



Sexual Self-Efficacy and Entitlement to Pleasure: The Association of the Female Sexual Subjectivity Inventory with Sexual Risk Taking and Experience of Orgasm

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Abstract

Young women's understanding of their own sexuality has increasingly been acknowledged as an important component of their sexual health. The Female Sexual Subjectivity Inventory (FSSI) was developed to measure five distinct factors of young women's experiences of sexual pleasure and empowerment. No studies have explicitly evaluated the association between FSSI scores and clinical sexual health outcomes. We conducted a cross-sectional survey of women to assess the association between FSSI factors and the occurrence of three clinical sexual health outcomes in the prior 12 months: acquisition of an STI, unwanted pregnancy, or taking emergency contraception (Plan B). We also assessed the association between FSSI scores and self-reported orgasm frequency during partnered sexual activity. We used multivariate logistic regression models to estimate associations. Finally, we used the FSSI scale in a novel way to identify a population of women who are discordant on their levels of entitlement to pleasure from a partner and self-efficacy in achieving sexual pleasure. We did not find any statistically significant associations between mean score on any of the FSSI factors and clinical sexual health outcomes of interest in the prior year. We found that all FSSI factors except Sexual Self-Reflection were positively associated with increased orgasm frequency. Our study underscores the validity of the FSSI as a measure to assess psychosocial constructs relevant to young women's ability to experience sexual pleasure with a partner and introduces a novel way to use the scale to assess the development of women's sexual subjectivity.

Keywords Sexual subjectivity · Orgasm · Women · Sexual health · Female Sexual Subjectivity Inventory · Sexual risk-taking

Background and Significance

Sexual health is a significant area of focus for public health researchers and educators in the U.S. According to a report from the Centers for Disease Control (CDC) the infection rate of many sexually transmitted infections (STIs) increased between 2012 and 2016 (CDC, 2017). People aged 15–24 years bear a significant portion of the burden of STIs, comprising an estimated 50% of new STI infections annually (CDC, 2017). Unwanted pregnancy is also a relatively

common occurrence in the U.S. In 2011, approximately 45% of pregnancies in the U.S. were unintended, with the highest rate among women 20–24 years of age (Finer & Zolna, 2016).

Though these negative sexual health outcomes often dominate sexual health research, sexual health is broader than the absence of negative outcomes. According to the World Health Organization (2006), sexual health also encompasses a positive approach to one's own sexuality and the ability to experience pleasure. Recent research into young women's sexual health has begun to acknowledge and assess young women's attitudes toward and experiences of their own sexuality, including sexual autonomy, assertiveness, and agency (Curtin, Ward, Merriwether, & Caruthers, 2011; Rostosky, Dekhytar, Cupp, & Anderman, 2008; Sanchez, Keifer, & Ybarra, 2006). This research has been supported by the development of several different instruments including the Sexual Assertiveness Scale (Morokoff et al., 1997), the Sexual Self-Esteem Inventory (Doyle Zeanah & Schwarz,

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1996), and the Sexual Self-Concept Inventory (O'Sullivan, Meyer-Bahlburg, & McKeague, 2006). The Female Sexual Subjectivity Inventory (FSSI) was developed specifically to evaluate sexual subjectivity, defined as entitlement to and experience of sexual pleasure (Horne & Zimmer-Gembeck, 2006). The scale includes five factors important to young women's sexual development: (1) sexual body esteem, (2) entitlement to sexual pleasure from the self (entitlement to pleasure from self), (3) entitlement to sexual pleasure from a partner (entitlement to pleasure from partner), (4) self-efficacy in achieving sexual pleasure from a partner (self-efficacy), and (5) sexual self-reflection (Horne & Zimmer-Gembeck, 2006). Each of these five factors is related to but distinct from the others, and together the scale enables researchers to collect a multidimensional view of the factors that make up young women's sexual subjectivity (Horne & Zimmer-Gembeck, 2006). Sexual subjectivity is an important part of normative sexual development for young women and has been associated with higher levels of sexual and general well-being (Horne & Zimmer-Gembeck, 2006; Mastro & Zimmer-Gembeck, 2015; Zimmer-Gembeck & French, 2016).

Sexual subjectivity may be an important but underappreciated potential target for sexual health interventions. Culturally, women's sexuality is frequently framed as passive and responsive to male sexuality, with men initiating sex and women being the gatekeepers of sexual activity (Fine, 1988). This framing may undermine women's understanding of themselves as active participants in sexual activity (Tolman, 2009; Tolman & McClelland, 2011). Some research suggests that increased sexual subjectivity may be associated with an improved ability of young women to counteract this passive framing and advocate for their own wants and desires. A survey of 214 college-aged women in Australia that used the FSSI found that entitlement to pleasure from self was positively associated with condom use self-efficacy (Zimmer-Gembeck & French, 2016). In another study, Satinsky and Jozkowski (2015) evaluated the relationship between the FSSI and outcomes relevant to women's sexual health among heterosexual women in the U.S. who had received oral sex from their male partners. They found that higher levels of entitlement to pleasure from partner and self-efficacy were predictive of women verbally communicating their consent, suggesting that these factors may be related to the ability to communicate clearly for desired outcomes in sexual situations. These results suggest that increased sexual subjectivity may empower young women to advocate for their own interests and safety during sexual encounters.

Our research attempts to draw a more explicit connection between sexual subjectivity and sexual health outcomes to improve knowledge about the importance of this construct. The primary goal of our study was to assess whether there

is an association between sexual subjectivity and the negative sexual health outcomes of STI acquisition and unwanted pregnancy in a sample of women recruited at a large research university in the U.S. We also assessed the use of emergency contraception (Plan B) as a proxy for risky sexual behavior because research suggests that Plan B use is relatively common among undergraduate students (Lehan Mackin, Clark, McCarthy, & Farris, 2015; Waltermaurer, Doleyses, Bednarczyk, & McNutt, 2013), and we anticipated that it may be more common than the adverse health outcomes of interest in our sample. We included orgasm frequency during partnered sexual activity to encompass the positive elements of sexual health.

Further, this study used the FSSI in a new way to create novel categorizations of women based upon FSSI scores. Another interesting element of Satinsky and Jozkowski's (2015) study was a mediation analysis demonstrating that the association between entitlement to pleasure and explicit verbal consent for oral sex was mediated by self-efficacy. Satinsky and Jozkowski interpreted this finding to mean that if a woman does not believe that her partner will be responsive to her requests (entitlement), she will feel less confidence in asserting her desires (self-efficacy). We saw our study as an opportunity to use the FSSI in a novel way to explore this idea. Traditionally, each of the five factors of the FSSI has been analyzed independently as a mean score. As a secondary analysis, we organized women by concordance in entitlement to pleasure and self-efficacy and assessed whether women who are discordant on these measures have unique patterns of sexual health outcomes.

A better understanding of the role sexual subjectivity plays in mediating sexual health outcomes, as well as the interrelatedness between women's sense of entitlement to pleasure and their ability to advocate for it, could assist in designing and implementing more robust sexual education programs aimed at empowering young women to advocate for their interests and pleasure.

Method

Participants and Procedure

Data were collected via a cross-sectional online survey. The survey was available online from October to December 2017. Recruitment efforts were focused at the University of Washington, a large public university in Seattle, Washington, via posted flyers in public spaces, undergraduate class announcements, appeals to sorority leadership, and university health-related email listservs. The survey was titled "The Women's Health and Sex Survey" and prospective respondents were informed that it would take approximately fifteen minutes to complete. There was no incentive offered for participation.

To be eligible, respondents had to identify as a woman and to have had penetrative vaginal sex with a person with a penis or oral sex (giving or receiving) in the preceding 12 months. These inclusion criteria were detailed on the survey consent page, and responses in the questionnaire served as an additional screen for eligibility. We restricted survey participants to those who reported being affiliated with the University of Washington because the survey was widely distributed outside of official, campus-based recruitment efforts, compromising the sampling frame. Because no identifiable information was collected as a part of the survey, the research was given exempt status by the University of Washington Human Subjects Division.

Measures

Demographics and Sexual Behavior

Demographic characteristics measured included age, which was an open-ended field, and multiple-choice questions regarding gender identity, sexual orientation, current relationship status, race/ethnicity, national origin, and nature of University of Washington affiliation. Respondents were asked whether they had had vaginal sex with a person with a penis or oral sex (giving or receiving) in the previous 12 months. Those with no sexual activity in the previous 12 months were sent to the “Thank you” page and did not continue with the survey.

Respondents who reported having vaginal sex with a person with a penis in the previous year were asked to estimate the number of times they had penetrative vaginal sex and their number of partners in open-ended response fields. Similarly, those who reported oral sex in the previous year were asked the number of times and number of partners to whom they gave, and from whom they received, oral sex in using open-ended response fields.

We used open-ended responses as opposed to prespecified categories to assess the number of times and partners for oral and vaginal sex because we did not have an a priori sense of what the distribution of responses would be. Approximately 40 respondents (19% of the final sample) wrote in non-numeric answers to the question “Over the past 1 year, about how many times have you had vaginal sex with a penis?” which were recoded as numeric responses. Values qualified with “about” or “maybe,” were imputed as the value (e.g., “about 40” became 40) ($n = 15$). Values qualified with a “+” or “more than” were imputed as 10% higher than the value (e.g., “50+” became 55) ($n = 12$). Values with a range were imputed as the midpoint of the range ($n = 6$). Finally, values such as “too many to count” were recoded as the 95th percentile of the distribution of the non-imputed values for each response ($n = 4$). Responses of “unknown” or similar were recoded as missing ($n = 3$). After recoding of the qualitative responses was complete, number of times and partners for both vaginal

and oral sex were recoded as categorical variables cut at the 25th, 50th, and 75th percentiles of the distribution.

Female Sexual Subjectivity Inventory

The primary variables of interest were mean scores on the Female Sexual Subjectivity Inventory, a multidimensional inventory used to measure women’s sexual self-conceptions (Horne & Zimmer-Gembeck, 2006). This 20-question measure is comprised of 5 factors: sexual body esteem, entitlement to sexual pleasure from self, entitlement to sexual pleasure from partner, self-efficacy in achieving sexual pleasure, and sexual self-reflection. Each factor is made up of three to five questions. Responses to each question are assessed on five-point Likert scales that range from “Strongly disagree” (coded 1) through “Strongly Agree,” (coded 5). Negatively worded questions were reverse-coded. The mean value of the items comprising each factor was used as the factor score. Sample questions include “I believe self-masturbating can be an exciting experience,” “I am able to ask a partner to provide the sexual stimulation I need,” and “I rarely think about the sexual aspects of my life.”

Outcomes

The primary outcomes of interest were acquiring an STI, having an unwanted pregnancy, or using emergency contraception in the previous year. Three yes/no questions began with the stem “In the past 12 months, have you...” followed by: “been told by a medical professional (doctor, nurse, etc.) that you have a sexually transmitted infection of any kind?”; “had an unwanted pregnancy?”; and “used emergency contraception (also called Plan B), pills you can get at the pharmacy after unprotected sex to prevent pregnancy?” We considered these outcomes a proxy for risky sexual behavior and pooled all affirmative responses to these questions as our measure of clinical sexual health.

Secondary outcomes included frequency of orgasm, assessed with the question “During sexual experiences with a partner, I orgasm: “Always,” “Most of the time,” “Sometimes,” “Rarely,” or “Never.” To increase the size of groups for cross-categorical analysis (described later) orgasm frequency was recoded as a three-tiered categorical variable that grouped “Never” with “Rarely” into a category labeled “Infrequent orgasms” and “Most of the time” with “Always,” into a category labeled “Frequently orgasms,” leaving “Sometimes orgasms” as a distinct category. We chose orgasm frequency as an indicator of achieving sexual pleasure during partnered sexual activity, despite criticisms that focusing on orgasm reflects a male-dominant view of sexual pleasure that does not reflect women’s experience (Lavie-Ajayi, 2005). Though orgasm is not a complete indicator of women’s sexual enjoyment or pleasure, a study assessing college-aged women’s

sexual experience in the U.S. found that achieving orgasm was strongly associated with self-reported enjoyment of the sexual encounter (Armstrong, England, & Fogarty, 2012).

Analysis

Descriptive Statistics

We completed all analyses using Stata 14.2. We assessed descriptive statistics, including frequency and percentages for categorical variables and means and standard deviation for continuous and ordinal variables. Mean scores on each FSSI factor were calculated by converting responses to the corresponding numeric value (1 through 5) and averaging response scores across the questions comprising each factor. We then assessed the distribution of mean FSSI score for each factor. An alpha of 0.05 was set as the threshold for statistical significance for all analyses.

Primary Analyses

We conducted a multivariate analysis to assess the association between sexual subjectivity and any clinical sexual health outcome. We prespecified age and number of times having penetrative vaginal sex with a person with a penis as confounders based on consistent findings that mean FSSI scores increase with age and sexual experience (Horne & Zimmer-Gembeck, 2006; Zimmer-Gembeck & Helfand, 2008). Because our primary sexual outcomes of interest stem primarily from vaginal sex with a person with a penis, for this analysis we included only women who reported having vaginal sex with a person with a penis in the past year, excluding 21 women. We calculated two types of logistic regression models: one set of models where each factor was included alone, and another single model where all five FSSI factors were included simultaneously.

We also used multivariate models to evaluate the association between FSSI scores and orgasm frequency. This analysis included all women in the sample. We conducted five separate multinomial logistic regression models that included each FSSI factor score alone and an additional model that had all five FSSI factor scores simultaneously. Both model types controlled for age as a continuous variable and relationship status as a dummy variable (in a mutually monogamous relationship, in a non-monogamous relationship, and not in a relationship).

Secondary Analysis

To explore the interrelatedness of entitlement to pleasure and self-efficacy factors we created categories of women based on the concordance of entitlement to pleasure from partner and self-efficacy. We assigned women who responded

“agree” or “strongly agree” (or the corresponding for reverse scale items) on all questions in the entitlement to pleasure from partner factor as “high entitlement,” and women who responded “strongly disagree” or “disagree” at least to one question as “low” entitlement. We repeated this strategy for the self-efficacy factor. We then categorized women based upon the concordance of these constructs: high entitlement/high efficacy, high entitlement/low efficacy, low entitlement/high efficacy, and low entitlement/low efficacy. We anticipated that the majority of women would be concordant, but that any discordance would be high efficacy/low entitlement, as suggested by previous researchers (Satinsky & Jozkowski, 2015). We used frequency tables and Fisher’s exact tests to evaluate the differences in clinical sexual health outcomes and orgasm frequency by discordance status.

Results

A total of 394 people began the online survey, but 109 (28%) were excluded from the final sample due to survey abandonment. We also excluded individuals without a direct affiliation with the University of Washington ($n=57$), who were not sexually active in the prior year ($n=9$) and who did not identify as women ($n=10$). This left a final sample of 209, which included 3 women missing information on one FSSI factor and 2 missing information on orgasm frequency.

The mean age of respondents in our sample was 22.0 years ($SD=5.1$) (Table 1). The majority of our sample identified as heterosexual (75%, $n=175$) and 52% were in mutually monogamous sexual relationships ($n=108$). The sample was primarily white ($n=146$, 70%). One hundred and eighty-eight (90%) women reported that they had engaged in vaginal sex with a person with a penis in the previous year and 201 (96%) women reported that they had either given or received oral sex.

The mean scores for all FSSI factors were consistently above the midpoint of the scale in our sample, indicating that most young women in this sample assessed themselves to be at least somewhat sexually entitled, self-efficacious, and self-reflective. Means ranged from a high of 4.25 ($SD=0.56$) for entitlement to pleasure from partner to a low of 3.34 ($SD=0.75$) for sexual body esteem. Sexual body esteem had a higher proportion of women who gave lower responses compared to other factors suggesting that most women in the sample rated themselves only somewhat satisfied with their sexual appearance.

Of the 209 respondents, 5 were diagnosed with an STI (2.4%), 2 experienced an unwanted pregnancy (1.0%), 19 used Plan B (9.1%), and 2 had both an unwanted pregnancy and Plan B use (1.9%). The remaining 181 (86.6%) of the sample did not report a clinical sexual health event. After combining these three outcomes into the combined endpoint

Table 1 Baseline characteristics of the final sample ($N=209$)

Characteristic	<i>n</i>	(%)	M	(SD)
Age (in years)			22.0	(5.1)
Sexual orientation				
Asexual	1	(0.5)		
Bisexual	21	(10.0)		
Lesbian	8	(3.8)		
Other	1	(0.5)		
Pansexual	8	(3.2)		
Queer	7	(3.4)		
Questioning/unsure	6	(2.9)		
Heterosexual	157	(75.1)		
Relationship status				
Mutually monogamous	108	(51.9)		
In a non-monogamous relationship	10	(4.8)		
Not in a relationship	90	(43.3)		
Race				
African-American, Black, African	3	(1.4)		
Asian, Asian-American	25	(12.0)		
Hispanic and/or Latina	13	(6.2)		
Multiple races	15	(7.2)		
Native American/Alaska Native	2	(1.0)		
Pacific Islander	1	(0.5)		
White	146	(69.9)		
Other	4	(1.9)		
Birthplace				
Born in the USA	193	(92.8)		
Born outside of the USA	15	(7.2)		
Had penetrative vaginal sex with a person with a penis in previous 12 months				
No	21	(10.0)		
Yes	188	(90.0)		
Number of vaginal sex times			58.3	(65.4)
Number of vaginal sex partners			2.4	(3.3)
Had oral sex in previous 12 months				
No	7	(3.4)		
Yes	201	(96.6)		
Number of oral sex times			39.0	(44.4)
Number of oral sex partners: give			2.0	(2.4)
Number of oral sex partners: receive			1.7	(1.5)

Table 2 Mean score and interquartile range (IQR) for each FSSI factor by clinical sexual health outcome status

	FSSI factor				
	Sexual body esteem	Entitlement to pleasure from self	Entitlement to pleasure from partner	Self-efficacy	Sexual self-reflection
Any clinical sexual health outcome ^a ($N=28$)	3.44 (0.74)	4.24 (0.74)	4.13 (0.70)	3.74 (0.78)	3.99 (0.54)
No clinical sexual health outcome ^a ($N=181$)	3.33 (0.75)	4.13 (0.58)	4.27 (0.53)	3.68 (0.83)	3.98 (0.66)

^aHaving had an STI, an unwanted pregnancy, or used Plan B in the past year

of any clinical sexual health outcome ($n=28$, 13.4%), we assessed the mean FSSI score for each factor by outcome status (Table 2). Without adjustment for confounders, the mean FSSI scores were similar between women who experienced an adverse sexual outcome and those who did not (all differences between mean scores between FSSI factors within 0.14 points, all ANOVA p values $> .23$).

The primary analysis assessing the association between mean FSSI scores and any clinical sexual health outcome, when controlling for age and estimated number of sex acts in the prior year, did not reach statistical significance for any of the factors. Nonetheless, the analysis was suggestive of interesting trends (Table 3). There was no apparent association between sexual body esteem (odds ratio (OR) = 1.09 per unit increase in FSSI score, 95% CI 0.61–1.95) or sexual self-reflection (OR = 1.00, 95% CI 0.53–1.91) and any clinical sexual health outcome. Increased mean scores on entitlement to pleasure from partner and self-efficacy trended toward a decreased risk of experiencing a clinical sexual health outcome (OR = 0.56, 95% CI 0.27–1.18 and OR = 0.81, 95% CI 0.47–1.41, respectively). Interestingly, a higher mean score on entitlement to pleasure from self trended toward a slightly increased risk of a clinical sexual health outcome in the prior year (OR = 1.20, 95% CI 0.66–2.19). We replicated this analysis using a single model that simultaneously contained all FSSI factors and found that the direction of the point estimates did not change, with entitlement to pleasure from a partner and self-efficacy having protective trends (OR = 0.55, 95% CI 0.25–1.18, and 0.84, 95% CI 0.46–1.54, respectively) and entitlement to pleasure from self trending toward higher risk (OR = 1.35, 95% CI 0.69–2.67).

Orgasm frequency was relatively evenly distributed among the sample, with 40% of respondents ($n=83$) reporting they orgasm frequently during partnered sexual experiences, 27% ($n=56$) sometimes and 33% ($n=68$) rarely. Multivariate analysis revealed that there was a statistically significant association between four of the FSSI factors and increased orgasm frequency (Table 4). Higher scores on all factors except for sexual self-reflection were associated with a higher likelihood of orgasming frequently compared to infrequently. Self-efficacy in achieving sexual pleasure from a partner had the strongest

association with orgasm frequency, with those having a one-point increase in mean score having 4.28 (95% CI 2.47–7.43) times the odds of reporting that they orgasm frequently as compared to infrequently and 2.39 (95% CI 1.45–3.95) times the odds of reporting that they orgasm sometimes as compared to infrequently.

Categorizing women using entitlement to pleasure from partner and self-efficacy revealed significant differences in the distribution of orgasm frequency across groups (Fisher's exact test, $p < .001$) (Table 5). There were significant differences in the distribution of orgasm frequency between high efficacy/high entitlement respondents and low entitlement/low efficacy and low entitlement/low efficacy respondents (Fisher's exact test, $p < .001$ for both comparisons). Only 19% of women with high entitlement and low efficacy reported frequent orgasms, compared with 56% of women with high entitlement and high efficacy. There was no significant difference between the distribution of orgasm frequency between high entitlement/high efficacy and low entitlement/high efficacy groups (Fisher's exact test, $p = .87$). Similarly, there was no significant difference between high entitlement/low efficacy and low entitlement/low efficacy groups (Fisher's exact test, $p = .44$). There were no significant differences in the distribution of clinical sexual health outcomes across concordance statuses (Fisher's exact test, $p = .15$). The sample sizes in some of the cells were small given the distribution of our sample across concordance levels: most of our sample was categorized as high entitlement/high efficacy ($n = 90$), 36 women were high entitlement/low efficacy, 7 were low entitlement/high efficacy, and 10 were low entitlement/low efficacy.

Discussion

Despite the small sample size and low power of the study, we found novel, interesting trends. We hypothesized that higher scores on all sexual subjectivity factors would be inversely associated with the risk of clinical sexual health outcomes. This is because a study of Australian undergraduates found that scores on all FSSI factors were positively correlated with condom use self-efficacy (Zimmer-Gembeck & French, 2016), suggesting that higher sexual subjectivity across all factors is associated with an increased ability to advocate for one's sexual health. We anticipated that this would translate into a decreased risk of clinical sexual health outcomes with higher scores on sexual subjectivity factors. Our results were in this direction for two factors: entitlement to sexual pleasure from a partner and self-efficacy in sexual pleasure from a partner. However, the estimate of the effect of entitlement to sexual pleasure from self was opposite our hypothesized direction (increased risk of clinical sexual health outcomes with higher mean scores). It is important to acknowledge that

the small number of clinical outcomes in our study limited our power, but it is interesting to consider the possibility that different factors of the FSSI may operate differently in empowering women to advocate for their pleasure and safety during sexual activities. It is possible that women who have a high degree of entitlement to pleasure from themselves via masturbation struggle in communicating with a partner, and that entitlement to pleasure must be mediated with self-efficacy in open and effective communication with a sexual partner. Previous research supports this idea. A study by Satinsky and Jozkowski (2015) that evaluated the association between scores on two FSSI factors and verbal consent to receiving oral sex suggested that the two factors, while distinct, interact with each other in an important way. These researchers demonstrated that the effect of having higher entitlement to pleasure from a partner was wholly mediated by self-efficacy in obtaining pleasure. We did not perform a mediation analysis, but our results are consistent with the idea that self-efficacy plays a mediating role in the relationship between other elements of subjectivity and actual behavior during partnered sexual activity.

We did find significant associations between sexual subjectivity and orgasm frequency during partnered sexual activity. Some effect sizes are quite large, particularly the association between self-efficacy and orgasm frequency. As the FSSI was designed to capture women's experience of experiencing sexual pleasure from and within their bodies, this finding is unsurprising. Previous research has demonstrated positive associations between sexual subjectivity and overall sexual well-being (Zimmer-Gembeck & French, 2016) and explicit consent to receiving oral sex (Satinsky & Jozkowski, 2015), but our study is the first study to look at orgasm frequency. Our results support the FSSI as a useful measure of psychological constructs relevant to young women's sexual experience. Of note, we did not see an association between sexual self-reflection and orgasm frequency. This could be due to distress caused by anorgasmia in young women (O'Sullivan, Byers, Brotto, Majerovich, & Fletcher, 2016). Inability to orgasm is relatively common and can be distressing for young women, thus women experiencing difficulty achieving orgasm may actually spend more time thinking about their sex lives than other women (O'Sullivan et al., 2016). Researchers using the FSSI in the future should bear in mind the duality of the sexual self-reflection factor: that thinking frequently about one's sex life could be a positive and affirming activity or could be due to distress. Future research should seek to differentiate between positive sexual self-reflection that underlies the development of sexual subjectivity and negative sexual self-reflection due to sexual dysfunction or distress.

When we assessed the impact of discordance between entitlement to pleasure from partner and self-efficacy, an

Table 3 Adjusted^a logistic regression models of the association between mean scores on each FSSI factor and clinical sexual health outcome^b

FSSI factor	Coef (SE)	Adjusted odds ratio (e^{β})	95% Confidence interval for odds ratio
Sexual body esteem	0.08 (0.30)	1.09	0.61, 1.95
Entitlement to pleasure from self	0.18 (0.31)	1.20	0.66, 2.19
Entitlement to pleasure from partner	-0.57 (0.38)	0.56	0.27, 1.18
Self-efficacy	-0.21 (0.28)	0.81	0.47, 1.41
Sexual self-reflection	0.01 (0.33)	1.00	0.53, 1.91

$n = 188$; Women who did not have vaginal sex with a person with a penis in the past year were excluded from this analysis

^aAll models controlled for age (continuous) and estimated number of times an individual had vaginal sex with a person with a penis in the previous year (categorical variable). Each FSSI factor was modeled separately

^bHaving had an STI, an unwanted pregnancy, or used Plan B in the past year

interesting pattern emerged. The largest proportion of women had high levels of both entitlement and self-efficacy, but 17% of our sample reported high entitlement to pleasure from partner but had low self-efficacy. Women with this discordant pattern were significantly less likely to report frequent orgasms in partnered sexual activity compared to concordant high efficacy/high entitlement women. This could be in part because young women often develop an awareness of their sexuality and right to pleasure through engaging in sexual activity (Zimmer-Gembeck, Ducat, & Boislard-Pepin, 2011; Zimmer-Gembeck & Helfand, 2008). Even as young women internalize the idea that they are entitled to sexual pleasure, they may still struggle to navigate gender inequality and the sexual double standard while having sexual experiences with men (Tolman, 2012). Our results suggest that a sense of entitlement to pleasure alone may not enable women to achieve consistent orgasms with a partner. Rather, women may also need to be equipped with the tools to effectively communicate what they desire. Indeed, there was no significant difference in distribution of orgasm frequency between respondents who were low entitlement/high efficacy and those who were high entitlement/high efficacy, though it should be noted that only 7 women were low entitlement/high efficacy. Future research should use larger, more heterogeneous samples to validate these findings, as they may indicate that sexual health interventions for young women could be improved by focusing on increasing self-efficacy to pleasure from a partner.

We believe that our novel method of using the FSSI to categorize women according to discordance on entitlement to pleasure from partner and self-efficacy is an improvement over some previous metrics used to assess psychosocial

constructs related to women's sexual behavior. The Sexual Assertiveness Scale, for example, emphasizes a woman's ability to refuse sex as central to women's sexuality (Morokoff et al., 1997), supporting the pervasive cultural frame of men as sexual aggressors and women as gatekeepers of male sexual desire (Fine, 1988). The FSSI emphasizes a woman's active role in pursuit of sexual pleasure and enables researchers to measure sexual empowerment from a positive frame. Assessing multiple factors of the FSSI simultaneously and tracking concordance adds nuance to the scale, enabling researchers to follow the development of different factors over time and how factors interact with each other. Further, the use of mean values may obscure outlying responses of importance that occur within factors. Future research should quantitatively and qualitatively explore how women develop a sense of entitlement to pleasure, and what additional exposures are required to help women translate that sense of entitlement into self-efficacy in achieving it.

Our study has several limitations. Primarily, our small sample size and relatively few reported clinical sexual health outcomes limited our statistical power. As such, though we can evaluate trends in our data, we were unable to effectively test our hypothesis. Our results are therefore best viewed as preliminary and should be assessed using larger, heterogeneous sample sizes with greater statistical power. Future research should also consider including male participants as well as female. A validated scale to measure sexual subjectivity in men was published by Zimmer-Gembeck and French (2016).

Further, our sample was relatively homogenous, containing primarily young, white women. As an anonymous online

Table 4 Multinomial regression models^a of mean scores on each FSSI factor and self-reported orgasm frequency during partnered sexual activity

FSSI factor	Coef (SE)	Adjusted odds ratio (e^{β})	95% Confidence interval for odds ratio
Sexual body esteem			
Frequently orgasms	0.48 (0.25)*	1.62*	(1.00, 2.62)
Sometimes orgasms	0.35 (0.25)	1.41	(0.87, 2.30)
Infrequent orgasms	Ref		
Entitlement to pleasure from self			
Frequently orgasms	0.57 (0.27)*	1.77*	(1.05, 2.99)
Sometimes orgasms	-0.13 (0.25)	0.88	(0.54, 1.42)
Infrequent orgasms	Ref		
Entitlement to pleasure from partner			
Frequently orgasms	0.82 (0.34)	2.28*	(1.17, 4.45)
Sometimes orgasms	0.23 (0.33)	1.26	(0.66, 2.40)
Infrequent orgasms	Ref		
Self-efficacy			
Frequently orgasms	1.46 (0.28)**	4.28**	(2.47, 7.43)
Sometimes orgasms	0.87 (0.26)**	2.39**	(1.45, 3.95)
Infrequent orgasms	Ref		
Sexual self-reflection			
Frequently orgasms	0.17 (0.27)	1.19	(0.70, 2.03)
Sometimes orgasms	-0.05 (0.29)	0.95	(0.54, 1.67)
Infrequent orgasms	Ref		

$n = 207$; Women who did not report orgasm frequency were excluded from this analysis

^aModels were adjusted for relationship status (mutually monogamous relationship, non-monogamous relationship, and no relationship) and age (continuous). Each FSSI factor was modeled separately

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

survey, we cannot conclusively verify the veracity of our survey responses. The fact that we offered no monetary incentive for completion likely contributed to the small sample size, but also likely reduced the chance that people fraudulently took the survey for financial motives (Teitcher et al., 2015). Additionally, we evaluated reported age by reported UW affiliation

to look for obvious discrepancies (e.g., someone reporting to be 18 years old and an alumna) and found none. We also asked added a question among the FSSI questions to assess engagement, which asked participants to select “Agree” if they were still paying attention to the survey. One hundred percent of the participants in our sample selected “Agree” for that question, which gave us reasonable assurance that participants were actively engaged in the survey.

Due to our lack of a randomized sampling frame, our results are limited to a self-selected sample of women who may have relatively high sexual subjectivity. However, our mean FSSI scores were similar to those in another study conducted using the FSSI in an American university-based population (Satinsky & Jozkowski, 2015). Our sample came from the University of Washington, which is a large public university located in Seattle, and thus our results may not be generalizable to dissimilar populations. Because we conducted a cross-sectional survey, we are unable to make any causal claims regarding the associations observed. It is plausible that orgasm frequency impacts sexual subjectivity and not the other way around.

Our lookback period may present a limitation. Twelve months was selected as a lookback period to maximize the chance of observing the outcomes of interest while also minimizing the chance that the FSSI score would have changed substantially over the time period. Though it has been demonstrated that FSSI scores can change appreciably over 12 months, this change is most pronounced in women with no sexual experience and those who have sex for the first time during that period (Zimmer-Gembeck et al., 2011). We excluded women with no sexual experience from this study, and previous research suggests that the proportion of women who initiated coitus during our study period would likely be small (Zimmer-Gembeck et al., 2011), and thus we felt one year was an appropriate lookback period. Finally, we did not use a validated measure of orgasm frequency, which precludes comparison with other studies that did use validated measures, and prevents us from drawing any conclusions about other aspects of orgasm beyond frequency.

Our results expand upon the growing body of literature looking at young women’s attitudes and empowerment as an important component of sexual health research and interventions (Mastro & Zimmer-Gembeck, 2015; Satinsky & Jozkowski, 2015; Tolman & McClelland, 2011; Zimmer-Gembeck, 2013; Zimmer-Gembeck & French, 2016). Though we were not able to effectively evaluate our hypothesis that sexual subjectivity scores were associated with clinical sexual health outcomes, we nonetheless believe that our results contribute important new knowledge to this body of work. We hope that future research will use larger studies to evaluate the relationship between subjectivity and sexual health outcomes such as STIs or unwanted pregnancy. If there

Table 5 Distributions of partnered orgasm frequency were significantly different across concordance configurations for self-efficacy and entitlement to pleasure from a partner^a

Orgasm frequency	High efficacy, high entitlement (<i>N</i> =88)		Low efficacy, high entitlement (<i>N</i> =36)		High efficacy, low entitlement (<i>N</i> =7)		Low efficacy, low entitlement (<i>N</i> =10)	
	<i>n</i>	(%)	<i>n</i>	(%)	<i>n</i>	(%)	<i>n</i>	(%)
Frequently	48	(55.6)	7	(19.4)	5	(71.4)	0	(0)
Sometimes	24	(27.3)	8	(22.2)	1	(14.3)	2	(20)
Rarely	16	(18.2)	21	(58.3)	1	(14.3)	8	(80)

Fisher's exact test, $p < .001$ ^aSixty-six women were excluded from this analysis due to answers of “neither agree nor disagree” on the questions in the relevant factors; 2 women were excluded due to not reporting orgasm frequency

is a connection between sexual subjectivity and the risk of adverse outcomes, this could strengthen the argument for including more information about pleasure and communication in sexual health education and research.

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Compliance with Ethical Standard

Conflict of interest The authors declare that they have no conflict of interest.

Ethical Approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards.

Informed Consent Informed consent was obtained from all individual participants included in the study.

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