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# The Gender Gap in Partnered Orgasm: A Scoping Review of Evidence with Graphical Comparisons

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**ABSTRACT**

This article provides a review and visualization of findings over the last 30 years related to the orgasm gap between men and women in heterosexual encounters. We describe and compare techniques commonly used for measuring orgasm occurrence and frequency patterns, and we summarize the contrast in orgasm rates shown in these studies across different behavior sets and social contexts. Of central importance, women's orgasm rates increase dramatically with the inclusion of behaviors that provide specific stimulation to the clitoris, revealing this gap is largely driven by social dynamics rather than strictly biological mechanisms. Disparities between men and women are especially pronounced in contexts with low levels of partnered sexual experience, partner familiarity, and relationship commitment. Women are also more likely to experience orgasm when masturbating or partnered with women than when partnered with men. Ultimately, we echo calls for a biopsychosocial approach to sexual enjoyment and well-being, and we provide recommendations for future research, including increased precision in measurement and reporting, diversifying sampling concentrations, and assessing life course trajectories.

## Introduction

Sexual well-being is an important component of a healthy and satisfied life for many people regardless of gender (Dienberg, Oschatz, Piemonte, et al., 2023; Laumann et al., 2006; Mitchell et al., 2023). However, women's sexual interests generally do not receive equal consideration to men's during heterosexual sexual encounters (Andrejek et al., 2022; Brown et al., 2018; Mahar et al., 2020; L. Wade, 2016). Many measures used to capture sexual pleasure, enjoyment, and satisfaction are inherently nested within a person's socialized expectations about themselves, their partners, and the interaction (Holt et al., 2021; McClelland, 2010, 2014; Pascoal et al., 2014; Walker & Lutmer, 2023). For this reason, much of the research exploring gender disparities during heterosex use orgasm as a key measure, serving as a relatively objective, countable phenomenon representing sexual pleasure.

Previous research has repeatedly found large orgasm disparities in sexual encounters between men and women (Döring & Mohseni, 2022; Mahar et al., 2020; Waterman & Chiauzzi, 1982). Biological mechanisms do not fully account for the range of variation in orgasm experiences (Dawood et al., 2005); thus, an increasing number of scholars have explored the social-contextual conditions that lead to different orgasm rates for men and women. Orgasm is, of course, a physiological process, and our review does not suggest that biological diversity is absent from individual sexual response patterns. Nevertheless, orgasm is possible for the vast majority of people, but social dynamics powerfully shape whether or not someone is likely to experience this with a partner.

This article provides a scoping review of published scholarly literature relating to orgasm disparities between heterosexual men and women published over the last 30 years. It advances the growing body of research related to social group discrepancies in orgasm experiences by comparing various measurement techniques and summarizing the existing evidence in graphical form. These figures are intended to provide an easily accessible summary of men's and women's reported orgasm rates across various measurement approaches, behavior sets, and social contexts. In conjunction with these figures, we detail the techniques commonly used to assess orgasm occurrence and consistency as we compare evidence of the gaps across varied social contexts, including age, geographical location, and partner dynamics. We conclude with recommendations to help future researchers identify optimal measurement strategies and highlight opportunities to further unpack the confluence of biopsychosocial mechanisms related to orgasm experiences.

## Method

### *Analytic Approach*

We conducted this review to identify, appraise, and synthesize studies related to the gender gap in heterosexual orgasm experiences (Dehkordi et al., 2021; Grant & Booth, 2009; Khan & Zamora, 2022; Petticrew & Roberts, 2006). We used a scoping review approach analogous to the CoCoPop framework employed in epidemiology for examining the prevalence

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or incidence of a phenomenon, in which we clearly defined and described the focal condition (orgasm occurrence), contexts (any region, age, or social context), and populations (heterosexual men and women) of the review (Munn et al., 2015; Munn, Peters, et al., 2018; Munn, Stern, et al., 2018). We also drew on the Preferred Reporting Items for Systematic reviews and Meta-Analyses (PRISMA) guidance (Page, McKenzie, et al., 2021; Page, Moher, et al., 2021; Tricco et al., 2018).

### Search Parameters & Inclusion Criteria

Our review targeted journal articles and book chapters published within the last 30 years that reported descriptive statistics of orgasm rates for heterosexual men and women or among women across multiple contexts. Our search procedure included keyword searches across Google Scholar, Web of Science, and the University of Oklahoma's Discover interface (which queries over 300 sources including EBSCO, JSTOR, and ProQuest). Our searches used the following phrases: "orgasm gap," "orgasm equality," "female orgasm," "women's orgasm," "orgasm rate," "gender gap sexuality," "gender gap pleasure," and "women's sexual pleasure." We did not limit the results by availability in English. From search results through December of 2023, we identified 268 items for full-text screening. We also examined the bibliographies of key studies and other reviews to promote comprehensive coverage, which added 16 more items to the list for full-text screening. After the initial screening and selection process, we rereviewed edge cases for possible inclusion (Siddaway et al., 2019) to enhance the reliability of our findings. We excluded studies that did not report descriptive statistics for their orgasm measures, reported orgasm dimensions other than occurrence (such as orgasm satisfaction or composites of orgasm function), did not include rates for heterosexual individuals, or were published before the year 1993 (see Figure 1).

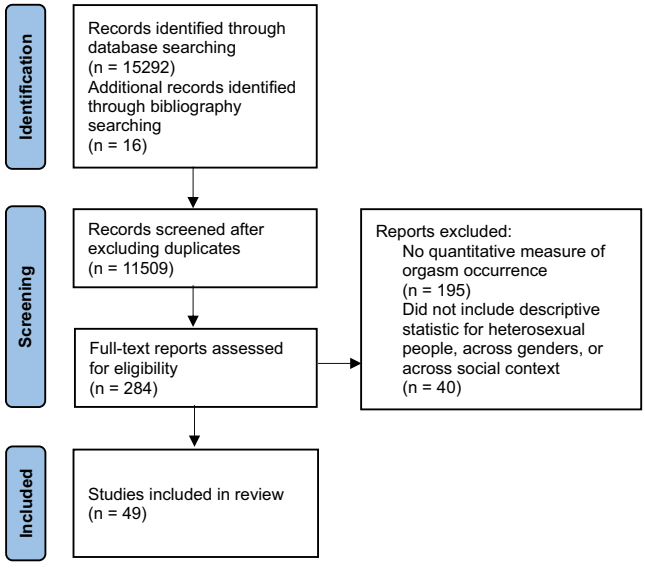


**Figure 1.** Flow diagram of the study selection process.

### Operational Definitions

In most of these studies, participants were asked to either self-identify their sexual orientation or specify the gender of their sexual partner. There are a few studies, however, that assumed heterosexuality among their participants, and we have attempted to note this limitation when it was apparent. Following conventions in previous work on gender and sexuality (West & Zimmerman, 1987, 2009; Westbrook & Saperstein, 2015), this article uses the terms men and women to refer to gender categories and male and female in reference to sex categories assigned at birth (i.e. people with penises or people with clitorises). This distinction is useful when delineating mechanisms specifically related to anatomical differences versus those linked to socially constructed behavioral templates, though we recognize that these categorical definitions have limitations of their own. As this article primarily addresses the sociocultural components of a person's chances of orgasm, our default was to use gender terms unless speaking about anatomy or reflecting the language used by an article's original authors.

## Results

### Scope of Current Research

Our search ultimately yielded 49 studies matching our review criteria. Table 1 provides a summary of the articles in this review, including authorship, date, which measurement approach they used, and relevant sample characteristics for quality assessment. The evidence reviewed here included nationally representative samples, representative samples of specific locations, convenience samples, and dyadic samples of couples and twins. The majority of studies focused on the general adult population (sometimes capping the range at 60 or 65), 13 studies concentrated on young adults (9 of which used undergraduate student samples), and one study centered older adults. The vast majority of studies were based in the United States (29) or Canada (8), but there were also 16 studies with participants in other parts of the world, including China, the Netherlands, Denmark, Germany, Spain, Portugal, Russia, Finland, the United Kingdom, the Czech Republic, Hungary, and Australia. When the location of the participants was not specifically listed in the article, we listed the country of the first author's institutional affiliation.

There are several ways that orgasm rates have been measured across these studies, and we grouped the results first by measurement approach and then by partner context. Of the 49 studies we identified, 41 of these appear in one or more figures. An additional eight studies with less comparable measurement or reporting styles are described in the text.

### Measuring the Gap – Occurrence and Consistency

First, we compared studies that asked participants to recall their most recent sexual encounter with a partner and report whether or not they experienced orgasm during that event. In this context, response options were usually a straightforward

**Table 1.** List of articles included in review with focal population, measurement type, and sample quality.

| | | | Focal Population | | Sample Quality | | |
|---|---|---|---|---|---|---|---|
| Author Names | Pub. Date | Measure Type | Country | Population | Random Sample | Nat. Rep. | N Size |
| Andrejek & Fetner[a] | 2019 | Y/N | Hamilton, Canada | Adults | X | | 185 |
| Andrejek, Fetner, & Heath | 2022 | Y/N | Canada | Adults | X | X | 1,798 |
| Archer | 2017 | Ordinal | Canada | Undergrads | | | 1,009 |
| Armstrong, England, & Fogarty[b] | 2010 | Y/N | USA | Undergrads | | | 12,925 |
| Armstrong, England, & Fogarty[b] | 2012 | Y/N | USA | Het. undergrads | | | 13,484 |
| Beckmeyer, Herbenick, & Eastman-Mueller[c] | 2021 | Y/N | USA | Undergrads | X | | 3,996 |
| Blair, Cappell, & Pukall | 2018 | 6-point ord. | Australia; UK; Canada; USA | Partnered adults | | | 806 |
| Brewer & Hendrie | 2011 | Any % | United Kingdom | Het. adult women | | | 71 |
| Brody | 2007 | Calc. % | Netherlands | Partnered undergrad women | | | 27 |
| Dawood, Kirk, Bailey, Andrews, & Martin[d] | 2005 | 7-point ord. | Australia | Adult women twin dyads | | | 2,901 |
| Deinberg, Oschatz, Kosman, & Klein | 2023 | 5-point ord. | Germany | Het. cis. adults | | | 573 |
| England, Shafer, & Fogarty[b] | 2007 | Y/N | USA | Het. undergrads | | | 2,693 |
| Ford, Carter, & Wong[e] | 2023 | 5-point ord. | Mainland China | Adults | X | | 2,993 |
| Frederick, St. John, Garcia, & Lloyd | 2018 | 5-point ord. | USA | Partnered adults | | | 52,588 |
| Galinsky & Sonenstein[f] | 2011 | 5-point ord. | USA | Young adults w/mixed-gender partners | X | X | 3,237 |
| Garcia, Lloyd, Wallen, & Fisher | 2014 | Any % | USA | Single adults w/gay & lesbian oversample | X | X | 2,850 |
| Garcia-Duarte, Nievas-Soriano, Fischer-Suarez, Castro-Luna, Parron-Carreno, & Aguilera-Manrique | 2023 | 5-point ord. | Spain | Adult pregnant women | | | 117 |
| Gusakova, Conley, Piemonte, & Matsick | 2020 | Y/N | USA | Adult Women (WSM) | | | 903 |
| Haavio-Manilla & Rotkirch | 1997 | 5-point ord. | St. Petersburg, Russia; Cities in Finland | Adults | X | | 3,198 |
| Herbenick, Fu, Arter, Sanders, & Dodge[g] | 2018 | 7-point ord. | USA | Adult females | X | X | 1,055 |
| Herbenick, Reece, Schick, Sanders, Dodge, & Fortenberry[h] | 2010 | Y/N | USA | Adults | X | X | 1,931 |
| Holt, Chung, Janssen, & Peterson | 2021 | 4-point ord. | USA | Partnered adult females | | | 1,533 |
| Jones & Eddy | 2022 | 5-point ord. | USA | Het. partnered adults | | | 390 |
| Jones, Robinson, & Seedall | 2018 | 5-point ord. | USA | Het. adult dyads | | | 284 |
| Klapilova, Brody, Krejcova, Husarova, & Binter[i] | 2015 | Any % | Prague, Czech Republic | Adult women from cohabiting dyads | | | 85 |
| Kontula & Miettinen[j,k] | 2016 | Y/N & ord. | Finland | Adult women | X | X | 8,204 |
| Leavitt, Leonhardt, Eldredge, Busby, & Clarke | 2023 | 5-point ord. | USA | Adults | | | 1,645 |
| Leavitt, Maurer, Clyde, Clarke, Busby, Yorgason, Holmes, & James[l] | 2021 | 5-point ord. | USA | Mixed-sex adult newlywed dyads | X | X | 2,946 |
| Leonhardt, Busby, Disalvo, Hanna-Walker, Kim, Willoughby, & Impett | 2023 | 5-point ord. | USA | Mixed-gender adult dyads | | | 1,450 |
| Leonhardt, Willoughby, Busby, Yorgason, & Holmes[l] | 2018 | 5-point ord. | USA | Het. adult newlywed dyads | X | X | 3,366 |
| Peragine, Skorska, Maxwell, Impett, & VanderLaan | 2022 | Y/N | Canada | Het. cis. partnered young adults | | | 563 |
| Peragine, Kim, Maxwell, Skorska, Impett, Cunningham, & VanderLaan | 2023 | Y/N | Canada | Young adults | | | 3,033 |
| Piemonte, Conley, & Gusakova | 2019 | Y/N | USA | Young adults | | | 1,579 |
| Richters, De Visser, Rissel, & Smith[m] | 2006 | Y/N | Australia | Mixed-sex partnered adults | X | X | 5,118 |
| Rowland, Sullivan, Hevesi, & Hevesi | 2018 | Any % | Hungary; USA | Adult women | | | 2,304 |
| Rubin, Conley, Klein, Liu, Lehane, & Dammeyer | 2019 | 4-point ord. | Canada; Denmark; Germany; USA | Het. adult women | | | 1,480 |
| Schick, Herbenick, Reece, Sanders, Dodge, Middlestadt, & Fortenberry[g] | 2010 | Y/N | USA | Older adults | X | X | 1,974 |
| Shirazi, Renfro, Lloyd, & Wallen | 2018 | 11-point ord. | USA | Primarily het. adults | | | 3,047 |
| Sprecher, Barbee, & Schwartz | 1995 | Y/N | USA | Het. undergrads | | | 1,659 |
| Struckman-Johnson, Nalan-Sheffield, Gaster, & Struckman-Johnson | 2017 | Y/N | USA | Undergrads in parked cars | | | 706 |
| Suschinsky & Chivers | 2018 | Calc. % | Canada | Primarily het. cis. women | | | 95 |
| Tavares, Laan, & Nobre | 2017 | 7-point ord. | Portugal | Het. adult women | | | 926 |
| Tavares, Laan, & Nobre | 2018 | 7-point ord. | Portugal | Het. adult women | | | 1,002 |

(*Continued*)

**Table 1.** (Continued).

| | | | Focal Population | | Sample Quality | | |
|---|---|---|---|---|---|---|---|
| Author Names | Pub. Date | Measure Type | Country | Population | Random Sample | Nat. Rep. | N Size |
| van Rees, Spiering, & Laan | 2016 | 5-point ord. | Netherlands | Adult partnered women | | | 234 |
| von Sydow | 2002 | 5-point ord. | Germany | Postpartum couple dyads | | | 60 |
| Wade, Kremer, & Brown | 2005 | 5-point ord. | USA | Het. undergrads | | | 883 |
| Wetzel, Cultice, & Sanchez | 2022 | 5-point ord. | USA | Mixed-sex adult dyads | | | 208 |
| Wetzel & Sanchez | 2022 | Any % | USA | Het. cisgender undergrads | | | 276 |
| Wetzel, Sanchez, & Cole | 2024 | Any % | USA | Het. adults | | | 549 |

[a]2015 Survey of Sexual Behavior; [b]Online College Social Life Survey (OCSLS); [c]2020 Campus Sexual Health Survey (CSHS); [d]Australian National Health and Medical Council Twin Registry; [e]Chinese Health & Family Life Survey (CHFLS); [f]National Longitudinal Study of Adolescent Health (Add Health); [g]National Survey of Sexual Health and Behavior (NSSHB); [h]OMGYes Sexual Pleasure Report; [i]Intimate Behavior in Cohabiting Couples Project; [j]FINSEX; [k]ORGSEX; [l]Couple Relationships and Transition Experiences (CREATE); [m]Australian Study of Health and Relationships.

choice between "yes, no, or I don't know" and were reported as the percentage of respondents with an affirmative answer. This kind of measure is advantageous because of its specificity, as asking participants to think of a particular event may minimize recall bias (Perry, 2020). Figure 2 first compares findings from articles that presented the overall percentage of men and women who reported experiencing an orgasm at their most recent sexual event with a partner.

In nationally representative samples, adults in Australia, the United States, and Canada showed a significant gap in orgasm incidence at their most recent encounter. In Australia, 95% of men reported experiencing an orgasm compared to 69% of women (Richters et al., 2006), and in Canada the rates were 86% among men and 62% among women (Andrejek et al., 2022). Two US studies drawn from the NSSHB showed a gap of 91% and 64% between men and women aged 18–59 (Herbenick et al., 2010) and a smaller gap of 87% and 71% among adults over age 50 who had sex within the last year (Schick et al., 2010). Andrejek and Fetner (2019) also found the gap in a random sample of adults in a single Canadian town (87% of men, 63% of women).

The gender gap in orgasm incidence was even larger among samples of young adults. In a convenience sample of US college students who reported on their most recent sexual experience in a parked car, Struckman-Johnson et al. (2017) found 86% of young men but 48% of young women indicated having an orgasm. This disparity from a highly specific context was similar to a much broader random sample of one university's student body in the United States, where Beckmeyer et al. (2021) found 75% of young men and 45% of young women reported orgasm from their most recent encounter. Taken together, studies that presented the percentage of men and women who reported an orgasm at their most recent partnered sexual event revealed an average gender gap in orgasm occurrence between 16–38% points, with larger gaps among younger samples.

Another common measurement technique asked participants to recall the frequency at which they reached orgasm, either over a designated period, given specific conditions, or with a particular partner (Garcia et al., 2014; Leonhardt et al., 2023). This type of question is advantageous because it can capture a person's perceived patterns about their sex life rather than a binary report on a single interaction. It also potentially reveals distinct subgroups that may exist within data that are obscured when sampling a single event, such as people who report never orgasming with a partner. The final two studies included in Figure 2 allowed participants to estimate their orgasm consistency with a partner by selecting any percentage from 0–100% of interactions. In a nationally representative sample of single adults in the US, Garcia et al. (2014) found

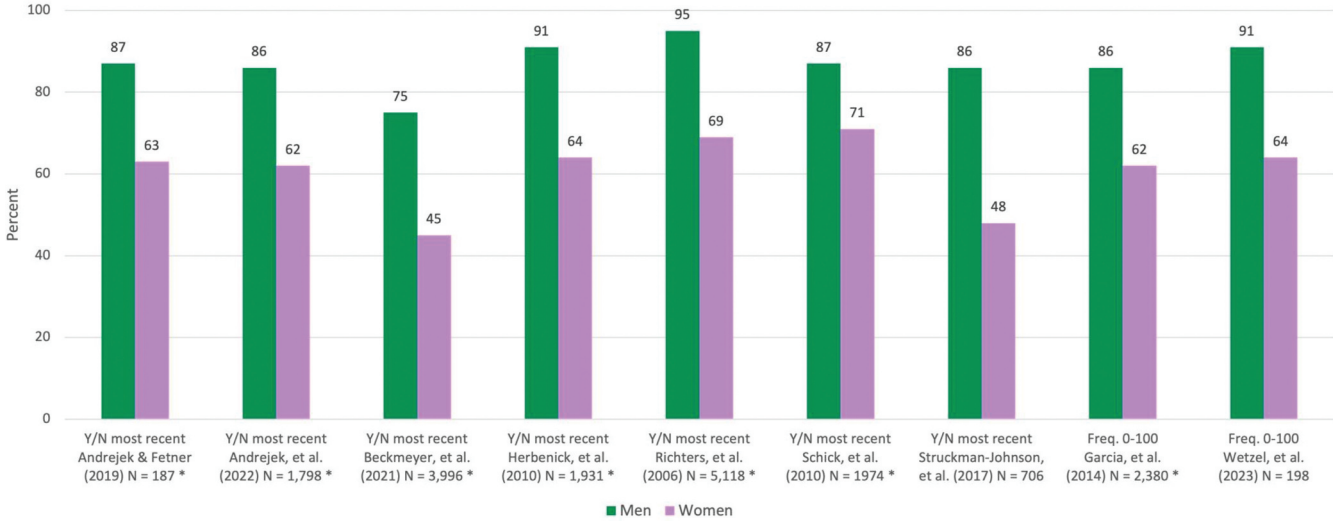


**Figure 2.** Disparities in the percentage of heterosexual men and women when reporting orgasm occurrence at their most recent sexual encounter or their orgasm frequency pattern. * indicates a randomly selected representative sample.

that heterosexual American men orgasmed, on average, 86% of the times they had sex compared to an average of 62% of the times among heterosexual American women. Wetzel et al. (2024) found a similar gap between the average consistency in a convenience sample of heterosexual, cisgender men and women (91% and 64%, respectively).

Another approach to measuring orgasm patterns asked participants to estimate their consistency using an ordinal scale of category descriptors (such as never, rarely, about half the time, usually, or always) or range categories (0–20%, 21–40%, 41–60%, 61–80%, or 81–100% of the time). The next two figures compare studies that used 5-point scales and reported percentages for all response categories, providing additional context that augments what we can deduce about differences in consistency patterns between men and women. Figure 3 compares studies with samples of individuals while Figure 4 compares studies using dyadic data from both partners of a couple. Each study showed that heterosexual men reported experiencing orgasm far more frequently than many women as a pattern during partnered sexual encounters. In perhaps the first article using the phrase "orgasm gap," Wade et al. (2005) found among their convenience sample of US college students that 91% of young men reported "always" or "usually" orgasming during partnered sex (categories 4–5) versus only 39% of young women. The percentage of young women who reported "never" orgasming with a partner (28%) is higher than the bottom three categories for young men combined (9%). From data drawn around the same time but published later, Ford, Carter, et al. (2023) found similar rates for women in a random sample of adults in China. Here, 35% of women reported orgasming "usually" or "always" with their partner compared to 76% of men.

In a large, online convenience sample of adults in the US, Frederick et al. (2018) found 75% of heterosexual men reported "always" orgasming during a partnered sexual encounter over the last month, compared to 33% of women. Only 5% of men reported orgasming about half the time or less (options 1–3), while seven times as many (35%) women respondents chose one of the bottom three categories. Galinsky and Sonenstein (2011) used participants from Wave III of the National Longitudinal Study of Adolescent Health (Add Health) in the US and restricted their sample to young adults in a relationship of 3 months or more. Under these conditions, they found higher rates of orgasm for both men and women than in general samples, with 87% of young men and 47% of young women reporting that they always orgasmed when with this partner.

Galinsky and Sonenstein's results discussed above suggest that relationship status may counteract the suppressed effects of youth seen elsewhere. Also, it is interesting to note that the sample of adults in China more closely resembled the distributions found in Wade et al.'s college undergraduate students than Frederick et al.'s sample of US adults, in that adult women in China were considerably less likely to select the top two categories for experiencing orgasm ("always" or "often") than adult women in the US. This seems to support the cross-national findings by Laumann et al. (2006) that Western countries tended to have higher rates of orgasm for adult women than many other areas. Although within their convenience samples of Western nations, Rubin et al. (2019) found that women in the US had significantly lower orgasm consistency scores on average than Denmark on a 4-point scale (1.6 vs. 2.1), while averages from Canada and Germany were more similar (2.1 and 2.0).

Figure 4 again reviews patterns revealed through ordinal categories, this time with each partner of a mixed-sex couple. Although dyadic data can be difficult to obtain, it holds the advantage that respondents from each gender group are speaking (at least theoretically) about the exact same set of sexual encounters. In a representative sample of US mixed-sex couples, Wetzel et al. (2022) found 73% of men reported they orgasmed every time with their partner versus 38% of women. Women were almost ten times as likely as men to report orgasming less than half the time (29% versus 3%).

Two other studies also reported orgasm consistency using dyadic data, this time using percentage range options for each category. In a nationally representative study of newlyweds in the US, Leonhardt et al. (2018) found 87% of men identified

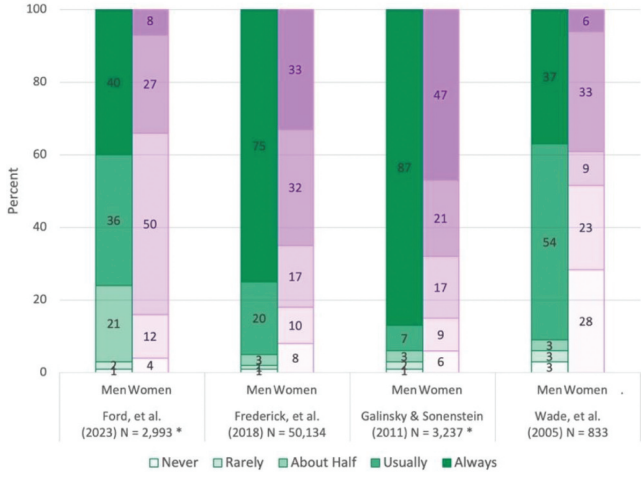


**Figure 3.** Disparities in heterosexual orgasm frequency by gender, as percentages of ordinal categories (1–5). *Indicates a randomly selected representative sample.

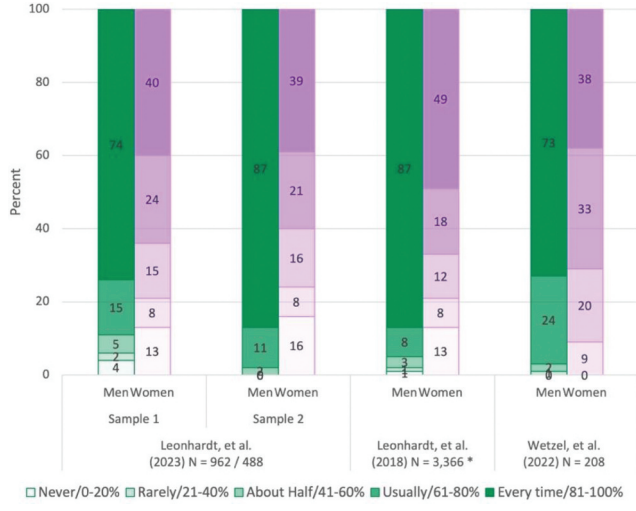


**Figure 4.** Disparities in heterosexual dyad orgasm frequency by gender, as percentages of ordinal categories (1–5). *Indicates a randomly selected representative sample.

with the highest category (orgasming 80–100% of the time with their new spouse) compared to 49% of women. More than 1 in 5 newly married women identified with the lowest two categories when asked about orgasming with their husbands (40% or less). Leonhardt et al. (2023) showed similar distributions across two online samples of couples who had been together at least two years, except with a smaller percentage of women identifying with the highest category here than in the newlywed sample (40% and 39%, compared to 49%).

As shown in Figure 5, several studies used a 5-point Likert scale for orgasm frequency but reported summary statistics rather than percentages for each category. There was again a clear pattern of higher average orgasm consistency for men than women in random samples of adults in St. Petersburg, Russia and cities in Finland (Haavio-Mannila & Rotkirch, 1997), online convenience samples of adults in committed relationships (Jones & Eddy, 2022; Jones et al., 2018; Leavitt et al., 2023), and a later wave of the US newlywed panel data discussed earlier (Leavitt et al., 2021).

Notably, Leavitt et al. (2023) used latent class analysis to distinguish group profiles for men and women regarding what they called the "sexual trifecta" of orgasm consistency, sexual satisfaction, and relationship satisfaction. A group of "high trifecta" men (74% of their sample) had an average orgasm response of 4.9 out of 5, contrasted with a small group of men (12%) with a much lower orgasm consistency average of 2.6. Among women, 55% of the sample made up a high trifecta group with a mean orgasm response of 4.7, in contrast to a mean of 1.2 in a "low trifecta" group (8% of women). Despite a disparity in the high trifecta group sizes, for a majority of women, partnered orgasms were highly consistent and corresponded with sexual and relationship satisfaction scores in a similar fashion to men.

In sum, Figures 2–5 show a striking gap between heterosexual men and women, on average, in how often they reported experiencing orgasm with a partner. However, the variation within each gender group suggests a need to further interrogate contextual effects related to this gap. As discussed next, orgasm rates also varied by behaviors included in an interaction and by social context such as partner familiarity, relationship status, the partner's gender, or sexual experiences without a partner.

### Sources of Variation – Stimulation and Context

Of central importance, orgasm generally occurs through specific kinds of nervous system stimulation – principally penile and clitoral. The complex of nerves associated with orgasm for women may receive some level of stimulation during penile-vaginal intercourse (PVI), though a majority of women have reported that PVI on its own does not provide sufficient stimulation for orgasm (Herbenick et al., 2018; Mintz, 2017; Towne, 2019). Thus, orgasm for most women depends on the presence or absence of sufficient clitoral stimulation during sexual activities. To better understand the variation that occurs in experiencing partnered orgasms, we begin by comparing rates given the presence or absence of activities that are more focused on clitoral stimulation.

Figure 6 shows a comparison of studies that reported separate orgasm rates for women when PVI was the only reported activity, when oral sex was included, or when oral sex and/or manual stimulation was included. These studies used a variety of measurement approaches and question phrasing, though they are combined into a single figure for parsimony. The first five studies in Figure 6 reported a binary indication of orgasm occurrence at their most recent sexual event. These revealed large increases in orgasm occurrence for women who reported receiving more direct clitoral stimulation compared to those who did not across random samples of adults in Canada (Andrejek & Fetner, 2019; Andrejek et al., 2022), two iterations of a large convenience survey of university students in the US (Armstrong et al., 2010; England et al., 2007), and a nationally representative sample of adults in Australia (Richters et al., 2006). Across these studies, including oral sex with intercourse substantially increased the rates of orgasm among women, and

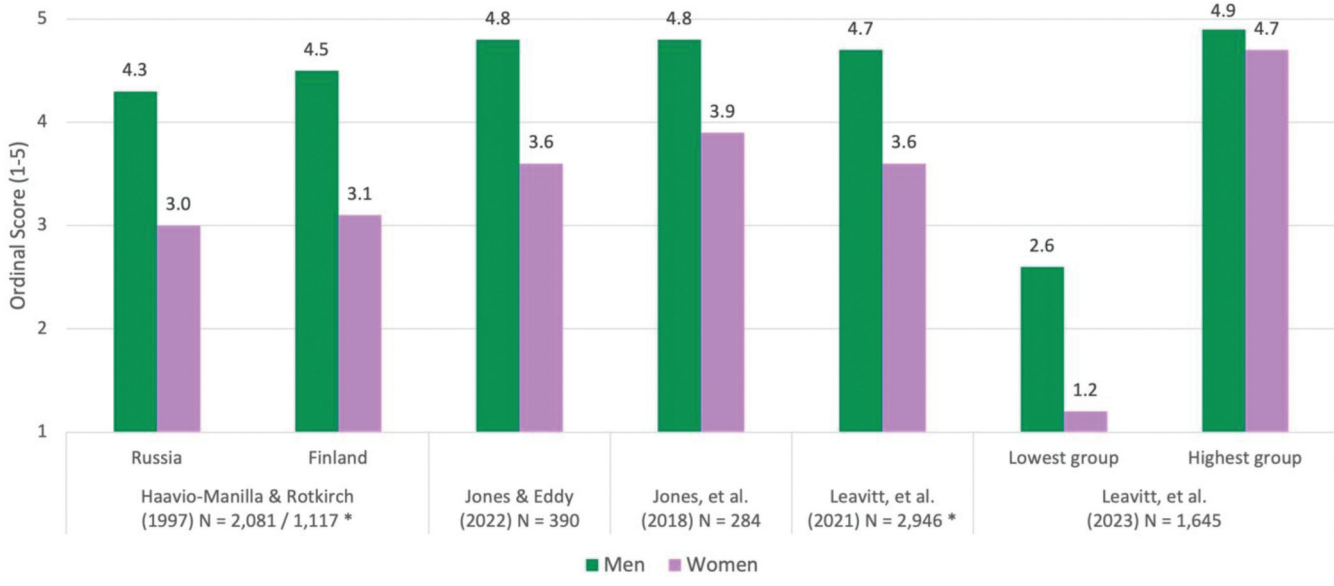


**Figure 5.** Disparities in heterosexual orgasm frequency by gender, as means of ordinal category scores (1-5). * Indicates a randomly selected representative sample.

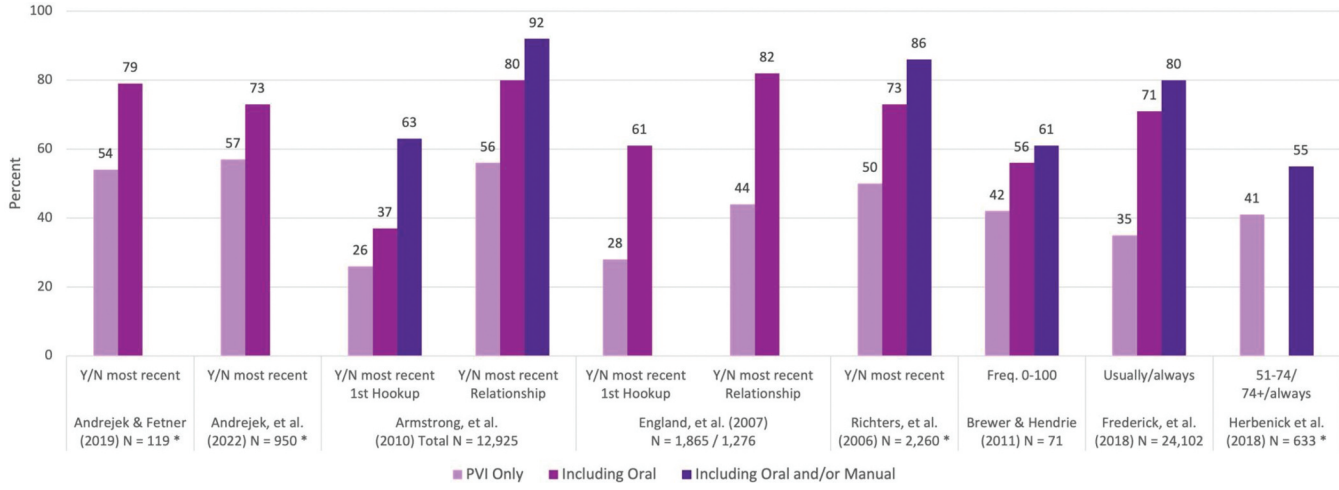


**Figure 6.** Women's orgasm occurrence or frequency by stimulation type. * Indicates a randomly selected representative sample.

rates were highest when multiple stimulating behaviors were included.

Three studies found similar results across stimulation types using measurement methods that represented frequency patterns instead of an occurrence at their most recent event. First, Brewer and Hendrie (2011) found their small convenience sample of heterosexual women in the US reported they orgasmed from vaginal penetration 42% of the time, 56% of the time from oral sex, and 61% of the time with masturbation from their partner. Second, Frederick et al. (2018) reported the percentage of heterosexual women from a large, online sample who indicated that they orgasmed with a partner more than half of the time (the top two values on the 5-point scale, "usually" and "always") grouped by the behaviors included at their most recent sexual event. Of note, they found that 80% of heterosexual women whose most recent encounter included receiving oral sex, manual stimulation, and deep kissing reported orgasming "usually" or "always" with their partner over the last month – more than double the 35% whose encounter included PVI only.

The final study in Figure 6 that employed an ordinal scale was from Herbenick et al. (2018), and we combined the highest three categories of orgasm frequency ("51% – 75%," "more than 75% of the time," or "always") from their 7-point scale for comparability to the other two studies. The percentages shown here reflect the proportion of women who selected something higher than the "about half the time" midpoint option in each study. They found in their representative sample of US women that 41% orgasmed frequently during PVI without clitoral stimulation, while more did so if clitoral stimulation was included during PVI (55%). In this study, the smaller increase between the two conditions relative to other studies may have been due to the greater question specificity regarding the timing of stimulation as occurring during PVI.

Seven additional studies are not included in Figure 6 due to having unique measurement metrics that were not directly comparable to others in this section, although the overall pattern they reported is consistent with the studies discussed above. First, Kontula and Miettinen (2016) showed increased orgasm rates from clitoral stimulation from a nationally representative sample of women in Finland across more than four decades. When asked to indicate "by what type of activities do you usually experience orgasms through sexual intercourse?," only 6% of Finnish women selected "stimulating vagina." More than five times as many (34%) selected "stimulating clitoris," while the majority (54%) indicated "stimulating them both." The remaining 6% indicated that they did not experience orgasm in intercourse.

Next, six studies used ordinal scale means to report average orgasm frequencies with and without clitoral stimulation on 4, 5, 6, 7, and 11-point scales, respectively. First, von Sydow (2002) used an ordinal mean (5-point scale, never to always) to present orgasm rates among German couples after the birth of a child. Among postpartum women, the average reported orgasm frequency was 2.2 during sexual events with PVI alone but climbed to 3.8 when clitoral stimulation was included. This pattern of substantial increases in mean orgasm frequency was shown again among partnered women in the Netherlands (van Rees et al., 2016), online samples of women in mixed-sex relationships focused in the US and Canada (Blair et al., 2018), and heterosexual women in Portugal (Tavares et al., 2017, 2018). In these studies, the rates climbed from 2.2 to 3.2 (4-point scale), 2.0 to 3.1 (6-point scale) and from 3.7 to 5 (7-point scale), respectively. Shirazi et al. (2018) found an increase from 3.2 during PVI alone to 6.2 during PVI with clitoral stimulation among their online sample of US women (11-point scale).

### *Sex in Less Familiar Contexts*

If women's orgasm is so clearly tied to activities with clitoral stimulation, why are these not practiced more often, or at least in greater parity with activities in which men receive stimulation to orgasm? Previous research has found a wide range of interconnected mechanisms associated with the gender orgasm gap (see Mahar et al., 2020). In short, many theories point to social dynamics that can be subsumed under the framework of gendered sexual "scripts." As theorized by Simon and Gagnon (1986, 2003), sexual scripts are socialized expectations that encompass cultural archetypes for masculinity and femininity, a person's expected roles in interactions,

and desired or expected outcomes during a "scene." Importantly, these cultural scripts tend to prescribe very different frameworks for men and women – commonly prioritizing pleasure for men and minimizing pleasure for women during sexual encounters (Wiederman, 2005).

In these scripts, the activities specifically stimulating for women are often conceptualized as foreplay (i.e. a precursor to the "real" sexual interaction) or are omitted altogether (McPhillips et al., 2001; Mintz, 2017). Because common templates often serve to facilitate interactions and reduce social tension, these male-centric sexual scripts may be deployed most readily in contexts when there is increased ambiguity for the interaction, such as a lack of personal or partnered experience or low partner commitment (Piemonte et al., 2019). To examine this premise, we compared studies that reported orgasm rates across varied partner familiarity conditions. First, Figure 7 shows the results from studies that cataloged the heterosexual orgasm gap within specific lower-familiarity contexts, including sexual debut, hookups, and casual sex. Then, Figure 8 contrasts people's rates of orgasm with partners of different familiarity levels.

As seen in Figure 7, sexual debut may hold the largest orgasm gap of any partnered context. In studies that asked young adults (primarily university students in Canada and the US) to recall their first intercourse event, 7–8% of young women reported that they had an orgasm in contrast to 70–79% of young men (Peragine et al., 2022, 2023; Sprecher et al., 1995). Among initial experiences, Sprecher et al. (1995) found when young women did orgasm at debut, there was no significant gender difference in reported pleasure.

A "hookup" often serves as a vague, catchall category for sexual encounters with little to no commitment to a partner and appears to be a predominantly North American term. The cultural ambiguity of this word means that the range of activities included in the minds of respondents may be quite variable (Armstrong et al., 2010). Nevertheless, both men and women reported expecting that whatever is involved in a hookup placed a lower priority on pleasuring the woman than the man (Armstrong et al., 2012; Klein & Conley, 2022). In studies comparing orgasm occurrence during hookups among college students, the patterns reinforce the premise that these imagined behavior sets centered on men's sexual pleasure far more often than women's. Among their sample of US students across 5 universities, England et al. (2007) found an orgasm gap of 25% points favoring young men (44% men and 19% women) when including all of their most recent hookup events. Using a later iteration of this dataset expanded to 17 universities, Armstrong et al. (2010) reported a gap of 21% points during their participants' most recent first hookup (31% and 10%). More recently, Archer (2017) found an even larger gap among a sample of Canadian students, with a disparity of 36 points between the percentage of young men and women who reported orgasming "very often" during hookups (48% and 12%).

In their study on casual sex, Piemonte et al. (2019) found a large, consistent orgasm gap across three online samples of young adults referencing their most recent casual sex event. Between 78–84% of young men reported experiencing an orgasm as opposed to just 29–33% of young women. They noted that previous research showed women tended to respond less favorably to casual sex than men, yet importantly, they found that when women orgasmed during casual sex, their subjective assessments of the event were just as positive as those of men.

Among studies that compared heterosexual orgasm rates across multiple relationship types, most reported large differences based on partner familiarity (see Figures 8 and 9). First, England et al. (2007) found effects of partner familiarity during heterosexual events that included penile-vaginal intercourse across five universities in the US. At a recent first hookup, 28% of young women reported orgasm, 54% did so if with a more familiar hookup partner, and 61% reported orgasm if in a relationship with their partner. Young men in their sample were also more likely to experience orgasm if in a relationship (89%) versus during a first hookup (52%). Returning to their

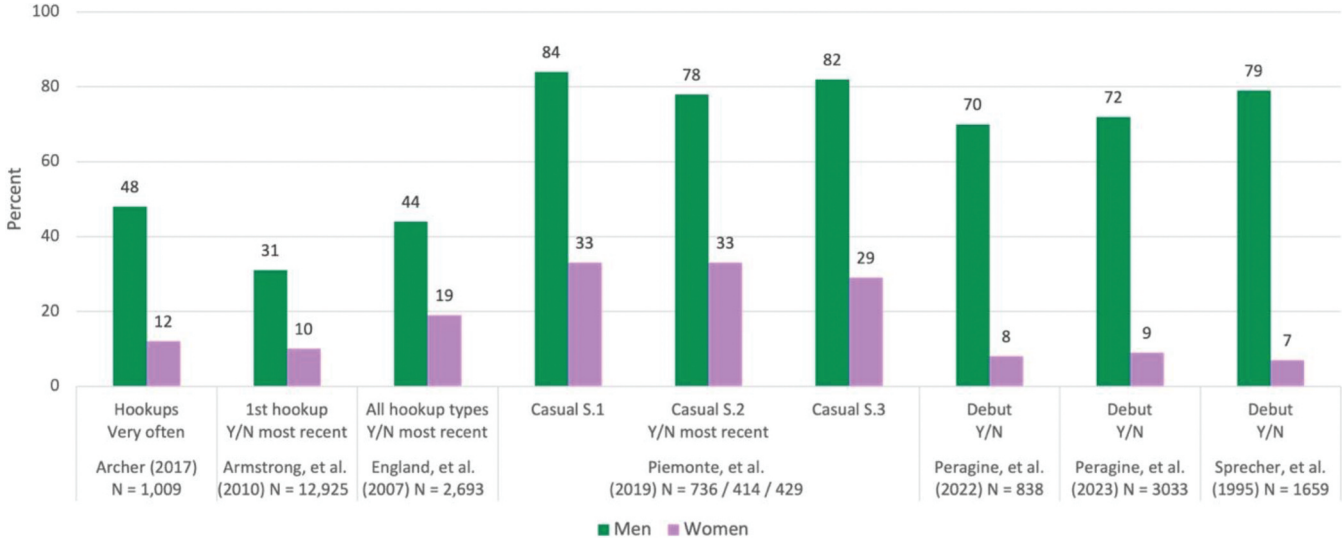


**Figure 7.** Disparities in heterosexual orgasm occurrence or frequency by gender during sexual debut, hookups, and casual sex.

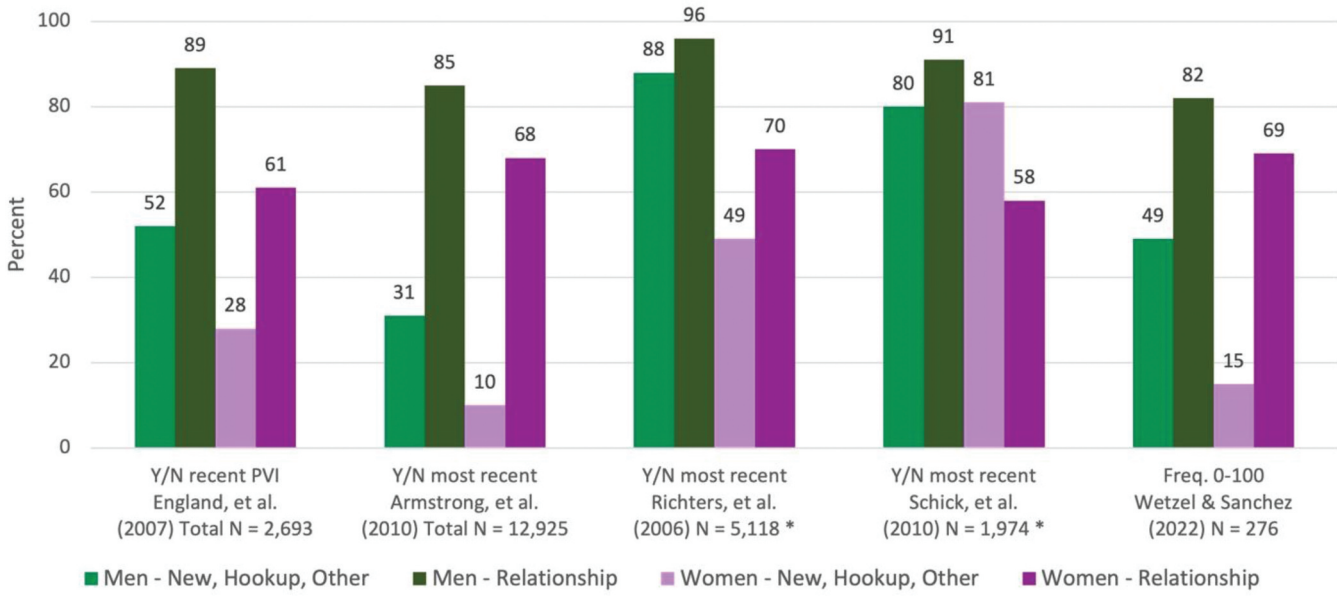


**Figure 8.** Disparities in orgasm occurrence or frequency by gender and relationship status. * Indicates a randomly selected representative sample.

online survey of college students in the US which then included 17 universities and additional survey years (2005–2008), Armstrong et al. (2010) found 31% of young men reported orgasming during their most recent hookup event with a new partner as opposed to 10% of young women. When in a relationship, these rates increased dramatically for both genders (to 85% of young men and 68% of young women). It is important to note that their study revealed large differences between relationship contexts (Figure 8) but also differences within each relationship context depending on clitoral stimulation, as discussed above (Figure 6). The boost from receiving more specific clitoral stimulation appeared larger than the enhancement from partner commitment, though young women reported the highest rates of orgasm when clitoral stimulation and being in a relationship were combined. Additionally, these were not entirely distinct groups of people with divergent underlying propensities, as many of them reported on their experiences in previous hookups as well as their current relationships.

In a nationally representative study of Australian adults, Richters et al. (2006) compared orgasm rates in the percentage of people whose most recent encounter was with a "regular" partner versus all "other" partner types. They found an 8-point gap between the groups of men by relationship context (88% other and 95% regular) and a 21-point gap between the groups of women (49% other and 70% regular). Given this relationship definition, adult men experienced sex in a way that almost always led to orgasm, while it was more variable by social context among women. Schick et al. (2010) found slightly lower rates for men over 50 in their nationally representative sample of older adults in the US (80% non-relationship and 91% relationship). However, in a rare exception to the pattern of increasing orgasm rates with relational commitment, they found that among women over 50, 81% reported orgasm at their most recent event with a non-relationship partner compared to 58% of women in a dating, cohabiting, or married relationship. Wetzel and Sanchez (2022) used a sliding scale measure of orgasm frequency and found that young women in their sample of US college students orgasmed, on average, 15% of the time with a new partner but 69% of the time with a familiar partner. For young men, the average climbed from 49% of the time with a new partner to 82% of the time with a familiar partner.

In their nationally representative study of Canadians, Andrejek et al. (2022) found a much smaller difference between Canadian women whose most recent sexual experience was with a spouse or common-law partner (64%) versus "all other relationship types" (59%). Armstrong et al. (2012) again found that partner familiarity and relationship commitment both remained associated with more frequent orgasm

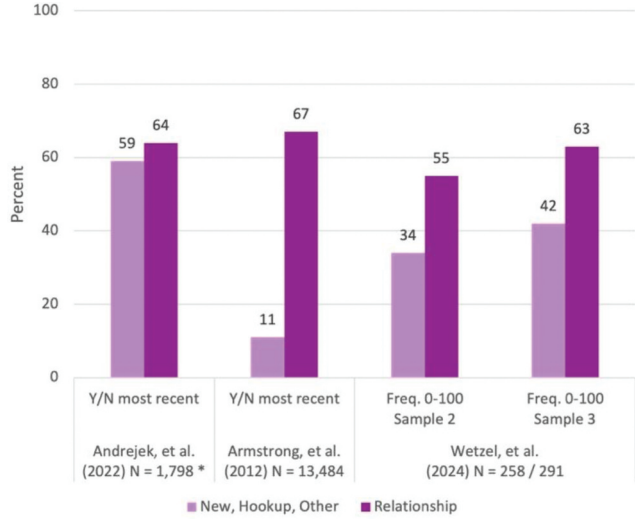


**Figure 9.** Differences in orgasm occurrence or frequency among heterosexual women by relationship status. * Indicates a randomly selected representative sample.

experiences in a later OCSLS sample of women across 21 universities. While 11% of young women reported orgasming when their most recent hookup was with a new partner, that percentage of women jumped to 34% if there had been 4 or more hookups with the same partner and jumped again to 67% of women in a relationship lasting longer than 6 months. Wetzel et al. (2024) reported higher orgasm frequency percentages for participants in a relationship among two samples of heterosexual, cisgender women in the US. Women reported orgasming 55% and 63% of the time when in a relationship, compared to 34% and 55% of single women.

Taken together, these findings support the premise that partnered orgasm experiences are not automatic for men nor inevitably elusive for women. Rather, experiencing an orgasm with a partner is highly dependent on context and behavioral repertoires. In each of the three studies with gender comparisons among young adults, although young men exceeded young women in each context, young women in relationships were more likely to experience orgasm than young men with an unfamiliar partner. Additionally, women over 50 were as likely to report orgasm from a recent event as men with a non-relationship partner. It also appears that the legal classification of a relationship may be less predictive of orgasm likelihood than differences shown by partner familiarity or general relationship commitment. This again points to the advantages of increased measurement precision whenever possible.

### *Sex Without a Man*

Another reason researchers point to sociocultural factors as a primary driver of the orgasm gap is the much higher rates of orgasm reported by women when having sexual experiences that did not involve a man. Next, we compare studies under two such conditions, including the difference in orgasm rates across sexual orientation or partner's gender, and the contrast in orgasm frequency when women masturbate versus during mixed-gender sexual interactions.

Figure 10 compares rates of orgasm among women when grouped by sexual orientation or partner gender (for meta-analysis, see Macedo et al., 2023). First, Garcia et al. (2014) used representative data of single adults in the US with an oversample for sexual minorities, and they employed the sliding scale percentage to capture orgasm frequency patterns. They found that, on average, lesbians reported orgasming with a familiar partner 75% of the time compared to an average of 62% of the time among heterosexual females. Frederick et al. (2018) found an analogous pattern in their large, online sample of adults, with 86% of lesbians reporting that they "usually" or "always" orgasmed with a partner over the last month (the top two categories on the 1–5 ordinal scale) compared to 65% of heterosexual women. In both studies, the orgasm rate among bisexual women was more similar to that of heterosexual women. Holt et al. (2021) used a 4-point ordinal scale to measure orgasm frequency patterns among an online sample in the US of adult women in a sexual relationship, and they found that 68% of women identified as heterosexual reported orgasming "most of the times" as opposed to 75% of bisexual women and 79% of lesbians.

Across two online samples of women who had sex with men, primarily comprised of young women in the US, Gusakova et al. (2020) found 40% and 43% of these women reported orgasming at their most recent sexual encounter compared to 44% and 58% of women who identified as bisexual or pansexual. Returning to Archer's (2017) sample of Canadian university students (also shown in Figure 7), 29% of women reported orgasming "very often" in their "non heterosexual" hookups as opposed to 12% when partnered with men. The much lower numbers shown in Archer's study relative to Frederick et al. and Garcia et al. may be due in part to the different measurement and reporting style (apparently reporting only the top category on an ordinal scale) as well as sample differences (hookups among university students vs. sexual encounters among adults). As noted earlier in Figure 7, Peragine et al. (2022) found a stark gap between heterosexual young men and women in retrospective reports of orgasm during

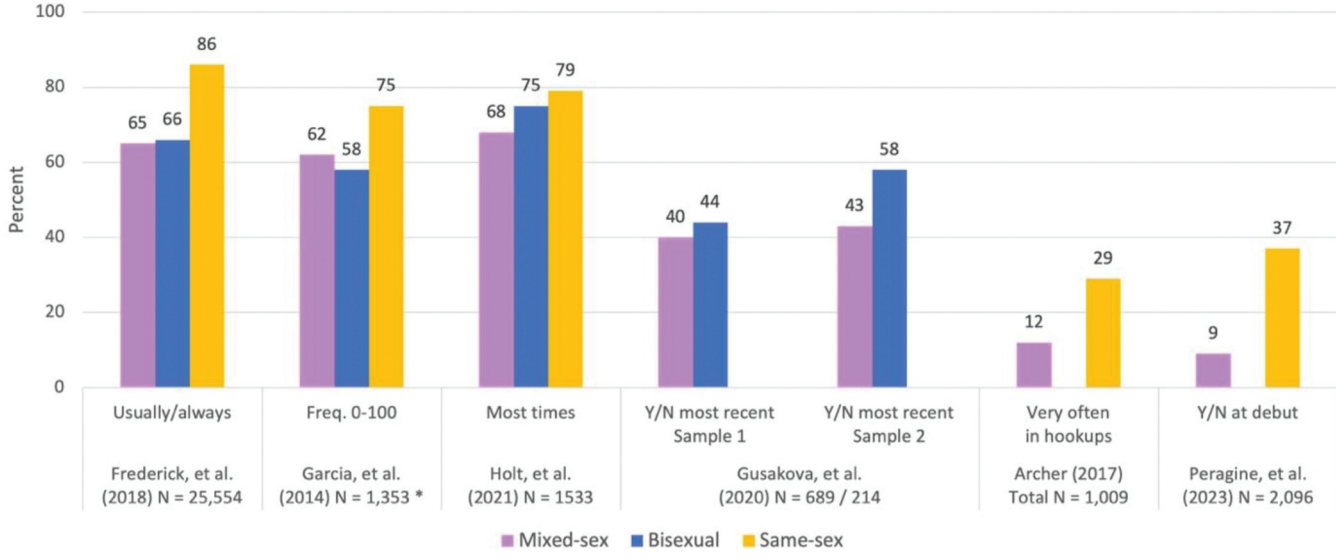


**Figure 10.** Differences in women's orgasm occurrence or frequency by partner gender. * Indicates a randomly selected representative sample.

partnered sexual debut (70% vs. 8%). To complement this finding, Peragine et al. (2023) showed that orgasm was far more common among young women who debuted with women. In this expanded sample, they reported that 9% of the young women who debuted with men recalled experiencing an orgasm compared with four times as many young women (37%) who debuted with women.

Although not shown in the figure due to their dissimilar measurement approaches, two studies reported differences in orgasm consistency among heterosexual and lesbian women in relationships. First, van Rees et al. (2016) reported means from a 5-point scale to describe the average orgasm frequencies among self-identified heterosexual and lesbian women in relationships from an online sample based mostly in the Netherlands. They found that lesbian women orgasmed more frequently with their partner than heterosexual women (4.3 vs. 3.6) and that both groups orgasmed far more consistently with clitoral stimulation.

Second, Blair et al. (2018) compared orgasm frequency across same-sex and mixed-sex participants in romantic relationships using the mean of a 6-point scale, and they further deconstructed the comparisons based on the type of activities included. Women with same-sex and mixed-sex partners reported very low frequencies of orgasm when receiving vaginal stimulation alone (1.7 and 2.0 respectively, as opposed to 4.2 for men during PVI). Average orgasm consistency means rose from 2.0 to 2.7 for heterosexual women when receiving clitoral stimulation from a male partner, but the average doubled – from 1.7 to 3.5—when receiving clitoral stimulation from a female partner. Similarly, when receiving oral sex, women in heterosexual relationships showed a mean orgasm consistency score of 2.5 compared to 3.4 in lesbian couples. (Interestingly, mixed- and same-sex males held the same mean orgasm score when receiving oral sex, 2.8). Findings from this study and those in Figure 9 suggest women are better at stimulating women, perhaps because of better clitoral knowledge, the absence of a phallocentric coital imperative, and/or more equitable, turn-taking scripts (Blair et al., 2018; Dienberg, Oschatz, Kosman, et al., 2023; Frederick et al., 2018; Willis et al., 2018). They are also consistent with findings that people adapt their partnered sexual behavior patterns based on their partner's gender more than their own gender identity (Harvey et al., 2023).

Finally, Figures 11 and 12 compare orgasm consistency patterns among heterosexuals when self-stimulating and when engaging sexually with a partner. Three US studies found heterosexual men orgasm with or without a partner at almost identical rates, but rates among heterosexual women were considerably lower when partnered than when alone. First, returning to the study from Wade et al. (2005), also in Figure 3), 66% of young women reported "usually" or "always" orgasming on the 5-point scale when masturbating as opposed to 39% when engaging sexually with a man. Second, Wetzel and Sanchez (2022) found the mean percentage frequency on a sliding scale for young women dropped from 74% of the time while masturbating to 49% with a familiar partner (and 15% with a new partner, as shown in Figure 8).

More recently, Dienberg, Oschatz, Piemonte, et al. (2023) replicated and expanded on the findings from Wade et al. among an online sample of US adults. They found a similar pattern of disparity, although this sample of adult heterosexual women reported orgasming more frequently in both contexts than young women. In this case, 92% of women reported "usually" or "always" orgasming when masturbating but only 57% answered this way about their sexual experiences with men. They also explored reasons for this disparity and found that a person's levels of clitoral knowledge and agreement with gendered sexual scripts both played an important role, as accurate clitoral knowledge was negatively related to holding male-centric scripts and scripts had a negative relationship with orgasm consistency. Moreover, women's clitoral knowledge was associated with orgasm frequency during masturbation but not partnered sex, which again supports the premise that social dynamics prioritizing men's interests play a key role in keeping many women from experiencing orgasm with a partner.

Studies of undergraduates in the Netherlands (Brody, 2007), adult twins in Australia (Dawood et al., 2005), and cohabiting adults in Prague (Klapilová et al., 2015) showed increases in orgasm frequency reports for women of around 15–16% when masturbating compared to during PVI. The reported differences were smallest among pregnant women in Spain when combining the top two categories (almost/always), although increases in the "always" orgasms category when masturbating were 17% pre-pregnancy and 14% while pregnant (García-Duarte et al., 2023). The difference between contexts was largest among a group of heterosexual, cisgender women in Canada (Suschinsky & Chivers, 2018).

Notably, Rowland et al. (2018) used an online convenience sample of women from Hungary and the US, all of whom masturbated, to explore differences between women who reported difficulty orgasming with a partner (OD) and those who did not. Women who could orgasm regularly with a partner constituted the slightly larger of their two groups. Using the frequency percentage sliding scale, they showed an average difference of only 8 points between their rates of orgasm with or without a partner (83% partnered, 91% masturbating). The other group had a nearly identical rate of

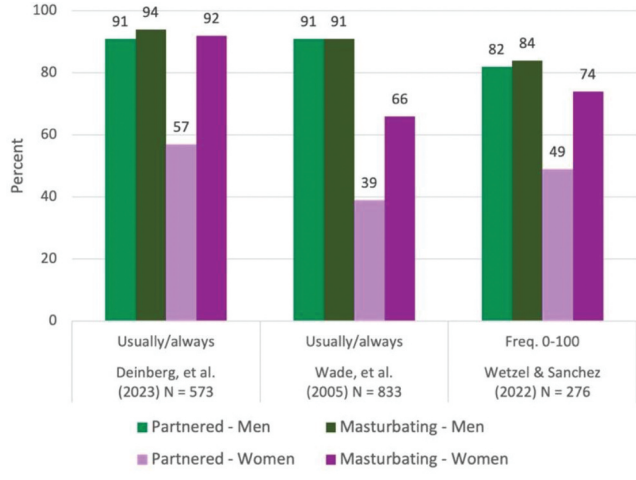


**Figure 11.** Disparities in heterosexual orgasm frequency by gender when partnered or masturbating.

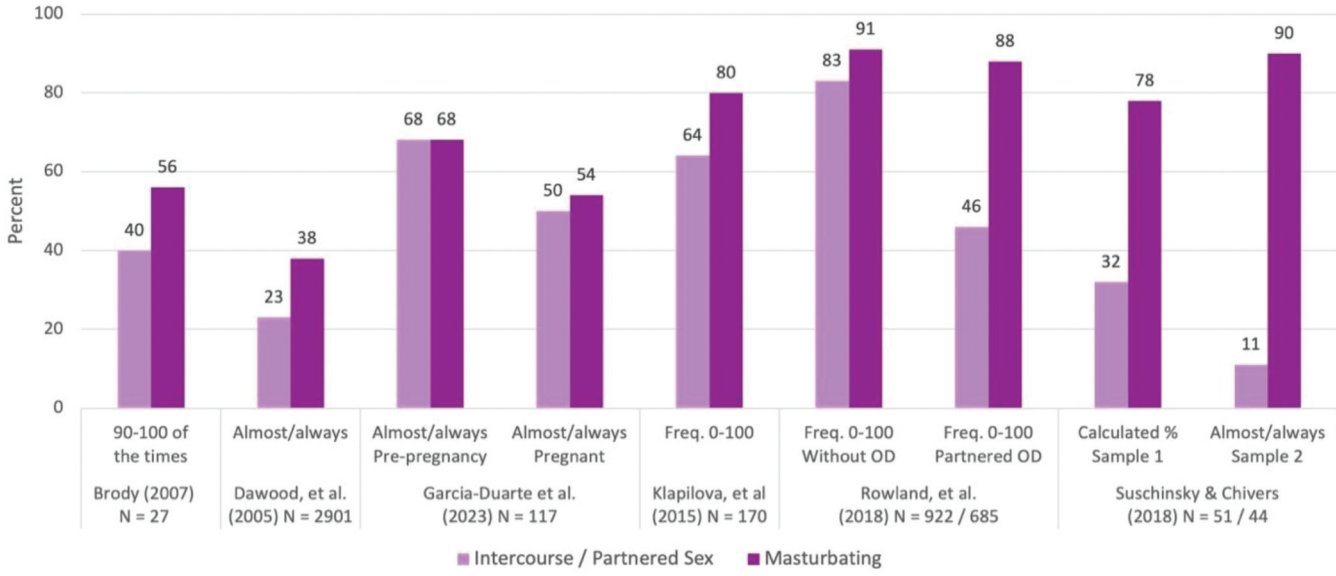


**Figure 12.** Differences in orgasm frequency among women during intercourse or masturbation.

orgasm when masturbating, yet they had a far lower average orgasm frequency when partnered (57% partnered, 92% masturbating). These findings support the premise that most women have the capacity to orgasm, and strictly biological explanations are insufficient to describe why many women do not orgasm consistently with a partner.

Three additional studies not shown in the figure compared rates of orgasm for heterosexual women during PVI or when masturbating using ordinal scale means. Tavares et al. (2017, 2018) used a 7-point scale among adult heterosexual women in Portugal and found mean orgasm frequencies during masturbation that were markedly higher than during PVI (5.2 vs. 3.7 in 2017; 5.7 vs. 3.8 in 2018). von Sydow (2002) reported ordinal means on the 5-point scale that increased from 2.2 with PVI to 4.0 with masturbation. In all three studies, the average orgasm frequencies were far more similar between masturbation and PVI when it included clitoral stimulation.

## Discussion and Opportunities for Future Research

As evidenced by the studies reviewed here, a person's chances of orgasm are powerfully shaped by social context rather than solely biological differences. In addition to behavior sets that included clitoral stimulation and partner gender as key factors, studies revealed substantial variation in orgasmic experiences by partner-specific learning, relationship commitment, national context, age, and whether with a partner or self-stimulating. Visual depictions of the gender disparities are striking, and evidence that women's orgasms are suppressed by certain contextual conditions provides a counterpoint to lingering rationalizations for the unequal outcomes between men and women. Our hope is that this review provides a road map for future research as well as further impetus for a comprehensive, biopsychosocial approach to sexual enjoyment and well-being for men and women alike (Ford, Ivankovich, et al., 2023; Laan et al., 2021; Simon, 2022; van Anders et al., 2022).

### Counting Orgasms

Each of the measurement types used in these studies holds potential benefits and limitations, and all may prove advantageous for specific research designs. However, we urge a carefully considered approach in choosing optimal measurement strategies for each analysis and providing descriptions of measure wording and participant characteristics that are as detailed as possible. Some studies even employ multiple measurement types, such as collecting responses about a specific event as well as overall frequency patterns (e.g., Kontula & Miettinen, 2016), which can be useful for triangulating mechanisms that produce orgasm disparities. Similarly, we recommend assessing the same participants over multiple contexts when possible to distinguish between-person differences and between-context differences (e.g., England et al., 2007).

Shirazi et al. (2018) shed additional light on the importance of question wording in their exploration of how to best measure orgasm frequency patterns. They used an 11-point ordinal scale (never, 1–10% of the time, 11–20% of the time, etc.) to test different versions of orgasm assessment measures, and they showed question semantics are critical when capturing women's orgasm experiences. For example, a general question asking about orgasm frequency during vaginal intercourse without specifying whether or not clitoral stimulation was present returned a mean score of 4.7, which was significantly different from two more specific questions differentiating between "strictly vaginal intercourse: intercourse with no additional clitoral stimulation from hands or a vibrator at the same time vaginal intercourse is going on" (3.2) and "intercourse with additional clitoral stimulation: intercourse with additional touching or rubbing of the clitoris with hands or a vibrator at the same time that intercourse is going on"

(6.2). In short, more specific questions will return more informative data.

Another key observation from Shirazi et al. (2018) is that more than a third (37%) of the women in their sample reported never experiencing orgasm during PVI alone (what they called "unassisted intercourse"). Yet among this same subset, 87% experienced orgasm when clitoral stimulation was included ("assisted intercourse"). This means nearly 9 in 10 women from their sample who did not orgasm with PVI alone did so when clitoral stimulation was added. Their results suggested increased measure specificity in conjunction with multiple measurement types will help future studies more accurately identify the mechanisms and potential interventions related to orgasm disparities.

Overall, we find frequency patterns with either percentage sliders or full reports of their ordinal categories provide the most informative data (e.g., Leonhardt et al., 2018; Wade et al., 2005). Ordinal measures may be most effective when a larger number of levels are available, when the categories are well-defined, and when "never/0%" and "always/100%" constitute standalone options (e.g., Shirazi et al., 2018). Conversely, reporting the means of ordinal categories seems to be the least informative style, since this sacrifices characteristics that make categorical measures advantageous. If researchers wish to employ a single summary score in analyses while retaining the benefit of orgasm frequency pattern interpretations, we recommend adopting the percentage sliding scale approach (e.g., Garcia et al., 2014; Wetzel & Sanchez, 2022). This provides a high level of specificity about orgasm consistency while remaining highly tractable for more complex statistical analysis.

Although sex category, orientation, and gender comprise separate components of a person's sexuality, the orgasm gap has primarily been found in heterosexual and cisgender men and women. Thus, one issue complicating measurement of the gender orgasm gap is the difference in defining and measuring whether an orgasm has occurred in anatomically male and female bodies (Frith, 2015). For people with penises, an orgasm is typically accompanied by ejaculation, making its occurrence comparatively easy to count. For people with clitorises, however, the definition of orgasm is sometimes less clear. Studies that inquired about the perception of a partner's orgasms regularly found women's estimations of their partner's orgasms were far more accurate than men's estimations for women, and men often overestimated women's orgasm frequency (Leonhardt et al., 2018; Shirazi et al., 2018; Wetzel & Sanchez, 2022).

In studies that asked about orgasm at a specific experience, there tended to be a non-trivial number of people – typically women – who responded, "I don't know" (e.g., 6% in Beckmeyer et al., 2021 and 8% in Struckman-Johnson et al., 2017). In a quantitative setting, there are few good options for how to use this kind of response since it is unclear whether participants are uncertain of what an orgasm feels like, cannot remember, or feel reticent to answer for some other reason. Functionally, this group was often excluded as missing data or bundled with those who responded with "no." However, the distinction between these reasons may tell us something important about why some women are left out of partnered orgasm experiences. Future research could employ additional qualitative pursuits as well as more advanced statistical techniques to provide a richer understanding of this often overlooked group.

### Who Counts in Sex

The studies reviewed here included participants from many different countries, though there was a clear focus on North America and Europe. We suggest much more work could be done exploring dynamics of orgasm (in)equity in other parts of the world, particularly Asia, Africa, and South America. There is also a need for more comparisons across subgroups within countries, such as potentially enlightening differences between sexual and gender configurations, socioeconomic levels, racial/ethnic groups, religious traditions, rural/urban areas, age groups, and cohort differences across time (Hamilton & Armstrong, 2009; Kontula & Miettinen, 2016; Townes et al., 2021).

Age and cohort comparisons may be illuminating as research suggests romantic relationship formation is declining and the sexual dynamics between young men and women, at least in the Western context, are changing in response to women's rising relative status in the workforce (Lei & South, 2021). It would be beneficial to document how changing cultural and economic contexts may reduce orgasm disparities (if young women feel less pressure to engage in one-sided sexual connections) or amplify them (if there is cultural backlash or if committed relationships that foster partner-specific learning become less common). As another example, Schick et al. (2010) provided a fascinating counterpoint to the relationship status orgasm trend, in that older women who were sexually active were more likely to report orgasm with a non-relationship partner. This may reflect a kind of survivor bias, since some women who do not often experience pleasurable sex may "opt out" of sexual activity and drop out of the sampling frame, while single, divorced, or widowed women who do anticipate pleasure may have more freedom to "opt in."

### What Counts as "Sex"

A perennial difficulty in quantifying individual behaviors, attitudes, and experiences is formulating adequate operational definitions. Even among studies that carefully defined what sexual parameters they intend for participants to include, some ambiguity remains in what a person may count as a sexual encounter – a cognitive evaluation process that is also a product of gender socialization, heteronormativity, age, and context (Andrejek et al., 2022; Gore-Gorszewska, 2021; Kirschbaum & Peterson, 2018; McCabe et al., 2010; Pham, 2016). In other words, people may have different conceptions of what is included in the sexual event denominator. Thus, future work could explore how personal schemas for sex are constructed by decomposing exactly which events are (or are not) brought to mind for men and women when they imagine their "most recent sexual experience with a partner." For example, are all types of sexual behaviors remembered in the reports

of both partners? Dyadic data could have partners list all events that they are including for a designated time frame and then compare men's and women's reports. For another example, people in their late teens and early twenties may maintain a more inclusive metric for what counts as a sexual encounter, particularly if they ascribe a high value to being sexually experienced or competent. Conversely, people with conservative religious beliefs may define sexual events more narrowly to avoid personal dissonance or community disapproval (Uecker et al., 2008). Additional explorations into what events "count" could better pinpoint to what extent the generally lower rates of orgasm among younger women are due to partner dynamics, maturation, less sexual experience, or schema differences.

### *Relationship Quality*

One element that we were somewhat surprised did not surface more often was that of orgasm differences not only by relationship status but by relationship quality. Numerous studies showed orgasm was tied to various relationship dynamics (Cerwenka et al., 2021; Costa & Brody, 2007; Dyar et al., 2020; Klapilová et al., 2015), such as communication (Herbenick et al., 2019; Jones et al., 2018; Mallory et al., 2019), gender egalitarianism (Ford, Carter, et al., 2023; Thorpe et al., 2021), and emotional connection (Beckmeyer et al., 2021; Herbenick et al., 2018; Walker & Lutmer, 2023). However, the majority of statistics reported in these analyses were predictive rather than descriptive and thus fall outside the scope of this review. Leavitt et al. (2023) is a rare example of including descriptive orgasm rates across different levels of variables representing relationship quality, and we hope that more studies in the future will consider including descriptive reports across important relational quality factors.

### *Longitudinal and Pre/Post Debut Data*

Another notable gap in the current literature is an opportunity for better use of longitudinal data to examine the mechanisms driving sexual inequalities. There were a number of studies that employed panel or repeated cross-sectional data (such as the NSSHB, Add Health, and CREATE), though analyses were almost exclusively modeled at a single time point. Longitudinal data collection efforts on orgasm patterns would be useful since there may be long-term gendered consequences for sexual dynamics from disasters like the COVID-19 pandemic (McElroy et al., 2023). Additionally, initial sexual experiences can shape trajectories for future experiences (Peragine et al., 2022, 2023; Sprecher et al., 1995), but we did not identify any studies that followed people before and after their partnered sexual debut. In the analysis by Peragine et al. (2022), they argued that a person's first sexual interaction with a partner may represent a critical learning acquisition moment, laying the foundation for personal expectations about what can be experienced from a partner. Thus, a person's initial partnered experiences may serve to solidify and personalize what were hitherto vague culturally shaped notions into influential expectations for partnered experiences and even for the nature of their sexual self. When young adults retrospectively recalled their first time having sex with a partner, the authors found that when young women did orgasm at their first intercourse they were more likely to have a higher desire for sex and more positive assessments of their sexual interactions later in life. It is difficult to definitively establish, however, if this was primarily a selection effect (young women who orgasmed at debut may be qualitatively different in some ways from those who did not) or more of a learning effect (debut may be a critical learning acquisition period). Future research would benefit from many types of longitudinal designs, including following adolescents starting from pre-debut, through their early experiences of sexual interactions, and into adulthood.

## Conclusions

Ultimately, we echo the call for further research into the ways sociological, psychological, and biological forces converge to shape people's sexual experiences differently (Graham, 2010; Laan et al., 2021; Reis et al., 2021; van Anders et al., 2022). Orgasm is a desirable, basic human physiological response available to most people, yet there is a pervasive gender gap in who is likely to experience orgasm during heterosexual encounters. Despite disparities in the opportunity for orgasm in heterosexual contexts, there is abundant evidence that orgasm is strongly linked to sexual pleasure, desire, and satisfaction among women (for review, see Dienberg, Oschatz, Piemonte, et al., 2023). By helping to consolidate existing data about the gender orgasm gap and describe the various measurement techniques used to date, we hope to facilitate continued efforts to identify the sociocultural mechanisms that subvert women's sexual interests. In moving toward a more biopsychosocial model of sexual well-being and enjoyment the good news is this: since much of the gender orgasm gap is socially constructed, it could also be deconstructed. As Laan et al. (2021) noted, "Together, women and men can practice a new definition of 'sex.' One that does not refer to a particular sexual act, but to an experience: a sexually pleasurable experience that is affectionately shared among equals." (p. 530).

## Disclosure Statement

No potential conflict of interest was reported by the author(s).

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