experiencing orgasm with a partner. They were significantly more likely to masturbate ($p < .01$) and more often cited their partner ($p < .05$) and self-exploration ($p < .05$) as important sources of information about the clitoris (but not more likely to

have ranked them first). This explains their high score on the clitoral knowledge measure and suggests that cultural forces may inhibit the use of their knowledge.

DISCUSSION

This project investigated knowledge about the clitoris and the application of this knowledge. We found that the sources of information most often reported by our respondents were the same sources least likely to correlate with a high level of knowledge. Similarly, sources which correlated highly with clitoral knowledge were among the least likely to be used. These findings both confirm and complicate prior research that shows that both parents and school sex education do not teach about sexual pleasure for women (Beyer & Ogletree, 1996; Brock & Jennings, 1993; Fine, 1988; Holland et al., 1998; Kreinin, 2002; Levine, 2002; Ogletree & Ginsburg, 2000; Tolman, 1994). Indeed, as prior research suggests, our students do not appear to be learning about the clitoris from these sources or from friends (or they are learning and forgetting). However, they did report that these served as sources of information about the clitoris. Further research may help tease out the complex relationship between teaching, memory, and knowledge about sexuality.

Despite the incongruence between source use and usefulness of source, respondents showed a good degree of knowledge about the clitoris. They correctly answered, on average, over three out of five clitoral knowledge questions. The majority of our respondents were able to find the clitoris on a diagram of the vulva and they performed adequately on three of the four true/false questions addressing the relationship among the clitoris, coitus, and achieving orgasm for women. We judge this to be an adequate level of knowledge about the clitoris. This suggests that even if information about the clitoris is sometimes unavailable (in school, from parents, and otherwise, see Holland et al., 1998; Moore & Clarke, 1995; Scully & Bart, 1972), our respondents were receiving this information. Only non-pornographic media was significantly related to clitoral knowledge across all treatments for both men and women. This suggests that media, a source of information spurned by many, may indeed have presented our respondents with useful knowledge about the clitoris.

It is interesting that men's clitoral knowledge is, in general, equivalent to women's, despite the fact that women have always been able to

access their own bodies as a useful source of information about the clitoris. In fact, if we remove women who cite self-exploration as useful, making them more similar to men in terms of availability of information, women's mean score on the clitoral knowledge measure is 2.69 compared to 3.12 for men ($p < .001$). One of the mysteries produced by this study is the source of men's knowledge about the clitoris. They appear to have a generalized knowledge that is at least as high as women's and not substantially related to the (conscious or remembered) use of different sources.

Conversely, despite the fact that women's clitoral knowledge was more clearly related to using various sources, clitoral knowledge did not necessarily translate into orgasm for women. Many of the women in our sample that had information about the clitoris did not experience frequent orgasm with their partners. The fact that women with a perfect performance on the clitoral knowledge measure do not, on average, experience more orgasms suggests that while knowledge may help some individual women, for women as a group it does not increase the frequency of orgasm. Unapplied knowledge about the clitoris suggests that knowledgeable women, or their partners, do not give priority to orgasm for women. If she desires an orgasm, a woman may recognize that revealing her knowledge or asserting her desires is incompatible with feminine attractiveness under a system that perpetuates gender inequality by enforcing female passivity (Thompson, 1989; Tolman, 1994). This suggests that information alone cannot necessarily compensate for a culturally prescriptive institution of heterosexuality that shapes interpersonal sexual interaction (Connell, 1987; Rich, 1980; Weeks, 1985). If orgasm for women is somewhat irrelevant to a complete and satisfying sexual interaction, her orgasm may be pleasing and pleasurable for both partners, but ultimately incidental.

Limitations

It is important to interpret our results with caution because of several features of our methodology. First, our findings are not generalizable since our sample consisted entirely of students at our academic institution. Homogeneity in age, class, race, and geographic location, at the very least, limits the generalizability of our findings. Since our sampling method was non-random, our findings cannot be generalized even to this population.

Second, we did not use tested or standard survey instruments. The survey instrument was unique to this study, and its validity was not as-

essed. Influential variables may not have been included. The survey instrument itself played a role in constructing these findings. Further, our data were potentially biased due to the method of collection. Since our survey relied on recall, data was potentially biased by memory distortion. In addition, since our survey dealt with a sensitive topic yet was completed in limited privacy (classrooms), it is possible that our findings were affected by this context leading, for example, to falsification or other reporting bias.

Third, in that the terms and concepts were socially constructed, we were, to the best of our ability, measuring partially shared cultural understandings. To a great degree, adequate agreement about the meanings of terms (for example, "orgasm") was assumed. Further, given the socially constructed nature of the topic, any method that claimed to measure some "truth" about respondents must be carefully interpreted. Embedded within all research premised on a social constructionist framework is a contradiction between the belief that reality is plastic and that reality is measurable. We acknowledge this contradiction, a general epistemological feature of sociological research in this vein, and we have tried to negotiate it in this manuscript.

CONCLUSION

Our results suggest that knowledge does not necessarily give women the agency required to pursue sexual health. Information alone may not be able to compensate for a culturally prescriptive institution of heterosexuality that shapes interpersonal sexual interaction in ways that reinscribe gender inequality by enforcing female passivity (Connell, 1987; Rich, 1980; Weeks, 1985). If acting on her clitoral knowledge means she no longer qualifies as properly feminine (Thompson, 1989; Tolman, 1994), a young woman may not give priority to her own orgasm. This reminds us that anorgasmia may not always have a biomedical cause. Furthermore, the cultural devaluation of female orgasm by men and women alike may constrain women's ability to choose it, and this choice represents only one of the many she may not feel free to make. In this sense, our findings are directly relevant to other means of safeguarding health, such as setting sexual boundaries and using condoms. We cannot expect individual women to make smart choices about their sexual health *as if* they had equality with individual men, when they are embedded in a social structure in which they do not.

REFERENCES

- Altman, M. (1989). Everything they always wanted you to know: The ideology of popular sex literature. In *Pleasure and danger: Exploring female sexuality*, edited by C. S. Vance. London: Pandora.
- Beyer, C. E., & Ogletree, R. J. (1996). Gender representation in illustrations, text, and topic areas in sexuality education curricula. *The Journal of School Health*, 66, 361-364.
- Braun, V., & Kitzinger, C. (2001). Telling it straight? Dictionary definitions of women's genitals. *Journal of Sociolinguistics*, 5, 214-232.
- Brock, L. J., & Jennings, G. H. (1993). What daughters in their 30s wish their mothers had told them. *Family Relations*, 42, 61-65.
- Connell, R. W. (1987). *Gender and power: Society, the person, and sexual politics*. Stanford, CA: Stanford University Press.
- Douglass, M., & Douglass, L. (1997). *Are We Having Fun Yet?* New York: Hyperion.
- Fine, M. (1988). Sexuality, schooling, and adolescent female: The missing discourse of desire. *Harvard Educational Review*, 58, 29-54.
- Foucault, M. (1978). *The history of sexuality: An introduction*. New York: Vintage Books.
- Holland, J., Ramazanoglu, C., Sharpe, S., & Thomson, R. (1998). *The male in the head: Young people, heterosexuality and power*. London: The Tufnell Press.
- Jackson, S., & Scott, S. (1997). Gut reactions to matters of the heart: Reflections on rationality, irrationality and sexuality. *The Sociological Review*, 45, 551-576.
- Kinsey, A. C., Pomeroy, W. B., Martin, C. E., & Gebhard, P. H. (1953). *Sexual behavior in the human female*. Philadelphia, PA: WB Saunders Company.
- Laumann, E. O., Gagnon, J. H., Michael, R. T., & Michaels, S. (1994). *The social organization of sexuality: Sexual practices in the United States*. Chicago: University of Chicago Press.
- Laqueur, T. (1990). *Making sex: Body and gender from the Greeks to Freud*. Cambridge, MA: Harvard University Press.
- Levine, J. (2002). *Harmful to minors: The perils of protecting children from sex*. Minneapolis, MN: University of Minnesota Press.
- McPhillips, K., Braun, V., & Gavey, N. (2001). Defining heterosex: How imperative is the "coital imperative"? *Women's Studies International Forum*, 24, 229-240.
- Maines, R. P. (1999). *The technology of orgasm: 'Hysteria,' the vibrator, and women's sexual satisfaction*. Baltimore: The Johns Hopkins University Press.
- Moore, L. J., & Clarke, A. (1995). Clitoral conventions and transgressions: Graphic representations in anatomy texts, c1900-91. *Feminist Studies*, 21, 255-301.
- Ogletree, S. M., & Ginsburg, H. J. (2000). Kept under the hood: Neglect of the clitoris in common vernacular. *Sex Roles*, 43, 917-927.
- Pastor, S. (In Progress). *The social construction of sexuality in adolescence: Eros in chains*. Ph.D. diss., University of Wisconsin, Madison.
- Pitts, M., & Rahman, O. (2001). Which behaviors constitute 'having sex' among university students in the UK? *Archives of Sexual Behavior*, 30, 169-176.
- Remez, L. (2000). Oral sex among adolescents: Is it sex or is it abstinence? *Family Planning Perspectives*, 32, 298-304.
- Rich, A. (1980). Compulsory heterosexuality and lesbian existence. *Signs*, 5, 631-660.

- Sanders, S., & Reinisch, J. (1999). Would you say you 'had sex' if . . . ? *Journal of the American Medical Association*, 281, 275-277.
- Schuster, M. A., Bell, R. M., & Kanouse, D. E. (1996). The sexual practices of adolescent virgins. *American Journal of Public Health*, 86, 1570-1577.
- Schwartz, I. (1999). Sexual activity prior to coital initiation: A comparison between males and females. *Archives of Sexual Behavior*, 28, 63-69.
- Scully, D., & Bart, P. (1972). A funny thing happened on the way to the orifice: Women in gynecology textbooks. *American Journal of Sociology*, 78, 1045-1050.
- Tiefer, L. (1995). *Sex is Not a Natural Act & Other Essays*. San Francisco: Westview Press.
- Thompson, S. (1989). Search for tomorrow: On feminism and the reconstruction of teen romance. In *Pleasure and danger: Exploring female sexuality*, edited by C. S. Vance. London: Pandora.
- Tolman, D. (1994). Doing desire: Adolescent girls' struggles for/with sexuality. *Gender & Society*, 8, 324-342.
- Vance, C. S. (1989). Pleasure and danger: Toward a politics of sexuality. In *Pleasure and danger: Exploring female sexuality*, edited by C. S. Vance. London: Pandora.
- Vanwesenbeeck, I. (1997). The context of women's power(lessness) in heterosexual interactions. In *New sexual agendas*, edited by L. Segal. New York: New York University Press.
- Weeks, J. (1985). *Sexuality and its discontents: Meaning, myths and modern sexualities*. New York: Routledge.