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Not All Orgasms Were Created Equal: Differences in Frequency and Satisfaction of Orgasm Experiences by Sexual Activity in Same-Sex versus Mixed-Sex Relationships

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Which sexual activities result in the most frequent and most satisfying orgasms for men and women in same- and mixed-sex relationships? The current study utilized a convenience sample of 806 participants who completed an online survey concerning the types of sexual activities through which they experience orgasms. Participants indicated how frequently they reached orgasm, how satisfied they were from orgasms resulting from 14 sexual activities, and whether they desired a frequency change for each sexual activity. We present the overall levels of satisfaction, frequency, and desired frequency change for the whole sample and also compare responses across four groups of participants: men and women in same-sex relationships and men and women in mixed-sex relationships. While all participants reported engaging in a wide variety of activities that either could, or often did, lead to the experience of orgasm, there were differences in the levels of satisfaction derived from different types of orgasms for different types of participants, who also engaged in such activities with varying degrees of frequency. We discuss group differences within the context of sexual scripts for same- and mixed-sex couples and question the potential explanations for gender differences in the ability to experience orgasm during partnered sexual activity.

For many people, the experience of orgasm is viewed as the "end goal" of sexual activity (Potts, 2000). In fact, the frequency with which individuals achieve orgasm and the satisfaction that they derive from orgasms are often considered markers of both relationship and sexual satisfaction (Haavio-Mannila & Kontula, 1997; Mah & Binik, 2005). Although researchers often study gender differences in orgasm experiences, we know very little about how orgasm experiences differ at the intersections of gender and sexual identity. As a result, the literature is unable to provide clear answers concerning whether same-sex and mixed-sex couples differ in the types of sexual activities that are most likely to elicit frequent and satisfying orgasms. More specifically, we currently understand very little about how existing gender differences in orgasm experiences may differ as a function of relationship type. Documenting such differences can provide clinicians with a better understanding of the sexual repertoires of clients in same- versus mixed-sex relationships and will potentially elucidate strategies that either group can borrow from the other to expand their partnered sexual experiences.

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GENDER DIFFERENCES IN ORGASM

Evidence suggests the subjective experience and neurological underpinnings of orgasm are comparable across genders (Georgiadis, Reinders, Paans, Renken, & Kortekaas, 2009; Mah & Binik, 2002; Vance & Wagner, 1976). Despite these documented similarities, there are

notable gender differences regarding the context in which orgasm occurs.

Men[1] typically experience their first orgasm after puberty; and in adulthood, they experience orgasm quite consistently (Hite, 1982; Janus & Janus, 1993; Richters, Visser, Rissel, & Smith, 2006), often reporting experiences of orgasm in 85% to 95% of their partnered sexual activities (Laumann, Gagnon, Michael, & Michaels, 1994). However, women's masturbation debut is later, more variable, and their attainment of orgasm from partnered activity is less predictable (Wallen & Lloyd, 2011). Women typically report orgasm experiences in 40% to 65% of their partnered sexual activities (Haavio-Mannila & Kontula, 1997; Haning et al., 2007; Hurlbert, Apt, & Rabehl, 1993; Shackelford et al., 2000; Singh, Meyer, Zambarano, & Hurlbert, 1998; Thornhill, Gangestad, & Comer, 1995). One reason for the gender gap in orgasm frequency may be that typical heteronormative sexual scripts tend to favor sexual activities that are more likely to result in orgasms for men than for women (e.g., penile-vaginal intercourse). This gap is reinforced by views dictating that women be more passive in their sexuality, while men's sexuality is permitted to focus on their ability, performance, and competence (Tiefer, 2004). Coupled with what Potts (2002) refers to as the "coital imperative," heteronormative scripts appear to give a greater degree of agency to men than to women, especially in matters concerning pleasure.

Gender Differences in Orgasm As a Function of Sexual Activities

For women, orgasm during sexual activity can occur from clitoral and/or vaginal stimulation, though the clitoris is the primary sensory source for triggering orgasms in women (Mah & Binik, 2001). While the clitoris can occasionally be stimulated during penetrative vaginal intercourse (either directly or indirectly), the majority of women indicate that they do not usually orgasm from penetration alone (Lloyd, 2005). Compared to other sexual activities during which the clitoris is directly stimulated (e.g., manual–genital or oral–genital simulation), women are least likely to experience orgasm during penile–vaginal intercourse (e.g., Kinsey, Pomeroy, Martin, & Gebhard, 1953; Laumann et al., 1994). While the majority of men indicate that they usually or always orgasm during penile–vaginal intercourse (Janus & Janus, 1993), the majority of women indicate that they usually do not orgasm as a result of vaginal penetration (Lloyd, 2005).

Women report that they are more likely to experience orgasm during nonpenetrative partnered activities, specifically those that directly stimulate the clitoris. For example, Fugl-Meyer, Oberg, Lundberg, Lewin, and Fugl-Meyer (2006) found that 83% of their female sample reported orgasms from manual genital caressing and 69% reported orgasm from receiving oral sex. Despite the higher frequency of orgasm from nonpenetrative activities, the *Janus Report on Sexual Behavior* found that only 18% of women have a preference for achieving orgasm through oral sex, whereas 69% prefer to reach orgasm through penetration (Janus & Janus, 1993). However, these self-reported preferences may be highly influenced by what women believe to be "normative" sexual experiences (Potts, 2002), rather than based on their actual objective comparison of experiences of orgasms during different sexual activities. Women's preferences for penetration-derived orgasms may also be a function of sexual scripts placing a greater emphasis on the male orgasm, such that a woman's orgasm experience during, or while facilitating, male orgasm may be viewed as a more "proper" form of sexual activity, emphasizing the frequent conflation of sex and male orgasm (Braun, Gavey, & McPhillips, 2003). This pattern may have the unfortunate consequence of women being less likely to report a preference for orgasms experienced as a result of oral sex, despite their apparent greater ability to achieve orgasm through such activities.

Gender Differences in Preferences for Sexual Activity

Given the gender differences in the rates of orgasm during different sexual activities, it is not surprising that there are gender differences in preferences for, and enjoyment of, different sexual activities. Men rate penile–vaginal intercourse as more pleasurable than do women (e.g., Haavio-Mannila & Kontula, 1997; Holmberg & Blair, 2009). Indeed, in comparison to other partnered sexual activities, men prefer intercourse to stimulation by partner's hand, mouth, or other means (Purnine, Carey, & Jorgensen, 1994).

With respect to nonpenetrative partnered sexual activities, men also seem to enjoy performing and receiving oral sex more so than women (e.g., Galinsky & Sonenstein, 2011; Pinkerton, Cecil, Bogart, & Abramson, 2003; Purnine et al., 1994). Pinkerton and colleagues (2003) asked undergraduates to rate the pleasurableness of different sexual acts, regardless of whether they had experience engaging in the act(s). The authors found that men rated performing oral sex as more pleasurable than did women. Interestingly, whether or not male respondents had previous experience performing oral sex did not significantly affect their pleasure ratings, whereas female respondents who had performed oral sex rated it as significantly less pleasurable than females who had not. The same study found that women reported more pleasure from manual–genital stimulation by a partner than did men (Pinkerton et al., 2003). Women have also reported a greater preference for more tender (e.g., hugging, talking), sensual (e.g., kissing, having breasts stimulated by partner), or erotic (e.g., dancing or undressing for a partner) sexual activities than men (Holmberg & Blair, 2009).

Sexual Orientation Differences in Sexual Behavior and Orgasm

The vast majority of human sexuality research has focused on sexual activities within the scope of heternormative relationships. Recently, there has been a call for the

increased application of inclusive research methods, which seek to include more diverse experiences within the scope of sexuality research (Andersen & Zou, 2015; Blair, 2016). In particular, this perspective has led to a growing interest in understanding diverse sexualities and the increased inclusion of lesbian, gay, bisexual, transgender, and queer/questioning (LGBTQ; also referred to as queer in this article) participants in human sexuality research. The available data suggest there are indeed differences between heterosexual and queer individuals when it comes to sex.

One of the most telling differences identified to date has been that penile penetration (i.e., vaginal and/or anal penetration) occurs less often in same-sex sexual activity than it does in mixed-sex sexual activity (de Visser, Smith, Rissel, Richters, & Grulich, 2003; Grulich, de Visser, Smith, Rissel, & Richters, 2003; Laumann et al., 1994). This finding is not surprising for women in same-sex relationships; however, it may be of some surprise for men in same-sex relationships, given that anal sex is so often the focus of research on male same-sex sexual behavior, largely due to a risk-centered approach focused on human immunodeficiency virus (HIV) transmission. However, multiple studies have found that anal sex is practiced less often than mutual masturbation and oral sex (both giving and receiving) in male same-sex relationships (Rosenberger et al., 2011).

The most common sexual activities for women to engage in during same-sex sexual activity are manual stimulation of the genitals (either inside the vagina or externally on the vulva), oral sex, and rubbing genitals together (Bailey, Farquhar, Owen, & Whittaker, 2003; Schick, Rosenberger, Herbenick, & Reece, 2012). Given that men are more likely to orgasm from penetrative activities, while women are more likely to experience orgasm from clitoral stimulation, one might hypothesize that women engaging in same-sex sexual activity would experience more orgasms than heterosexual women, whereas men engaging in same-sex sexual activity might experience fewer orgasms than heterosexual men.

Indeed, research has long suggested that women in same-sex relationships experience frequent and intense orgasms (Kinsey et al., 1953), perhaps to a greater extent than heterosexual women (Bressler & Lavender, 1986). On the other hand, while men in same-sex relationships experience enjoyable sex and frequent orgasms (Rosenberger et al., 2011), it appears that orgasm may occur less frequently in their partnered sexual activities than it does for men in mixed-sex relationships (e.g., Grulich et al., 2003; Richters et al., 2006).

In a recent study conducted with 2,850 single men and women in the United States, Garcia, Lloyd, Wallen, and Fisher (2014) investigated the differences in occurrence of orgasm (defined as the percentage of the time during sex that one reaches orgasm) with a familiar sexual partner among individuals of various sexual orientations. The results suggested that heterosexual, gay, and bisexual men do not differ in how frequently they experience orgasm. In contrast, significant differences among women of different sexual identities were found, such that lesbians had significantly higher rates of orgasm than self-identified heterosexual and bisexual women, with bisexual women reporting the lowest rate of orgasm.

The study provided important new insights into how orgasm experiences differ as a function of sexual orientation. However, there were some methodological issues that limited the application and generalizability of the results. Specifically, the grouping of individuals solely based on their self-identified orientation within the Garcia et al. (2014) study is problematic, as an individual's self-identified sexual identity does not always accurately predict the gender of their sexual partners (Diamond, 2000; Vrangalova & Savin-Williams, 2010). The study also noted the lack of available information in determining the type of relationship that bisexual participants were reporting on, such that this group of participants within the study was likely a mixture of individuals reporting on same-sex and mixed-sex relationships.

CURRENT STUDY

In many cases the so-called orgasm gap has been examined by determining differences in orgasm frequency in men and women. What remains missing from the literature is an examination of satisfaction. Are all orgasms from all activities equally satisfying? Are there certain activities that are both reliable in producing orgasmic experiences and are also rated as the most satisfying of orgasmic experiences? Or, perhaps, are all orgasms equally satisfying, such that so long as an orgasm occurs, then a relatively equal amount of satisfaction has also been achieved? The current study sought to shed light on these questions by examining not only frequency of orgasm across different genders and relationship types but also the self-reported levels of satisfaction that individuals derive from orgasms resulting from different sexual activities. Together, this information may paint a clearer picture of the orgasm gap and provide potential suggestions for closing the gap by helping couples and individuals focus on (or at least include in their sexual repertoire) activities most likely to result in not only frequent or reliable orgasms but also the most satisfying of orgasms.

Thus, the current study sought to examine elements of satisfaction and frequency associated with various sexual activities across a sample of men and women in mixed-sex and same-sex relationships. In addition, we sought to specifically investigate experiences of orgasm resulting from various sexual activities with respect to questions of frequency and satisfaction across various relationship types (same sex/mixed sex), allowing for a simultaneous comparison of the contributions of gender and relationship type.

METHOD

Participants

Participants were recruited to participate in a larger study of "contemporary relationship experiences" through the use of

online advertisements, messages sent to electronic mailing lists, on-campus announcements, in-print magazine ads, snowballing methods, and invitations sent to previous study participants. To be eligible to participate, participants needed to be in a romantic relationship, have access to the Internet, be 18 years of age or older, and be capable of completing a questionnaire in the English language. Specific efforts were made to recruit a sexually diverse sample through the placement of targeted advertisements directed at LGBTQ communities and interests. The use of the Internet to recruit participants and deliver the survey facilitated the recruitment of a large sample, with nearly one-half of the sample currently within a same-sex relationship. Past research has noted similar success, with Internet research allowing more diverse convenience samples to be collected, as compared to standard on-campus and local community recruiting efforts (Gosling & Mason, 2015). Furthermore, when comparing to the average non–nationally representative sample collected in psychological literature, large Internet samples tend to be significantly more diverse (Gosling, Vazire, Srivastava, & John, 2004). Finally, when studying potentially sensitive information, such as the nature of one's orgasm experiences, offering a survey through an online environment may increase the feeling of anonymity and may increase the number and type of participants interested in completing such a survey (Gosling & Mason, 2015).

A total of 1,294 individuals accessed the online survey. Of these, 63 did not respond to any questions at all, 115 were removed from the analysis because they indicated that they were not currently in a romantic relationship, 15 did not answer the relevant questions based on a current partner, and 294 did not provide responses to the relevant questions used in the current analysis. There were no significant demographic differences between those who answered the relevant questions and those who did not. The remaining 806 participants ranged in age from 18 to 79, with a mean age of 30 (*SD* = 10.65). The majority of participants identified as women (61.4%), White (90.1%), and predominantly resided in Canada (38.7%), the United States (45.4%), or other large Western nations (e.g., United Kingdom, Australia; 10.4%).[2] Although all of the participants identified as cisgender, 9 (1.1%) indicated that their current partner identified as either a trans man or trans woman. Participants were well educated, with the majority reporting having at least an undergraduate degree, although more than half of the sample (64.2%) reported personal annual incomes less than $36,000.[3] Nearly half of the sample reported identifying with the labels *gay* or *lesbian* (47.9%), slightly fewer identified as *straight* (44.3%), and a minority reported identifying as *bisexual* (5.4%) or *unlabeled* (2.5%). All participants were in romantic relationships, the average length of which was 52.9 months, or nearly 4.5 years. No participants reported being in multiple relationships at the time of completing the questionnaires. Relationship duration varied greatly, from as little as one week to a maximum of just over 38 years (*SD* = 68.4 months). Just over half of the relationships were classified as being same sex (51.1%). Table 1 presents the demographic and relationship variables of the full sample.

Measures

Personal and Relationship Demographics. Participants were asked to provide a number of personal and relational demographics, including their gender (male, female, trans woman, trans man), sexual identity (lesbian, gay, bisexual, straight, unlabeled), sexual orientation (heterosexual, homosexual, bisexual, other), age, personal and household income, education level, ethnicity, nationality, length of relationship (in months), gender of their partner, and the stage of their relationship (e.g., dating, engaged, common law/married).

Sexual Satisfaction Inventory. Sexual satisfaction, frequency, and desired frequency change were derived using a modified version of the 32-item Sexual Satisfaction Inventory (SSI; Whitley, 1998). The current analysis examined 14 (13 original and one additional) items from the SSI, which either pertained to experiences of orgasm, experiences that could potentially lead to orgasm, or experiences of not reaching orgasm during sexual activity. Participants were asked to indicate the level of sexual satisfaction they derive from each activity, ranging from 1 (*No satisfaction*) to 5 (*Maximum satisfaction*). Participants responded *Not applicable* to any items that were not currently part of their sexual repertoire. No concrete time period was provided to participants, as they were just asked to rate the level of satisfaction that they derive from these activities, in general, within the context of their current romantic relationship. An example of an item related to experiences of orgasm was "Orgasm experienced with vaginal intercourse only," while an example of an item pertaining to an activity that could potentially lead to orgasm (but may not) was "Sexual intercourse or penetration with your partner."

Although the original SSI does not include an indication of frequency, we modified the questionnaire to ask participants to indicate the frequency with which they reached orgasm for the orgasm-related items. These items specifically asked participants about orgasm occurring as a result of various activities. Once again, no specific timeline was provided, as the question was primarily aimed at assessing the frequency with which they achieved orgasm when participating in the sexual activity, not how often, in general, each type of orgasm occurred. Participants responded using a 6-point scale, ranging from 0 (*Never*) to 5 (*Always*). For example, for orgasms resulting from vaginal intercourse alone, participants indicating a response of 0 would be indicating that they never had orgasms as a result of vaginal intercourse alone (e.g., without any other form of stimulation), while participants responding 4 would be indicating that when they engaged in vaginal intercourse with no other form of stimulation, they almost always experience an orgasm.

Table 1. *Sample Demographics Split by Relationship Type and Group*

	Same Sex (n = 412)		Mixed Sex (n = 394)	
Demographic	**Female (n = 207)**	**Male (n = 205)**	**Female (n = 288)**	**Male (n = 106)**
Age, *M* (*SD*)	31.79 (11.49)	36.05 (12.75)	25.25 (6.27)	27.95 (6.50)
Sexual orientation, *n* (%)				
Heterosexual	3 (1.4)	0 (0)	256 (88.9)	100 (94.3)
Homosexual	159 (76.8)	193 (94.1)	5 (1.7)	3 (2.8)
Bisexual	25 (12.1)	5 (2.4)	20 (6.9)	1 (0.9)
Queer	18 (8.7)	6 (2.9)	5 (1.7)	1 (0.9)
Pansexual	2 (1.0)	1 (0.5)	2 (0.7)	0 (0)
Sexual identity, *n* (%)				
Gay	9 (4.3)	197 (96.1)	0 (0)	2 (1.9)
Lesbian	171 (82.6)	0 (0)	2 (0.7)	0 (0)
Bisexual	17 (8.2)	5 (2.4)	21 (7.3)	0 (0)
Straight	3 (1.4)	0 (0)	249 (86.5)	101 (95.3)
Unlabeled	4 (1.9)	0 (0)	13 (4.5)	2 (1.9)
Education, *n* (%)				
Less than high school	2 (1.0)	2 (1.0)	0 (0)	0 (0)
High school	29 (14.0)	19 (9.3)	36 (12.5)	12 (11.3)
College degree	28 (13.5)	40 (19.5)	31 (10.8)	19 (17.9)
Some college/university	75 (36.2)	68 (33.2)	97 (33.7)	30 (28.3)
University undergraduate degree	41 (19.8)	39 (19.0)	76 (26.4)	24 (22.6)
Graduate degree	32 (15.5)	37 (18.0)	48 (16.7)	21 (19.8)
Household annual income, *n* (%)				
< $20,000	37 (17.9)	22 (10.7)	47 (16.3)	16 (15.1)
$20,000–$35,999	28 (13.5)	22 (10.7)	42 (14.6)	20 (18.9)
$36,000–$55,999	37 (17.9)	26 (12.7)	47 (16.3)	16 (15.1)
$56,000–$75,999	25 (12.1)	27 (13.2)	35 (16.3)	11 (10.4)
$76,000–$99,999	16 (7.7)	27 (13.2)	20 (6.9)	7 (6.6)
$100,000–$150,999	28 (13.5)	31 (15.1)	31 (10.8)	11 (10.4)
$151,000–$200,999	6 (2.9)	18 (8.8)	7 (2.4)	4 (3.8)
> $201,000	10 (4.8)	12 (5.9)	12 (4.2)	2 (1.9)
Nationality				
American	144 (69.6)	168 (82.0)	32 (11.1)	22 (20.8)
Canadian	33 (15.9)	23 (11.2)	233 (80.9)	23 (21.7)
Other	30 (14.5)	14 (6.8)	23 (8.0)	61 (57.5)
Gender of partner, *n* (%)				
Partner is male	0 (0)	204 (99.5)	285 (99.0)	0 (0)
Partner is female	202 (97.6)	0 (0)	0 (0)	106 (100)
Partner is MtF	5 (2.4)	(0)	0 (0)	0 (0)
Partner is FtM	0 (0)	1 (0.5)	3 (1.0)	0 (0)
Relationship length in months, *M* (*SD*)	43.84 (52.27)	82.53 (95.38)	40.24 (48.81)	43.71 (56.63)
Relationship stage, *n* (%)				
Casually dating	4 (2.0)	4 (2.0)	10 (3.5)	4 (3.8)
Seriously dating	99 (47.8)	91 (44.4)	172 (59.7)	58 (54.7)
Engaged	27 (13.0)	17 (8.3)	29 (10.1)	17 (16.0)
Married	28 (13.5)	23 (11.2)	48 (16.7)	26 (24.5)
Separated	1 (0.5)	0 (0)	0 (0)	0 (0)
Common law	11 (5.3)	4 (2.0)	25 (8.7)	1 (0.9)
Domestic partnership	33 (15.9)	59 (28.8)	3 (1.0)	0 (0)
Civil union	4 (1.9)	5 (2.4)	1 (0.3)	0 (0)
Decline response	0 (0)	2 (1.0)	0 (0)	0 (0)

Finally, we also added a question to assess desire for a change in frequency for five items that related to sexual activities, but not specifically to types of orgasms. Desire for frequency change was not assessed for the orgasm in order to focus on frequency change associated with actual sexual behaviors instead of sexual outcomes (orgasms). This decision was based upon the assumption that individuals have a certain degree of agency in determining which sexual activities they engage in, but may not have the same perceived control over their ability to achieve orgasm through various activities. Participants were asked to indicate whether they desired the frequency with which they engaged with each activity to change in the future. Using a 5-point scale, participants could indicate the extent to which they desired a change in the frequency with which they engaged in each activity using the following scale:

Table 2. *SSI Items and Full Sample Descriptive Statistics*

	Satisfaction	Frequency	Frequency Change
	1–5 (High = More Satisfaction)	0 (Never); 5 (Always)	1 (More); 3 (Same); 5 (Less)
SSI Item	***M* (*SD*)**	***M* (*SD*)**	***M* (*SD*)**
Nonorgasm items			
Oral–genital stimulation of you by your partner	4.33 (1.01)	2.99 (1.52)	2.29 (.85)
Oral–genital stimulation of your partner by you	4.01 (1.13)	3.02 (1.42)	2.52 (.89)
Sexual intercourse with your partner (or penetration)	4.45 (1.00)	3.59 (1.37)	2.35 (.91)
Manual stimulation by your partner of your genital area	4.27 (1.14)	3.46 (1.27)	2.51 (.84)
Self-stimulation of your genital area	3.86 (1.14)	2.30 (1.38)	2.94 (.71)
Sexual activity with your partner without experiencing orgasm (or climax of any kind)	3.45 (1.14)	2.03 (1.28)	3.19 (.94)
Orgasm experienced more than once during a single sexual experience	4.41 (1.00)	1.85 (1.40)	2.01 (.84)
Orgasm items			
Orgasms with vaginal intercourse only	3.80 (1.26)	2.04 (1.80)	n/a
Orgasms with vaginal intercourse and clitoral stimulation	4.54 (0.92)	2.98 (1.82)	n/a
Orgasms with clitoral manipulation by your partner	4.30 (1.00)	3.01 (1.63)	n/a
Orgasms with clitoral manipulation by yourself	4.01 (1.17)	3.32 (1.74)	n/a
Orgasms with oral–genital contact	4.29 (1.00)	2.87 (1.64)	n/a
Orgasms with anal entry	3.61 (1.57)	1.71 (1.84)	n/a
Orgasms from hand–penis stimulation*	4.10 (0.93)	3.43 (1.40)	n/a

Notes. *Not an original SSI item; n/a = not applicable or not asked.

1 = *Much more*, 2 = *A bit more*, 3 = *About the same*, 4 = *A bit less*, or 5 = *Much less*.

Table 2 presents a summary of the items from the SSI which were used and which questions (satisfaction, frequency, frequency change) were assessed for each item, along with full sample descriptive statistics.

Procedure

The study was completed online, with participants initially setting up a user account by registering and selecting a self-determined username and password after completing an informed consent process. The materials and procedures for this study were reviewed and approved by the Queen's University Research Ethics Board. Participants then used these login credentials to access the survey; this login information also provided participants with the ability to save their progress and return at a later time. Participants received participation points as they progressed through the surveys, as per Blair & Holmberg, 2008. Points could be entered into prize draws (1 point = 1 entry) or could be donated to a variety of different charities (1,000 points = $1 donation). The average participant earned between 4,000 and 6,000 points during their participation.

RESULTS

Data Considerations

Prior to conducting any analyses, the data were cleaned and evaluated for violation of assumptions. Participants were then grouped according to their gender and relationship type, resulting in four groups: women in same-sex relationships, men in same-sex relationships, women in mixed-sex relationships, and men in mixed-sex relationships. While this grouping does not allow for comparisons to be made as a function of sexual identity (e.g., gay, lesbian, bisexual, straight), we would argue that relationship type and the gender of one's partner is likely to be a more influential factor in altering one's orgasmic experiences than one's self-identified sexual identity label (Blair & Pukall, 2014; Blair, Pukall, Smith & Cappell, 2015; Blair, 2016). All group comparisons were conducted using these four groups unless a particular activity was not relevant for a specific group (e.g., clitoral stimulation for men in same-sex relationships).

Table 1 presents the sample sizes for each group. Groups differed from one another on two demographic variables: age and relationship length, such that all four groups differed significantly in age, and men in same-sex relationships reported slightly longer relationships than the other three groups. Consequently, age and relationship length were used as covariates in all group comparison analyses.

In all cases, the variables to be compared were either ordinal or violated the assumption of normality. Consequently, nonparametric analyses of covariance (ANCOVAs) were used to assess group differences, following the procedure outlined by Quade (1967), in which each variable was ranked and then the ranked covariates (age and relationship length) were regressed upon the ranked version of the variable in question. Analyses of variance (ANOVAs) were run using the saved residuals from the regressions and therefore means reported are the means of the saved residuals. For ease of comparison within activities, satisfaction,

frequency, and, where applicable, desired frequency change are presented together for each activity, where each activity/type of orgasm corresponds to a single item on the SSI. Table 3 presents the actual means and standard deviations for each item analyzed from the SSI, separated by relationship type group.

Independent samples *t* tests were used for activities applicable only to either men or women. Bonferroni corrections were not applied despite the large set of analyses, which would have reduced the corrected alpha value to a value so low that it would have been almost impossible to reject any of the null hypotheses and this would therefore inflate Type II errors (Perneger, 1998). Actual *p* values are therefore reported.

Partnered Sexual Activity Without Orgasm

Satisfaction and Frequency. Groups did not significantly differ from one another concerning the degree of satisfaction derived from participating in partnered sexual activities without orgasm, $p = .829$; however, the frequency of this experience varied significantly among the groups, F (3, 689) = 4.15, $p = .006$, $\eta^2 = .02$. Women in mixed-sex relationships ($M = 38.40$, $SD = 220.44$) reported sexual activity without orgasm more frequently than men ($M = -24.60$, $SD = 197.84$, $p = .012$) and women ($M = -17.90$, $SD = 210.97$, $p = .039$) in same-sex relationships. Men in mixed-sex relationships did not differ significantly from the other three groups ($M = -18.00$, $SD = 214.79$, $p = .135$).

Desired Frequency Change. There were no significant group differences in desired frequency change for experiencing sexual activity without orgasm, Welch's F (3, 286.533) = 2.57, $p = .05$.

Receiving Oral–Genital Stimulation

Satisfaction. The level of satisfaction reported based on receiving oral–genital stimulation (regardless of orgasm occurrence) differed significantly among the four relationship types, Welch's F (3, 297.802) = 3.03, $p = .028$, $\eta^2 = .01$. Games-Howell post hoc comparisons revealed that women in same-sex relationships ($M = 30.40$, $SD = 178.90$) reported deriving significantly more satisfaction from this activity than women in mixed-sex relationships ($M = -27.67$, $SD = 211.19$, $p = .015$). No other group differences existed, with men in same-sex ($M = 2.60$, $SD = 189.54$) and mixed-sex ($M = 7.67$, $SD = 195.37$) relationships reporting roughly equal satisfaction levels, which lay in between the extremes of women in same-sex and mixed-sex relationships.

Frequency. Groups also differed in the frequency with which they received oral–genital stimulation from their partners, Welch's F (3, 302.39) = 12.00, $p < .001$, $\eta^2 = .05$. Games-Howell post hoc tests revealed that men ($M = 58.64$, $SD = 202.00$) and women in same-sex ($M = 29.75$, $SD = 235.41$) relationships reported a greater frequency than men ($M = -47.14$, $SD = 216.33$, $p = .001$ and $p = .044$, respectively) and women in mixed-sex ($M = -50.66$, $SD = 220.63$, $p < .001$ and $p = .002$, respectively) relationships, but that men and women within each relationship type did not significantly differ from each other.

Desired Frequency Change. Groups differed significantly in their desire for a change in frequency of receiving oral–genital stimulation from their partners, Welch's F (3, 310.78) = 6.97, $p < .001$. Games-Howell post hoc comparisons revealed that men in mixed-sex relationships differed significantly from all other groups such that they reported a desire for the greatest increase in frequency of receiving oral–genital stimulation ($M = 78.27$, $SD = 185.55$) compared to women in same-sex relationships ($M = 7.34$, $SD = 195.71$, $p = .022$), men in same-sex relationships ($M = -7.13$, $SD = 199.17$, $p = .003$), and women in mixed-sex relationships ($M = -28.30$, $SD = 203.27$, $p < .001$). The other three groups did not differ significantly from one another.

Providing Oral–Genital Stimulation

Satisfaction. Groups significantly differed concerning the degree of satisfaction derived from providing oral–genital stimulation to their partner, F (3, 689) = 18.58, $p < .001$, $\eta^2 = .08$. Tukey's post hoc analyses revealed that women in mixed-sex relationships ($M = -76.89$, $SD = 211.10$) derived significantly less satisfaction from providing oral–genital stimulation than the other groups: men in mixed-sex relationships ($M = 21.49$, $SD = 206.47$, $p = .001$), men in same-sex relationships ($M = 30.54$, $SD = 200.16$, $p < .001$), and women in same-sex relationships ($M = 61.94$, $SD = 195.87$, $p < .001$).

Frequency. Groups significantly differed in the frequency with which they reported providing oral–genital stimulation to their partner, F (3, 697) = 6.02, $p < .001$, $\eta^2 = .03$. Tukey's post hoc analyses revealed a number of group differences, such that men in same-sex relationships ($M = 55.22$, $SD = 207.69$) engaged in this activity more often than individuals in the other three relationship types: women in same-sex relationships ($M = -6.86$, $SD = 233.59$, $p = .032$), and men ($M = -26.43$, $SD = 224.62$, $p = .020$) and women ($M = -29.02$, $SD = 212.29$, $p < .001$) in mixed-sex relationships.

Desired Frequency Change. Groups differed significantly in their desire for a change in frequency of providing oral–genital stimulation to their partners, Welch's F (3, 301.71) = 16.98, $p < .001$. Games-Howell post hoc comparisons revealed that men in mixed-sex relationships ($M = 84.95$, $SD = 202.45$) reported a greater desire to increase their frequency of providing oral–genital stimulation than women in mixed-sex relationships

Table 3. *SSI Descriptive Statistics Separated by Relationship Type Group*

	Satisfaction								Frequency								Frequency Change							
	MSS		MMS		FSS		FMS		MSS		MMS		FSS		FMS		MSS		MMS		FSS		FMS	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Nonorgasm items																								
1.	4.39	.87	4.37	.99	**4.52**	.85	4.13	1.20	3.46	1.30	2.62	1.52	3.25	1.55	2.58	1.52	2.33	.87	1.93	.86	2.24	.82	2.44	.82
2.	4.26	.94	4.18	.99	4.32	1.04	3.54	1.21	3.43	1.25	2.85	1.51	3.04	1.50	2.75	1.39	2.49	.86	2.11	.90	2.31	.92	2.85	.78
3.	**4.62**	.81	**4.72**	.65	4.27	1.11	4.37	1.02	2.94	1.45	3.89	1.19	3.60	1.31	**3.94**	1.27	2.10	.91	1.99	.91	2.47	.86	2.59	.86
4.	4.23	.90	4.22	.91	4.50	.81	4.16	1.06	3.38	1.23	3.06	1.37	**3.75**	1.19	3.44	1.25	2.47	.87	2.20	.97	2.50	.77	2.65	.78
5.	4.19	.87	3.61	1.00	3.78	1.26	3.77	1.23	3.14	1.08	2.29	1.35	1.90	1.33	1.97	1.36	2.97	.73	3.16	.77	2.88	.66	2.89	.68
6.	3.35	1.14	3.43	1.18	3.48	1.17	3.52	1.11	1.75	1.07	1.92	1.27	1.95	1.23	2.33	1.40	3.03	.91	3.12	1.13	3.27	.93	3.28	.87
7.	4.30	1.01	4.46	.87	4.45	.94	**4.45**	1.03	1.43	1.17	1.91	1.33	2.35	1.41	1.76	1.44	**1.95**	.81	**1.77**	.81	**2.12**	.85	**2.07**	.85
Orgasm items																								
8.	—	—	**4.69**	.61	3.30	1.31	3.86	1.17	—	—	**4.24**	1.05	1.72	1.54	1.99	1.66	—	—	—	—	—	—	—	—
9.	—	—	4.56	.74	**4.54**	.90	**4.61**	.85	—	—	3.52	1.50	3.51	1.55	3.14	1.65	—	—	—	—	—	—	—	—
10.	—	—	—	—	4.47	.88	4.17	1.06	—	—	—	—	3.48	1.50	2.68	1.63	—	—	—	—	—	—	—	—
11.	—	—	—	—	3.92	1.19	4.08	1.13	—	—	—	—	3.46	1.70	3.26	1.77	—	—	—	—	—	—	—	—
12.	4.18	.95	4.36	.96	4.48	.94	4.20	1.08	2.84	1.43	2.76	1.67	3.41	1.58	2.54	1.74	—	—	—	—	—	—	—	—
13.	**4.60**	.81	3.35	1.70	2.77	1.54	2.79	.156	3.31	1.48	1.55	1.86	1.09	1.53	.62	1.16	—	—	—	—	—	—	—	—
14.	4.30	.80	3.82	.97	—	—	—	—	**3.75**	1.15	3.04	1.54	—	—	—	—	—	—	—	—	—	—	—	—

Note. MSS = male same sex; MMS = male mixed sex; FSS = female same sex; FMS = female mixed sex. 1. Oral–genital stimulation of you by your partner; 2. Oral–genital stimulation of your partner by you; 3. Sexual intercourse with your partner (or penetration); 4. Manual stimulation by your partner of your genital area; 5. Self-stimulation of your genital area; 6. Sexual activity with your partner without experiencing orgasm (or climax of any kind); 7. Orgasm experienced more than once during a single sexual experience; 8. Orgasms with vaginal intercourse only; 9. Orgasms with vaginal intercourse and clitoral stimulation; 10. Orgasms with clitoral manipulation by your partner; 11. Orgasms with clitoral manipulation by yourself; 12. Orgasms with oral–genital contact; 13. Orgasms with anal entry; 14. Orgasms from hand–penis stimulation. Top two for each group are in bold, lowest two for each group are underlined. For frequency change, bolded indicates desire for increased frequency, underlined indicates desire for decreased frequency.

($M = -58.17$, $SD = 184.32$, $p < .001$) and men in same-sex relationships ($M = -10.58$, $SD = 197.36$, $p = .002$). Women in same-sex relationships ($M = 48.68$, $SD = 197.30$) also reported a greater desire to increase frequency of providing oral–genital stimulation than women in mixed-sex relationships ($p < .001$) and men in same-sex relationships ($p = .021$). Men in mixed-sex relationships and women in same-sex relationships did not significantly differ in their desire to increase frequency of providing oral–genital stimulation, nor did women in mixed-sex relationships and men in same-sex relationships, ps > .05.

Sexual Intercourse/Penetration With Partner

Satisfaction. The degree of satisfaction derived from participating in sexual intercourse or penetrative activities with one's partner differed significantly across relationship types, Welch's F (3, 303.51) = 6.83, $p < .001$, $\eta^2 = .03$. Games-Howell post hoc analyses revealed that men and women differed from one another, such that men in same-sex ($M = 35.07$, $SD = 165.35$) and mixed-sex ($M = 42.57$, $SD = 159.68$) relationships reported greater satisfaction from penetrative activities than women in same-sex ($M = -30.29$, $SD = 196.10$, $p = .004$ and $p = .008$, respectively) and mixed-sex ($M = -19.13$, $SD = 188.40$, $p = .009$ and $p = .020$, respectively) relationships.

Frequency. Groups also differed in the frequency with which they engaged in penetrative activities, F (3, 697) = 16.84, $p < .001$, $\eta^2 = .07$. Tukey's post hoc analyses revealed that men in same-sex relationships ($M = -89.26$, $SD = 199.85$) engaged in these activities less than the other three groups: women in same-sex relationships ($M = 3.00$, $SD = 229.28$, $p < .001$), men in mixed-sex relationships ($M = 45.20$, $SD = 202.84$, $p < .001$), and women in mixed-sex relationships ($M = 49.29$, $SD = 211.14$, $p < .001$).

Desired Frequency Change. Groups differed significantly in their desire for a change in frequency of participating in sexual intercourse or penetrative activities with one's partner, Welch's $F(3, 305.37) = 10.11$, $p < .001$. Games-Howell post hoc comparisons revealed a gender difference in that men in mixed-sex ($M = 57.80$, $SD = 191.56$) and same-sex ($M = 43.15$, $SD = 197.25$) relationships reported a greater desire to increase frequency of penetrative activities than women in mixed-sex relationships ($M = -39.94$, $SD = 191.20$, ps < .001) and women in same-sex relationships ($M = -21.28$, $SD = 196.39$, $p = .008$ and $p = .010$, respectively). There were no significant differences between genders, ps > .05.

Multiple Orgasms During One Sexual Encounter

Satisfaction and Frequency. Although groups did not report a significant difference in the amount of satisfaction derived from experiencing multiple orgasms within a single sexual encounter, they significantly differed in the frequency with which they experienced multiple orgasms within a single sexual encounter, Welch's F (3, 296.02) = 14.86, $p < .001$ $\eta^2 = .06$. Games-Howell post hoc analyses revealed that women in same-sex relationships ($M = 73.57$, $SD = 213.75$) reported the greatest frequency of multiple orgasms, followed by men in mixed-sex relationships ($M = 19.89$, $SD = 209.88$, *ns*), women in mixed-sex relationships ($M = -8.61$, $SD = 226.14$, $p = .01$), and men in same-sex relationships ($M = -66.62$, $SD = 187.88$, $p < .001$). Men in mixed-sex relationships significantly differed from men in same-sex relationships ($p = .01$) but not from either group of women.

Desired Frequency Change. Groups differed significantly in their desire for a change in frequency of experiencing multiple orgasms in one sexual encounter, Welch's F (3, 302.11) = 8.25, $p < .001$. Games-Howell post hoc comparisons revealed a gender difference in that men in mixed-sex ($M = 61.65$, $SD = 154.92$) and same-sex ($M = 27.37$, $SD = 176.86$) relationships reported a greater desire to increase their frequency of multiple orgasms within a sexual encounter than women in mixed-sex ($M = -19.41$, $SD = 187.94$, $p = .001$ and $p = .045$) and women in same-sex ($M = -32.16$, $SD = 189.67$, $p < .001$ and $p = .012$, respectively) relationships.

Orgasm From Vaginal Intercourse Alone

Satisfaction. Groups differed significantly in the amount of satisfaction derived from orgasms resulting from vaginal intercourse, Welch's F (2, 236.565) = 64.33, $p < .001$, $\eta^2 = 18$. Games-Howell post hoc analyses revealed that all three groups differed significantly from one another, with p values all < .01. Men in mixed-sex relationships reported the greatest amount of satisfaction ($M = 99.90$, $SD = 78.96$), followed by women in mixed-sex relationships ($M = -.63$, $SD = 120.05$), and finally women in same-sex relationships ($M = -50.72$, $SD = 126.17$).

Frequency. Groups differed significantly in the frequency with which they experienced orgasms resulting from vaginal intercourse, Welch's F (2, 262.807) = 136.69, $p < .001$, $\eta^2 = 24$. Games-Howell post hoc analyses revealed that men in mixed-sex relationships ($M = 206.86$, $SD = 98.82$) reported achieving orgasm through vaginal intercourse more frequently than women in same-sex ($M = -30.73$, $SD = 149.27$, $p < .001$) and mixed-sex relationships ($M = -1.47$, $SD = 163.53$, $p < .001$). Women did not significantly differ in their frequency of orgasm from vaginal intercourse as a function of relationship type.

Orgasm From Vaginal Intercourse and Clitoral Stimulation

Satisfaction. No significant group differences were found when comparing women in same-sex relationships and men and women in mixed-sex relationships on the

amount of satisfaction derived from orgasms due to combined vaginal intercourse and clitoral stimulation, $p = .413$.

Frequency. No significant group differences were found when comparing women in same-sex relationships and men and women in mixed-sex relationships on the frequency with which they experienced orgasms as a result of vaginal intercourse combined with clitoral stimulation, $p = .125$.

Orgasm From Clitoral Manipulation by Partner

Satisfaction. There was a statistically significant difference in mean satisfaction derived from orgasms resulting from clitoral manipulation by a partner between women in same- and mixed-sex relationships, with women in same-sex relationships reporting greater satisfaction, $M = 25.82$, 95% CI [3.13–48.50], t (371.67) = 2.24, $p = .027$, $\eta^2 = .02$.

Frequency. There was a statistically significant difference in frequency with which women derived from orgasms resulting from clitoral manipulation by a partner between women in same- and mixed-sex relationships, with women in same-sex relationships reporting greater frequency, $M = 48.09$, 95% CI [3.13–48.50], t (412) = 3.72, $p < .001$, $\eta^2 = .03$.

Orgasm From Clitoral Manipulation by Self

Satisfaction and Frequency. Women in same-sex and mixed-sex relationships did not report any significant differences concerning the degree of satisfaction associated with orgasms resulting from self-manipulation of their clitoris, t (412) = .70, $p = .944$; nor did they report any significant differences in frequency of this activity, t (388) = −1.587, $p = .113$.

Orgasm From Receiving Oral–Genital Contact

Satisfaction. Groups reported significantly different levels of satisfaction derived from orgasms resulting from oral–genital contact, Welch's F (3, 284.57) = 4.33, $p = .005$, $\eta^2 = .02$. Games-Howell post hoc analyses revealed that women in same-sex relationships ($M = 38.77$, $SD = 176.45$) derived the greatest amount of satisfaction, followed by men in mixed-sex relationships ($M = 14.30$, $SD = 186.27$, n.s.), women in mixed-sex relationships ($M = -13.49$, $SD = 193.27$, $p = .035$) and men in same-sex relationships ($M = -25.76$, $SD = 188.44$, $p = .005$). Men and women in mixed-sex relationships and men in same-sex relationships did not differ significantly from one another.

Frequency. Groups significantly differed in the frequency with which they experienced orgasms resulting from oral–genital contact, Welch's F (3, 293.03) = 8.10, $p < .001$, $\eta^2 = .04$. Games-Howell post hoc analyses revealed that women in same-sex relationships ($M = 68.76$, $SD = 213.60$) reported the most frequent occurrence of orgasms resulting from oral–genital contact, followed by men in mixed-sex relationships ($M = -6.47$, $SD = 220.35$, $p = .05$), men in same-sex relationships ($M = -20.50$, $SD = 193.10$, $p < .001$), and women in mixed-sex relationships ($M = -30.77$, $SD = 223.35$, $p < .001$). The other three groups did not differ significantly from one another.

Orgasm From Anal Entry

Satisfaction. Of the 806 participants, 216 (26.7%) provided a satisfaction rating for orgasm resulting from anal entry; the remaining participants responded with *Not applicable*. Groups differed in the amount of satisfaction derived from orgasm resulting from anal entry, Welch's F (3, 140.84) = 6.40, $p < .001$, $\eta^2 = .28$. Games-Howell post hoc analyses revealed that men in same-sex relationships ($M = 70.03$, $SD = 88.55$) reported significantly more satisfaction from this activity than did the other three groups: men in mixed-sex relationships ($M = -15.96$, $SD = 139.91$, $p = .001$), women in mixed-sex relationships ($M = -58.94$, $SD = 115.96$, $p < .001$), and women in same-sex relationships ($M = -72.30$, $SD = 108.53$, $p < .001$). The remaining three groups did not differ significantly from one another.

Frequency. Groups differed significantly in the frequency with which they reported experiencing orgasm resulting from anal entry, Welch's F (3, 207.16) = 9.71, $p < .001$, $\eta^2 = .31$. Games-Howell post hoc analyses revealed that men in same-sex relationships ($M = 122.14$, $SD = 132.53$) experienced orgasm via anal entry most frequently and significantly more than men in mixed-sex relationships ($M = -9.05$, $SD = 171.32$, $p < .001$), women in same-sex relationships ($M = -60.62$, $SD = 138.87$, $p < .001$), and women in mixed-sex relationships ($M = -85.23$, $SD = 117.85$, $p < .001$). Men and women in mixed-sex relationships also differed significantly from each other, with men reporting more frequent experiences of anal entry orgasms, $p = .011$.

Orgasm From Hand–Penis Stimulation

Satisfaction. An independent-samples t test was used to compare men in same-sex and men in mixed-sex relationships on the amount of satisfaction reported from experiencing orgasm through hand–penis stimulation. Men in same-sex relationships reported significantly more satisfaction ($M = 16.44$, $SD = 80.62$) than men in mixed-sex relationships ($M = -27.20$, $SD = 85.93$); $M = 43.65$, t (278) = 4.12, $p < .001$, 95% CI [22.79–64.51], $\eta^2 = .06$.

Frequency. Men in same-sex relationships also reported significantly greater frequency of orgasm from

hand–penis stimulation (M = 17.95, SD = 80.67) than men in mixed-sex relationships (M = −25.35, SD = 95.70); M = 43.30, t (148.12) = 3.70, p < .001, 95% CI [20.19–66.41], η^2 = .05.

DISCUSSION

The purpose of this study was to generate a more nuanced understanding of how (and how often) men and women in mixed-sex and same-sex relationships experience orgasm as a result of a variety of different sexual activities. The study also investigated how individuals in same- versus mixed-sex relationships differ with respect to their level of satisfaction with the existing frequency of various sexual activities within their relationships by assessing the extent to which they reported desires for increased or decreased frequency of specific sexual activities.

The results of this study add further evidence to the literature suggesting that many of the noted gender differences in orgasm rates between men and women may be more clearly explained by differences in preferred and practiced sexual behaviors than by particular biological or physiological sex differences in the "ability" to achieve orgasm.

To the extent that a single physiological process, regardless of whether one is engaging in solo or partnered sexual activities, governs such ability, the results of the current study suggest that any sex differences in orgasm experiences appear to exist only for partnered sexual activity. For example, women reported no difference in the frequency with which they were able to reach orgasm on their own as a function of relationship type, but did report differences in frequency of orgasm during partnered sexual activities. Future research should seek to confirm whether orgasms in women are, indeed, governed by a single physiological process regardless of context (solo versus partnered) to shed more light on whether comparisons between solo and partnered sexual activity and orgasm experiences provide a valid means through which to study sex differences in the ability to reach orgasm.

Taken together, the results of this study, along with those recently published elsewhere (Garcia et al., 2014), begin to paint a picture of a new understanding of same-sex sexuality and, indeed, the sexual behavior and satisfaction of individuals in both same- and mixed-sex relationships. These findings appear to be the most robust and salient in women; that is, while a general level of agreement between orgasm satisfaction and frequency is seen among women in same-sex relationships (i.e., if they report high satisfaction, they also report high frequency), this same pattern does not emerge as clearly when examining women in mixed-sex relationships. Consequently, these results raise the question of whether women in mixed-sex relationships are potentially missing out on more (mutually) satisfying sexual encounters. This possibility may be closely linked to what men and women are taught about sex and sexual scripts. According to Wiederman (2005), men are often taught to view sexual activity as a positive element in their life, as something that is goal directed (e.g., sexual pleasure, especially his), and as something that can be rather easily separated from relational issues. This is contrasted against women often learning that sexual activity can be dangerous for both their bodies and their reputations and should, therefore, take place only within the context of "meaningful" relationships. Such notions may lead women in mixed-sex relationships to place more value on sex as a means of strengthening the relationship (through meeting the goals of their male partners) rather than as a means of also achieving their own personal pleasure.

Not only are women in same-sex relationships reporting greater frequency of orgasm from a greater variety of activities, past research has found that they also report longer durations of individual sexual encounters when compared to their mixed-sex counterparts (Blair & Pukall, 2014). Interestingly, women in mixed-sex relationships in the current study did not differ from those in same-sex relationships when it came to their satisfaction derived from orgasms as a result of self-stimulation, nor did they differ in frequency. However, there were significant differences in the satisfaction and frequency associated with orgasms resulting from their partner's stimulation of their clitoris and oral sex, such that these orgasms were more satisfying and more frequent among women in same-sex relationships. Together, these patterns support the notion that women in same-sex relationships may simply be more in tune with other women's bodies and more adept at manipulating other women's bodies in the way they would their own (Garcia et al., 2014; Frederick, St. John, Garcia & Lloyd, 2017).

The Influence of Sexual Scripts

Conventional heterosexual sexual scripts may also play an important role in these patterns. In heterosexual relationships, the male orgasm tends to signal the end of sex (Opperman, Braun, Clarke, & Rogers, 2014), which may consequently reduce the opportunities for women in mixed-sex relationships to experience as many (and therefore as many satisfying) orgasms as women in same-sex relationships, who are engaging in longer, less male results-oriented (i.e., male orgasm-focused) sexual activity. In the current study, only heterosexual men rated vaginal penetration as resulting in frequent and satisfying orgasms, while women, regardless of relationship type, reported less frequent and less satisfying orgasms resulting from vaginal penetration. However, when the clitoris is simultaneously stimulated during vaginal penetration, this gender difference disappears, suggesting that the combination of clitoral stimulation and vaginal penetration can lead to more satisfying orgasms for women of either relationship type, while not reducing the satisfaction experienced by men in mixed-sex relationships.

Additional gender and relationship type differences were found when examining the sexual activities of men in same-sex relationships. Specifically, men in same-sex

relationships reported engaging in penetrative intercourse the least often out of the four groups. This finding is consistent with previous research, which has found that anal sex is not always part of the sexual repertoire of men in same-sex relationships (e.g., Davies et al., 1992; Rosenberger et al., 2011). However, while men in same-sex relationships are engaging in penetrative intercourse much less frequently than men in mixed-sex relationships, they do not report any less satisfaction from it, meaning that there must be a reason, other than enjoyment, to explain the lower frequencies reported by men in same-sex relationships.

One potential explanation lies in the significant amount of preparation required for anal penetration compared to vaginal penetration. For example, approximately 50% to 60% of gay men report rectal douching or enema use before receptive anal intercourse (Calabrese, Rosenberger, Schick, Novak, & Reece, 2013; Javanbakht, Stahlman, Pickett, LeBlanc, & Gorbach, 2014), citing cleanliness, partner preference, and increased pleasure of anal sex as considerations (Carballo-Dieguez, Bauermeister, Ventuneac, Dolezal, & Mayer, 2010; Javanbakht et al., 2014; Noor & Rosser, 2014). Another obstacle for gay men engaging in anal sex is finding a partner with whom their self-identified sex role (i.e., top, bottom, versatile) matches. When two men who are in a relationship are incompatible with respect to their sex role during anal sex, other nonpenetrative activities may become more regularly practiced. Some may compromise and change roles in attempts to please their partner, while others, according to Moskowitz, Rieger, and Roloff (2008), may decide to make the relationship nonmonogamous so that anal sex can be engaged in with a third person or casual partners. Anal sex outside of the individual's relationship would not have been captured in this survey and therefore may explain the lower frequency of anal sex in male same-sex relationships as well.

Groups also differed in their reported desire for a change in the frequency with which they provide and receive oral–genital contact or oral sex. While men in mixed-sex relationships reported a strong desire to perform oral sex on their female partners more often, their female partners reported the opposite. Future research should further examine this phenomenon with a focus on understanding women's reasons for seeking or avoiding receptive oral sex. While there may be any number of reasons that women in mixed-sex relationships report lower interest in receiving oral sex, including simply not enjoying the act (which does not seem to match with our results concerning satisfaction derived from oral sex), self-conscious concerns about their genitals, or a lack of talent on behalf of their partner, one other reason may be the unwritten sexual script that receiving oral sex from one's partner obligates one to return the same activity. Could it be that women in mixed-sex relationships do not acquiesce to their male partners' desires for performing more oral sex based on this quid pro quo sexual script? In other words, do women refrain from receiving oral sex as a means of avoiding performing oral sex on their male partners, an activity which women in mixed-sex relationships reported as much less satisfying compared to the other three groups? Given that men in mixed-sex relationships were the only group to rate orgasms from vaginal penetration as being highly satisfying, a more appropriate tradeoff for men and women in mixed-sex relationships may be vaginal intercourse (to satisfy the man) and oral sex for women (to satisfy the woman—and apparently, also the man). In conjunction with the comparative evidence from women in same-sex relationships, it would appear that increasing engagement in receptive oral sex for women in mixed-sex relationships may significantly contribute to the frequency with which they experience satisfying orgasms.

Finally, although groups did not differ in terms of satisfaction derived from partnered sexual activities without orgasm, differences emerged with respect to frequency. That is, women in mixed-sex relationships reported the most frequent partnered sexual activity that did not result in orgasm. These results are partly consistent with previous research, which has found that women are less likely to orgasm during partnered sexual activity than men (e.g., Laumann et al., 1994). However, the results from previous studies may be conflating rates of female orgasm during partnered sexual activity by ignoring the gender of the woman's partner. Indeed, the results from this study suggest that women in same-sex relationships may be experiencing more orgasms during partnered sexual activity than women in mixed-sex relationships. Despite the difference in frequency of partnered sexual activity without orgasm, there were no differences in terms of the satisfaction derived from partnered sexual activities without orgasm, nor the desire to change the frequency—although the pattern of results ($p = .05$) did indicate a trend toward women in mixed-sex relationships desiring the experience of sex without orgasm less often. Although it is possible that women may not be distressed by engaging in sexual activity that does not result in orgasm, sexual scripts may again be at play in creating the underlying assumption that women are less likely to achieve orgasm, and therefore sexual activity stops after the man experiences his orgasm (e.g., Potts, 2002).

Strengths and Limitations

The current study was strengthened by a large sample of individuals in mixed-sex and same-sex relationships. The inclusion of a variety of sexual activities within the questionnaire allowed for a more accurate understanding of the nuances involved in couples' sexual relationships. Analyzing the data by partner gender (relationship type) provided pertinent information that would have been missed if groups were simply divided by self-identified sexual orientation, especially for individuals who identify as bisexual.

The results of this study should be considered within the context of several limitations. The frequency of sexual activity and orgasm was collected using ordinal measures; as such, the information provided is based on ranges rather

than more specific estimates. Because the data collected were based on self-report questionnaires administered through the Internet, there is the potential for over- and underreporting. In addition, an individual's ability to accurately recall the frequency of his or her sexual encounters and orgasms may vary between individuals and as a result of gender or relationship type. To the extent that there may be such gender differences, or difference in the likelihood to under- or overreport, the group differences reported within this article may be attenuated by such patterns.

The results of this study need to be interpreted within the limitations of the sample used, such that the sample was more White than the general population (90%); was quite well educated, although not wealthy; and had access to the means and time necessary to complete an online survey. On average, participants were in established yet still relatively young relationships (4.5 years), and thus the results may not generalize to older populations, more ethnically diverse populations, or to populations outside of Canada, the United States, or other Western cultures. In addition, much of the supporting research referenced throughout the article has also focused on the experiences of those living in Western cultures and therefore may not speak to the experiences of those living beyond such borders.

Future Directions and Conclusions

The results of this study indicate that frequency and satisfaction of sexual behavior and orgasm differ as a function of gender and the gender of one's partner. The current study adds to a growing body of literature that suggests that women in same-sex relationships have better sex lives than previously thought (Blair & Pukall, 2014; Frederick et al., 2017; Garcia et al., 2014). The term *lesbian bed death* was introduced in the 1980s to describe the reduced sexual activity that was observed in female same-sex relationships (Blumstein & Schwartz, 1983). Corroborating evidence of this decline in sexual activity (Loulan, 1984; Peplau, Cochran, Rook, & Padesky, 1978) lent itself to the widely held assumption that queer women have lower sex drives than heterosexual women (Cohen & Byers, 2014). Recent research, including the present study, has helped put the myth of lesbian bed death to bed (Blair & Pukall, 2014; Cohen & Byers, 2014). In fact, the current results suggest that women in same-sex relationships may offer ideal sexual scripts that individuals in other relationship types may benefit from adopting.

While previously held stereotypes about women in same-sex relationships are being shattered, the results of this study indicate there may be a similar shift that needs to happen with respect to the sex lives of men in same-sex relationships. Stereotypes about gay men as promiscuous and interested only in anal sex are pervasive in the media (Mowlabocus, 2007); however, this representation is likely inaccurate. Future research should take a more sex positive approach to investigations of the sexual activity of men in same-sex relationships (i.e., as opposed to a risk perspective focused on HIV transmission). Having more accurate understandings about the nuances in the sexual activity of men in same-sex relationships will make for better sex therapy providers.

Finally, it is important that sex researchers take into consideration not only the sexual identities/orientations of their sample but also the configurations of their participants' actual relationships. Sexual identity does not always align perfectly with the gender of one's partner, with exceptions to the rule always being present, such that a heterosexual woman may find herself dating another woman, while a lesbian may find herself in a relationship with a cisgender or transgender man, and yet still maintain a lesbian identity because it most closely fits their overall experiences (Blair, 2016). Furthermore, not all sexual identities clearly point to a relationship configuration, such as bisexual and queer identities. Consequently, based on the research question at hand, it is important for sex researchers to consider whether sexual identity or relationship type may be better suited as a meaningful grouping variable. In the case of the current study, examining same-sex versus mixed-sex relationship configurations allowed for a better understanding of how sexual activity and orgasm frequency/satisfaction varies as a function of gender and relationship type that would not have been as clear if only relying on sexual identity labels.

Notes

1. Unless otherwise noted, use of the terms *man/men/woman/women* indicate reference to cisgender (e.g., gender identity aligns with gender assigned at birth) participants, as the majority of research in this area has focused on cisgender experiences.
2. A total of 45 participants (5.5%) resided in other nations. Group comparisons revealed no significant differences on the outcome variables of interest between these participants and participants from the more heavily represented nations, and therefore these participants were not removed from the data set.
3. Data were collected at a time when the U.S. dollar (USD) and Canadian dollar (CND) were at par, so the question asked participants to state their income in USD/CND dollars.

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References

Andersen, J. P., & Zou, C. (2015). Exclusion of sexual minority couples from research. *Health Science Journal, 9*(6), 1–9.

Bailey, J. V., Farquhar, C., Owen, C., & Whittaker, D. (2003). Sexual behaviour of lesbians and bisexual women. *Sexually Transmitted Infections*, *79*(2), 147–150. doi:10.1136/sti.79.2.147

Blair, K. L. (2016). Ethical research with sexual and gender minorities. In A. Goldberg (Ed.), *The SAGE encyclopedia of LGBTQ studies* (Vol. 3, pp. 375–380). Thousand Oaks, CA: SAGE Publications Ltd. doi:10.4135/978143371283.n139

Blair, K. L., & Holmberg, D. (2008). Perceived social network support and well-being in same-sex versus mixed-sex romantic relationships. *Journal of Social and Personal Relationships*, *25*(5), 769–791.

Blair, K. L., & Pukall, C. F. (2014). Can less be more? Comparing duration vs. frequency of sexual encounters in same-sex and mixed-sex relationships. *The Canadian Journal of Human Sexuality*, *23*(2), 123–136.

Blair, K. L., Pukall, C. F., Smith, K. B. & Cappell, J. (2015). Differential associations of communication and love in heterosexual, lesbian, and bisexual women's perceptions and experiences of chronic vulvar and pelvic pain. *Journal of Sex & Marital Therapy*, *41*(5), 498–524.

Blumstein, P., & Schwartz, P. (1983). *American couples: Money, work, and sex*. New York, NY: Morrow.

Braun, V., Gavey, N., & McPhillips, K. (2003). The "fair deal"? Unpacking accounts of reciprocity in heterosex. *Sexualities*, *6*(2), 237–261. doi:10.1177/1363460703006002005

Bressler, L. C., & Lavender, A. D. (1986). Sexual fulfillment of heterosexual, bisexual, and homosexual women. *Journal of Homosexuality*, *12*(3–4), 109–122. doi:10.1300/J082v12n03_10

Calabrese, S. K., Rosenberger, J. G., Schick, V. R., Novak, D. S., & Reece, M. (2013). An event-level comparison of risk-related sexual practices between Black and other-race men who have sex with men: Condoms, semen, lubricant, and rectal douching. *AIDS Patient Care and STDs*, *27*(2), 77–84. doi:10.1089/apc.2012.0355

Carballo-Dieguez, A., Bauermeister, J., Ventuneac, A., Dolezal, C., & Mayer, K. (2010). Why rectal douches may be acceptable rectal-microbicide delivery vehicles for men who have sex with men. *Sexually Transmitted Diseases*, *37*(4), 228–233. doi:10.1097/OLQ.0b013e3181bf9b2d

Cohen, J. N., & Byers, E. S. (2014). Beyond lesbian bed death: Enhancing our understanding of the sexuality of sexual-minority women in relationships. *Journal of Sex Research*, *51*(8), 893–903. doi:10.1080/00224499.2013.795924

Davies, P. M., Weatherburn, P., Hunt, A. J., Hickson, F. C., McManus, T. J., & Coxon, A. P. (1992). The sexual behaviour of young gay men in England and Wales. *AIDS Care*, *4*(3), 259–272. doi:10.1080/09540129208253098

de Visser, R. O., Smith, A. M., Rissel, C. E., Richters, J., & Grulich, A. E. (2003). Sex in Australia: Heterosexual experience and recent heterosexual encounters among a representative sample of adults. *Australian and New Zealand Journal of Public Health*, *27*(2), 146–154. doi:10.1111/j.1467-842X.2003.tb00802.x

Diamond, L. M. (2000). Sexual identity, attractions, and behavior among young sexual-minority women over a 2-year period. *Developmental Psychology*, *36*(2),241–250. doi:10.1037/0012-1649.36.2.241

Frederick, D. A., St. John, H. K., Garcia, J. R., & Lloyd, E. A. (2017). Differences in orgasm frequency among gay, lesbian, bisexual, and heterosexual men and women in a US national sample. *Archives of Sexual Behavior*, 1–16.

Fugl-Meyer, K. S., Oberg, K., Lundberg, P. O., Lewin, B., & Fugl-Meyer, A. (2006). On orgasm, sexual techniques, and erotic perceptions in 18- to 74-year-old Swedish women. *Journal of Sexual Medicine*, *3*, 56–68. doi:10.1111/j.1743-6109.2005.00170.x

Galinsky, A. M., & Sonenstein, F. L. (2011). The association between developmental assets and sexual enjoyment among emerging adults. *Journal of Adolescent Health*, *48*(6), 610–615. doi:10.1016/j.jadohealth.2010.09.008

Garcia, J. R., Lloyd, E. A., Wallen, K., & Fisher, H. E. (2014). Variation in orgasm occurrence by sexual orientation in a sample of U.S. singles. *Journal of Sexual Medicine*, *11*(11), 2645–2652. doi:10.1111/jsm.12669

Georgiadis, J. R., Reinders, A. A., Paans, A. M., Renken, R., & Kortekaas, R. (2009). Men versus women on sexual brain function: Prominent differences during tactile genital stimulation, but not during orgasm. *Human Brain Mapping*, *30*(10), 3089–3101. doi:10.1002/hbm.20733

Gosling, S. D., & Mason, W. (2015). Internet research in psychology. *Annual Review of Psychology*, *66*, 877–902. doi:10.1146/annurev-psyc-010814-015321

Gosling, S. D., Vazire, S., Srivastava, S., & John, O. P. (2004). Should we trust Web-based studies? A comparative analysis of six preconceptions about Internet questionnaires. *American Psychologist*, *59*(2), 93–104. doi:10.1037/0003-066X.59.2.93

Grulich, A. E., de Visser, R. O., Smith, A. M., Rissel, C. E., & Richters, J. (2003). Sex in Australia: Homosexual experience and recent homosexual encounters. *Australian and New Zealand Journal of Public Health*, *27*(2), 155–163. doi:10.1111/j.1467-842X.2003.tb00803.x

Haavio-Mannila, E., & Kontula, O. (1997). Correlates of increased sexual satisfaction. *Archives of Sexual Behavior*, *26*(4), 399–419. doi:10.1023/A:1024591318836

Haning, R. V., O'Keefe, S. L., Randall, E. J., Kommor, M. J., Baker, E., & Wilson, R. (2007). Intimacy, orgasm likelihood, and conflict predict sexual satisfaction in heterosexual male and female respondents. *Journal of Sex and Marital Therapy*, *33*(2), 93–113. doi:10.1080/00926230601098449

Hite, S. (1982). *The Hite report on male sexuality*. New York, NY: Ballantine Books.

Holmberg, D., & Blair, K. L. (2009). Sexual desire, communication, satisfaction, and preferences of men and women in same-sex versus mixed-sex relationships. *Journal of Sex Research*, *46*(1), 57–66.

Hurlbert, D. F., Apt, C., & Rabehl, S. M. (1993). Key variables to understanding female sexual satisfaction: An examination of women in nondistressed marriages. *Journal of Sex and Marital Therapy*, *19*(2), 154–165. doi:10.1080/00926239308404899

Janus, S. S., & Janus, C. L. (1993). *The Janus report on sexual behaviour*. New York, NY: John Wiley & Sons.

Javanbakht, M., Stahlman, S., Pickett, J., LeBlanc, M. A., & Gorbach, P. M. (2014). Prevalence and types of rectal douches used for anal intercourse: Results from an international survey. *BMC Infectious Diseases*, *14*, 95. doi:10.1186/1471-2334-14-95

Kinsey, A., Pomeroy, W., Martin, C., & Gebhard, P. (1953). *Sexual behavior in the human female*. Philadelphia, PA: Saunders.

Laumann, E. O., Gagnon, J. H., Michael, R. T., & Michaels, S. (1994). *The social organization of sexuality: Sexual practices in the United States*. Chicago, IL: University of Chicago Press.

Lloyd, E. (2005). *The case for female orgasm: Bias in the science of evolution*. Cambridge, MA: Harvard University Press.

Loulan, J. (1984). *Lesbian sex*. San Francisco, CA: Spinsters Ink.

Mah, K., & Binik, Y. M. (2001). The nature of human orgasm: A critical review of major trends. *Clinical Psychology Review*, *21*(6), 823–856. doi:10.1016/S0272-7358(00)00069-6

Mah, K., & Binik, Y. M. (2002). Do all orgasms feel alike? Evaluating a two-dimensional model of the orgasm experience across gender and sexual context. *Journal of Sex Research*, *39*(2), 104–113. doi:10.1080/00224490209552129

Mah, K., & Binik, Y. M. (2005). Are orgasms in the mind or the body? Psychosocial versus physiological correlates of orgasmic pleasure and satisfaction. *Journal of Sex and Marital Therapy*, *31*(3), 187–200. doi:10.1080/00926230590513401

Moskowitz, D. A., Rieger, G., & Roloff, M. E. (2008). Tops, bottoms, and versatiles. *Sexual and Relationship Therapy*, *23*(3), 191–202. doi:10.1080/14681990802027259

Mowlabocus, S. (2007). Gay men and the pornification of everyday life. In K. Nikunen, S. Paasonen, & L. Saarenmaa (Eds.), *Pornification: Sex and sexuality in media culture* (pp. 61–72). Oxford, United Kingdom: Berg.

Noor, S. W., & Rosser, B. R. (2014). Enema use among men who have sex with men: A behavioral epidemiologic study with implications for HIV/STI prevention. *Archives of Sexual Behavior*, *43*(4), 755–769. doi:10.1007/s10508-013-0203-0

Opperman, E., Braun, V., Clarke, V., & Rogers, C. (2014). "It feels so good it almost hurts": Young adults' experiences of orgasm and sexual pleasure. *Journal of Sex Research*, *51*(5), 503–515. doi:10.1080/00224499.2012.753982

Peplau, L. A., Cochran, S., Rook, K., & Padesky, C. (1978). Loving women: Attachment and autonomy in lesbian relationships. *Journal of Social Issues*, *34*(3), 7–27. doi:10.1111/j.1540-4560.1978.tb02611.x

Perneger, T. V. (1998). What's wrong with Bonferroni adjustments. *BMJ*, *316*(7139), 1236–1238. doi:10.1136/bmj.316.7139.1236

Pinkerton, S. D., Cecil, H., Bogart, L. M., & Abramson, P. R. (2003). The pleasures of sex: An empirical investigation. *Cognition and Emotion*, *17*(2), 341–353. doi:10.1080/02699930302291

Potts, A. (2000). Coming, coming, gone: A feminist deconstruction of heterosexual orgasm. *Sexualities*, *3*(1), 55–76. doi:10.1177/136346000003001003

Potts, A. (2002). *The science/fiction of sex: Feminist deconstruction and vocabularies of heterosex*. East Sussex, United Kingdom: Routledge.

Purnine, D. M., Carey, M. P., & Jorgensen, R. S. (1994). Gender differences regarding preferences for specific heterosexual practices. *Journal of Sex and Marital Therapy*, *20*(4), 271–287. doi:10.1080/00926239408404378

Quade, D. (1967). Rank analysis of covariance. *Journal of the American Statisitcal Association*, *62*(320), 1187–1200. doi:10.1080/01621459.1967.10500925

Richters, J., Visser, R., Rissel, C., & Smith, A. (2006). Sexual practices at last heterosexual encounter and occurrence of orgasm in a national survey. *Journal of Sex Research*, *43*(3), 217–226. doi:10.1080/00224490609552320

Rosenberger, J. G., Reece, M., Schick, V., Herbenick, D., Novak, D. S., Van Der Pol, B., & Fortenberry, J. D. (2011). Sexual behaviors and situational characteristics of most recent male-partnered sexual event among gay and bisexually identified men in the United States. *Journal of Sexual Medicine*, *8*(11), 3040–3050. doi:10.1111/j.1743-6109.2011.02438.x

Schick, V., Rosenberger, J. G., Herbenick, D., & Reece, M. (2012). Sexual behaviour and risk reduction strategies among a multinational sample of women who have sex with women. *Sexually Transmitted Infections*, *88*(6), 407–412. doi:10.1136/sextrans-2011-050404

Shackelford, T. K., Weekes-Shackelford, V. A., LeBlanc, G. J., Bleske, A. L., Euler, H. A., & Hoier, S. (2000). Female coital orgasm and male attractiveness. *Human Nature (Hawthorne, N.Y.)*, *11*(3), 299–306. doi:10.1007/s12110-000-1015-1

Singh, D., Meyer, W., Zambarano, R. J., & Hurlbert, D. F. (1998). Frequency and timing of coital orgasm in women desirous of becoming pregnant. *Archives of Sexual Behavior*, *27*(1), 15–29. doi:10.1023/A:1018653724159

Thornhill, R., Gangestad, S. W., & Comer, R. (1995). Human female orgasm and mate fluctuating asymmetry. *Animal Behaviour*, *50*, 1601–1615. doi:10.1016/0003-3472(95)80014-X

Tiefer, L. (2004). *Sex is not a natural act and other essays*. Boulder, CO: Westview.

Vance, E. B., & Wagner, N. N. (1976). Written descriptions of orgasm: A study of sex differences. *Archives of Sexual Behavior*, *5*(1), 87–98. doi:10.1007/BF01542242

Vrangalova, Z., & Savin-Williams, R. C. (2010). Correlates of same-sex sexuality in heterosexually identified young adults. *Journal of Sex Research*, *47*(1), 92–102. doi:10.1080/00224490902954307

Wallen, K., & Lloyd, E. A. (2011). Female sexual arousal: Genital anatomy and orgasm in intercourse. *Hormones and Behavior*, *59*(5), 780–792. doi:10.1016/j.yhbeh.2010.12.004

Whitley, M. P. (1998). Sexual Satisfaction Inventory. In C. M. Davis, W. L. Yarber, R. Bauserman, G. Schreer, & S. L. Davis (Eds.), *Handbook of sexuality-related measures* (pp. 519–521). Thousand Oaks, CA: Sage.

Wiederman, M. W. (2005). The gendered nature of sexual scripts. *The Family Journal*, *13*(4), 496–502. doi:10.1177/1066480705278729