

Sexual Practices at Last Heterosexual Encounter and Occurrence of Orgasm in a National Survey

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We analyzed data from the Australian Study of Health and Relationships, a national telephone survey (2001–2002) of sexual behavior and attitudes among a representative sample of 19,307 Australians aged 16 to 59. Respondents were asked whether at their last sexual encounter they gave or received manual stimulation and oral sex, had vaginal intercourse or anal intercourse, and whether they had an orgasm. Most encounters (95%) included vaginal intercourse. Of the 64 possible combinations of practices, 13 accounted for 93% of encounters: vaginal intercourse alone (12%), intercourse and manual stimulation of the man's and/or woman's genitals (49%), and intercourse, manual, and oral (32%). Men had an orgasm in 95% of encounters and women in 69%. Women were more likely to reach orgasm in encounters including more practices, especially cunnilingus. Demographic and sexual history variables were comparatively weakly associated with orgasm.

In heterosexual encounters, women are less likely to reach orgasm than men. This has long been seen as a problem in the sexological literature (Fisher, 1973; Masters & Johnson, 1966, 1970; van de Velde, 1957). Men's orgasms, on the other hand, are generally seen as unproblematic unless they occur too soon during coitus (a common occurrence) or are delayed or absent (a rare occurrence).

However, there has been little research at a population level that examines predictors of or factors associated with orgasm on any one occasion. Indeed, much of the research on female difficulties with orgasm or with heterosexual sex in general has focused more on indirect causes, such as upbringing, attitudes, religion, marital adjustment, anxiety, previous traumatic experiences, or the woman's relationship with her father or other figures (Anderson & Cyranowski, 1995; Fisher, 1973) rather than proximal causes, such as the form of stimulation received. This is in spite of the information on clitoral stimulation "discovered" by Kinsey's team (1953) and Masters and Johnson (1966). Indeed, Fisher even argued vigorously that beyond a certain minimal level of stimulation (unspecified), what the husband does or what he

is like as a person makes little difference to his wife's potential for regular orgasm. Fisher is dismissive of the advice of sex manuals about technique, but his view is challenged by the finding by Davidson and Darling (1989), in a survey of over 2,000 female nurses, that women who were sexually satisfied were much more likely to have a male partner who could delay his initial orgasm until they had had one themselves. Furthermore, "the most desired change in the sexual lives of this sample of women, regardless of marital status, was more foreplay" (p. 83).

Anderson and Cyranowski (1995), in their review of women's sexuality, pointed out that definitions of orgasm and orgasmic dysfunction are heterogeneous, controversial, and unclear. For example, anorgasmia as a clinical diagnostic category may be defined as the lack of orgasm "following an unimpaired sexual excitement phase" (p. 898). Such a definition, though applicable where there is a pharmacological reason for the specific inability to reach orgasm, is not useful for identifying women who do not reach orgasm due to lack of appropriate stimulation.

Several major national surveys of sexual behavior preceded the Australian Study of Health and Relationships. The British National Survey of Sexual Attitudes and Lifestyles (Johnson, Wadsworth, Wellings, Field, & Bradshaw, 1994) focused largely on data required for the epidemiological understanding of HIV and other sexually transmissible infections, and did not ask directly about orgasm. The American study of the social organization of sexuality (Laumann, Gagnon, Michael, & Michaels, 1994), which

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took a broader, more sociological look at sexual conduct, asked about frequency of orgasm in the past 12 months. Among women (but not men), reporting orgasm rarely or never was associated with being unhappy (p. 358). There was no association between happiness and the occurrence of oral or anal sex in the last sexual event, or between happiness and the length of the last sexual event (more or less than 30 minutes). People who reported more frequent sex were more likely to be happy. This finding is in line with data from the Australian Study of Health and Relationships indicating that people who said they had sex often were more likely both to report their regular heterosexual relationship as extremely emotionally satisfying and to find the sex in their relationship extremely physically pleasurable (Richters, Grulich, de Visser, Smith, & Rissel, 2003a).

The authors of the French survey remarked that despite recent activity in sex research as a result of AIDS, "empirical knowledge of sexual repertoires remains extremely limited" (Messiah, Blin, Fiche, & the ACSF group, 1995, p. 1,358). Messiah et al. reported sexual practices at the last heterosexual encounter. (Respondents with any same-sex activity in the previous 12 months were excluded from the analysis.) The interview asked about mutual caresses, masturbation of each partner by the other, self-masturbation, fellatio, cunnilingus, man's finger in vagina, vaginal penetration (i.e., intercourse), and anal intercourse. Repertoire diversity was found to be age-dependent, with younger respondents engaging in a higher number of practices. Despite the large number of possible combinations of these practices (even if the number is reduced by counting manual stimulation of either partner as one practice, and cunnilingus and fellatio as oral sex), patterns of practice were not diverse. Three repertoires or combinations of practices accounted for three fourths of all encounters: caresses and vaginal intercourse; caresses, partner masturbation, and intercourse; and the previous three plus oral sex. The authors concluded that although a definition of "sexual encounter" had not been imposed on respondents, they clearly took this to mean penetrative intercourse, as only 1% of them reported an encounter that did not include it.

The Finnish national survey carried out in 1991 was able to compare its results with a similar survey done in 1972 and found an increase in sexual satisfaction (Haavio-Mannila & Kontula, 1997). The evaluation of the most recent intercourse as pleasurable increased among women, reducing the gender gap, but men still enjoyed intercourse in general more than women. At most recent intercourse, 92% of men and 56% of women in the later survey achieved orgasm. The authors constructed a model to find factors related to physical sexual satisfaction and found that women's sexual satisfaction was better predicted by factors in the model: the path models explained only 21% of men's but 46% of women's satisfaction with sex. Satisfaction was directly connected to sexual assertiveness, frequent sex, using many techniques in sexual encounters, and orgasm. For women, it was also connected to young age, and for men, considering sexuality impor-

tant in life, reciprocal love, and using sex materials.

Data have already been published from the Australian Study of Health and Relationships on the frequency of sexual activities at the last occasion of sex and the frequency of orgasm on that occasion (de Visser, Smith, Rissel, Richters, & Grulich, 2003). However, that analysis was simply descriptive and made no attempt to examine the relationship between sexual repertoire and orgasm. This article explores that relationship.

We stress, however, that the data collected in this study on sexual practice at last encounter were selective, with the choice of questions driven largely by relevance to health concerns about penetrative sex and condom use. Thus, respondents were asked about manual stimulation given and received, about oral sex, and about vaginal and anal intercourse, but not about many other sexual techniques and circumstances that may contribute to an encounter and to the probability of each partner reaching orgasm.

METHOD

The methods used in the Australian Study of Health and Relationships are described in detail elsewhere (Smith, Rissel, Richters, Grulich, & de Visser, 2003). Briefly, between May 2001 and June 2002, computer-assisted telephone interviews were completed by a representative sample of 10,173 men and 9,134 women aged 16–59 years from households in all states and territories of Australia. Respondents were selected via modified random-digit dialing, with over-sampling of men and residents of some geographical areas. The overall response rate was 73.1% (69.4% among men and 77.6% among women). All respondents answered a core set of questions, including sexual histories, and a subsample of 7,653 people provided detailed information about recent sexual behavior. The sample used in this analysis consists of the 5,118 men and women who were sexually active in the last year and who reported on their most recent sexual encounter with an opposite-sex partner.

The questions used to assess sexual practices at a woman's most recent sexual encounter with a man are displayed in the Appendix. Corresponding questions were asked of men about their most recent encounter with a woman. (Data relating to same-sex partners are not analyzed here.)

Factors Possibly Associated with Orgasm

Demographic factors used were age (recoded into 16–19, 20–29, 30–39, 40–49, 50–59); language spoken at home (English, other); education (less than secondary, secondary, post-secondary); household income (low < \$20,000 per year, moderate \$20,000–\$52,000 per year, high > \$52,000 per year); occupational classification (blue-collar, white-collar, manager/professional); religion or faith (yes, no).

Measures of lifetime sexual experience included age at first vaginal intercourse or oral sex (recoded as < 16 years or ≥ 16 years); number of years sexually active (recoded as

0–2 years; 3–10 years; 11–20 years; 21+ years); total number of sexual partners over the lifetime (recoded as 0–2; 3–10; 11–20; 21+).

Sexual permissiveness was measured by six items that formed a scale with good internal consistency (Cronbach's $\alpha = 0.74$; Rissel, Richters, Grulich, de Visser, & Smith, 2003). Scores ranged from 1 to 5, with higher scores indicating more permissive attitudes. These raw scores were recoded into low ($> 1 SD$ below the sample mean), moderate, and high ($> 1 SD$ above the sample mean).

Measures of recent sexual activity included: masturbated in the last month (yes, no); deliberately visited internet sex site in the last year (yes, no); watched X-rated film in the last year (yes, no); used sex toys in the last year (yes, no); frequency of sex in the last four weeks (no sex, up to twice a week, more than twice a week).

Respondents indicated their relationship to their most recent sexual partner (regular, other). Those who had sex with a regular partner indicated the length of their relationship with this partner (less than 1 year, 1–2 years, 2–5 years, 5–10 years, 10–20 years, 21+ years).

Analysis

Data were weighted to adjust for the probability of household selection (households with more phone lines were more likely to be contacted) and to adjust for the probability of selection within a household (individuals living in households with more eligible people were less likely to be selected). Further weighting on the basis of age, gender, and area of residence ensured that both the full sample and the subsample matched the Australian population as reported in the 2001 Census (Smith et al., 2003). Weighted data were analyzed using the survey estimation commands in Stata Version 7.0 (StataCorp, 2002). Factors associated with outcome variables were identified via univariate logistic regression (dichotomous outcome variables). The adjustment for demographic and sexual history variables in Table 5 was done by entering the predictor variable into the regression equation simultaneously with the demographic variables. This allowed us to determine whether the predictor variable had a significant effect on the likelihood of orgasm independent of the demographic confounders.

RESULTS

Practices at Last Sexual Encounter

As reported by de Visser et al. (2003), vaginal intercourse was the most common practice, engaged in by 95% of respondents. For the convenience of readers, these findings are repeated in Table 1, together with the odds ratio for the difference between men's and women's responses. It was more common for men to report manual stimulation of their female partner and cunnilingus than for women to report receiving such stimulation, but the differences were not huge and the picture was roughly consistent: in about three fourths of encounters, the respondent received manual sex, and in about a one fourth, the respondent received

Table 1. Sexual Practices and Orgasm at Most Recent Heterosexual Encounter

Practice	Men %	Women %	OR (95% CI)
Vaginal intercourse	95.6	93.9	0.99 (0.67–1.46)
Manual stimulation of woman by man	81.4	75.7	0.80 (0.64–0.98)
Manual stimulation of man by woman	73.9	69.5	0.89 (0.73–1.07)
Cunnilingus	30.3	24.3	0.76 (0.63–0.92)
Fellatio	26.4	23.7	0.89 (0.74–1.08)
Anal intercourse	0.9	0.7	0.79 (0.36–1.73)

Source: de Visser et al. (2003), Table 5.

oral sex. Anal intercourse occurred in less than 1% of encounters.

Combinations of Sexual Practices

Table 2 displays the combinations of sexual practices engaged in during respondents' most recent heterosexual encounters. Of the 64 possible combinations of these six practices, men engaged in 40 and women engaged in 35.

The behavior of half of the men (49.9%) was captured by two combinations: vaginal intercourse plus mutual manual stimulation (35.3%) and the same combination with mutual oral sex as well (14.6%). The next most common combinations were vaginal intercourse with manual stimulation of the woman (10.8%) and vaginal intercourse alone (9.6%).

The behavior of nearly half (48.2%) of the women was similarly captured by two combinations: vaginal intercourse plus mutual manual stimulation, and vaginal intercourse alone. The next most common combinations were vaginal intercourse plus mutual manual and oral sex (11.4%), and vaginal intercourse plus manual stimulation of the woman (9.8%).

Prevalence of Orgasm During Most Recent Sexual Encounter

At their last sexual encounter, 94.8% of men and 68.9% of women had an orgasm. Table 3 displays associations between orgasm during the most recent heterosexual encounter and demographic variables. A man was significantly less likely to have had an orgasm during his most recent sexual encounter if he was aged 16–19 ($p = .004$). There was no significant association between whether men reached orgasm during their most recent sexual encounters and language spoken at home ($p = .134$); education ($p = .093$); household income ($p = .273$); occupational classification ($p = .474$); or religious belief ($p = .308$).

A woman was significantly less likely to have had an orgasm during her most recent sexual encounter if she was aged 16–19 or 50–59 ($p = .010$). She was significantly more likely to have had an orgasm during her most recent sexual encounter if she spoke English at home ($p = .008$); had completed post-secondary education ($p = .022$); had a higher household income ($p = .002$); and had a managerial/professional occupation ($p = .017$). The likelihood of orgasm was

Table 2. Combinations of Sexual Practices During Respondents' Most Recent Heterosexual Encounters

	Frequency	
	Men %	Women %
None of the practices asked about	0.5	1.9
One		
vaginal	9.6	13.9
manual (of the man)	0.6	0.2
manual (of the woman)	0.1	0.3
fellatio	<0.1	<0.1
Two		
vaginal + manual (woman)	10.8	9.8
vaginal + manual (man)	4.1	4.1
manual (man) + manual (woman)	0.8	1.4
vaginal + cunnilingus	0.7	0.6
fellatio + manual (man)	0.4	0.4
vaginal + fellatio	0.1	0.1
cunnilingus + manual (woman)	0.1	<0.1
cunnilingus + manual (man)	0.1	<0.1
fellatio + manual (woman)	<0.1	–
anal + manual (woman)	<0.1	–
vaginal + anal	–	0.1
Three		
vaginal + manual (man) + manual (woman)	35.3	34.3
vaginal + cunnilingus + manual (woman)	1.7	1.4
vaginal + fellatio + manual (man)	0.9	0.8
vaginal + fellatio + cunnilingus	0.4	0.8
vaginal + fellatio + manual (woman)	0.4	0.5
fellatio + cunnilingus + manual (man)	0.2	0.8
cunnilingus + manual (man) + manual (woman)	0.3	0.6
fellatio + manual (man) + manual (woman)	0.4	<0.1
vaginal + cunnilingus + manual (man)	0.3	<0.1
vaginal + anal + manual (woman)	0.1	0.1
fellatio + cunnilingus + manual (woman)	<0.1	<0.1
anal + fellatio + manual (man)	<0.1	–
Four		
vaginal + cunnilingus + manual (man) + manual (woman)	8.3	7.0
vaginal + fellatio + manual (man) + manual (woman)	5.5	6.7
vaginal + fellatio + cunnilingus + manual (woman)	1.5	0.7
fellatio + cunnilingus + manual (man) + manual (woman)	0.7	0.8
vaginal + fellatio + cunnilingus + manual (man)	0.6	0.3
vaginal + anal + manual (man) + manual (woman)	<0.1	0.3
vaginal + anal + cunnilingus + manual (woman)	0.1	–
Five		
vaginal + fellatio + cunnilingus + manual (man) + manual (woman)	14.6	11.4
vaginal + anal + fellatio + cunnilingus + manual (woman)	<0.1	<0.1
vaginal + anal + fellatio + manual (man) + manual (woman)	<0.1	<0.1
vaginal + anal + cunnilingus + manual (man) + manual (woman)	0.1	–
vaginal + anal + fellatio + cunnilingus + manual (man)	<0.1	–
Six		
vaginal + anal + fellatio + cunnilingus + manual (man) + manual (woman)	0.6	0.2
Total	100.0	100.0

not related to having a religion or faith ($p = .378$).

Table 4 displays associations between orgasm during the most recent heterosexual encounter and sexual history variables. Men were significantly less likely to have had an orgasm during their most recent sexual encounter if they had been sexually active for two or fewer years ($p = .010$), had less permissive attitudes toward sex ($p = .031$), or if the encounter was with an occasional or casual partner rather than a regular one ($p < .001$). They were significantly less likely to have had an orgasm if they had been in the relationship with the regular sexual partner for less than one

year or for between two and five years, but most likely to have had an orgasm with a regular partner of between one and two years' standing ($p = .017$). Whether men had an orgasm during the most recent sexual encounter was not significantly related to whether they became sexually active before age 16 ($p = .976$), the number of sexual partners they had had over the lifetime ($p = .273$), whether they had masturbated in the last month ($p = .767$), had deliberately visited an internet sex site in the last year ($p = .671$), watched an X-rated video or film in the last year ($p = .419$), or had used sex toys in the last year ($p = .129$).

Table 3. Associations Between Demographic Characteristics and Orgasm at Last Sexual Encounter

	Men (<i>n</i> = 2,858) Orgasm %	Women (<i>n</i> = 2,260) OR (95% CI)	Orgasm %	OR (95% CI)
Age				
16–19	83.8	0.27 (0.12–0.61)	52.4	0.43 (0.23–0.80)
20–29	95.1	1.00	72.1	1.00
30–39	95.4	1.07 (0.53–2.15)	71.4	0.97 (0.68–1.38)
40–49	96.0	1.23 (0.54–2.82)	71.6	0.97 (0.66–1.43)
50–59	94.5	0.89 (0.42–1.87)	61.4	0.61 (0.41–0.93)
Language spoken at home				
English	95.1	1.00	69.5	1.00
other	89.9	0.46 (0.17–1.27)	45.4	0.36 (0.17–0.77)
Highest completed education				
less than secondary	92.7	1.00	64.2	1.00
secondary	94.7	1.39 (0.80–2.43)	70.7	1.34 (0.96–1.87)
post-secondary	96.3	2.06 (1.00–3.94)	71.9	1.42 (1.05–1.93)
Household income (annual)				
< \$20,000	92.4	1.00	58.3	1.00
\$20,000–\$52,000	94.5	1.43 (0.66–3.09)	69.5	1.63 (1.12–2.36)
> \$52,000	95.7	1.86 (0.85–4.06)	73.1	1.94 (1.33–2.82)
Occupational classification*				
blue-collar	94.3	1.00	65.4	1.00
white-collar	94.9	1.13 (0.61–2.09)	65.7	1.01 (0.69–1.48)
manager/professional	96.0	1.43 (0.80–2.56)	74.5	1.54 (1.01–2.35)
Religion or faith				
yes	94.1	1.00	70.2	1.00
no	95.4	1.29 (0.79–2.10)	67.7	0.89 (0.69–1.15)
Total	94.8		68.9	

* Excludes respondents who had never worked.

Women were significantly less likely to have had an orgasm during their most recent sexual encounter if the encounter was with a non-regular sexual partner ($p < .001$). They were significantly more likely to have had an orgasm if they had used a sex toy in the last year ($p = .044$) or had sex more than twice a week in the four weeks before being interviewed ($p = .003$). Women in relationships of one to two years' standing were the most likely to have an orgasm ($p = .024$). Whether women had an orgasm during the most recent sexual encounter was not significantly related to whether they had become sexually active before age 16 ($p = .651$), the length of time they had been sexually active ($p = .144$), the number of sexual partners over the lifetime ($p = .455$), whether they had masturbated in the last month ($p = .671$), had deliberately visited an internet sex site in the last year ($p = .352$), had watched an X-rated video or film in the last year ($p = .511$), or their attitudes toward sex ($p = .424$).

Orgasm and Sexual Practice

Table 5 shows the association between the likelihood of orgasm and the number of sexual practices engaged in during the most recent heterosexual encounter. Both men ($p < .001$) and women ($p < .001$) were more likely to have an orgasm if they engaged in a greater number of sexual practices, with orgasm most likely in encounters in which five practices were experienced. For both men and women, when the analyses were adjusted to account for the effect of factors identified as significantly associated with orgasm (see Tables 3 and 4), the patterns of results and the

sizes of the odds ratios did not change. This suggests that the association between number of sexual practices and orgasm is independent of the influence of demographic factors and sexual history.

For men, the likelihood of orgasm was not strongly influenced by the number of sexual practices, probably because of the high proportion of men having orgasms from a single practice, usually vaginal intercourse. For women, the results were different and suggested that it is only when practices such as oral and manual stimulation are added to vaginal intercourse that women become more likely to have an orgasm.

In order to investigate this further, we looked at the likelihood of orgasm for the more common combinations of practices (Table 6). For simplicity, we excluded those practices where the respondent stimulated the partner (i.e. manual stimulation of the partner, cunnilingus for men, and fellatio for women). These practices may be arousing but are intuitively unlikely to lead directly to orgasm for the respondent.

Almost all men reached orgasm in encounters that included vaginal intercourse. Fewer men, but still over 80%, reached orgasm in encounters where they received oral and/or manual stimulation but did not have intercourse. The picture for women was quite different: orgasm was least likely (50%) among the group whose only reported practice was vaginal intercourse. Rates were higher (around 70%) among those who had intercourse plus manual stimulation, or intercourse plus cunnilingus. But orgasm was more likely for those who had intercourse

Table 4. Associations Between Sexual History and Orgasm at Last Sexual Encounter

	Men (<i>n</i> = 2,858)		Women (<i>n</i> = 2,260)	
	Orgasm %	OR (95% CI)	Orgasm %	OR (95% CI)
Age first vaginal or oral				
< 16	94.8	1.00	70.2	1.00
≥ 16	94.7	0.99 (0.58–1.69)	68.6	0.93 (0.68–1.28)
Years sexually active				
0–2	88.2	0.29 (0.12–0.68)	56.8	0.61 (0.32–1.15)
3–10	96.3	1.00	68.2	1.00
11–20	93.3	0.54 (0.26–1.10)	72.6	1.23 (0.87–1.74)
21 plus	95.9	0.89 (0.44–1.80)	68.7	1.02 (0.73–1.43)
Partners in lifetime				
1–2	93.2	0.78 (0.37–1.64)	66.2	0.83 (0.61–1.12)
3–10	94.5	1.00	70.3	1.00
11–20	94.5	0.99 (0.52–1.89)	72.0	1.08 (0.75–1.57)
21 plus	96.4	1.53 (0.87–2.70)	67.1	0.86 (0.57–1.31)
Masturbated last month				
no	94.6	1.00	68.6	1.00
yes	94.9	1.07 (0.67–1.73)	70.0	1.07 (0.79–1.44)
Visited internet sex site last year				
no	94.8	1.00	69.0	1.00
yes	94.3	0.90 (0.55–1.48)	61.9	0.73 (0.38–1.42)
Watched X-rated film last year				
no	94.4	1.00	68.4	1.00
yes	95.3	1.22 (0.76–1.95)	70.8	1.12 (0.80–1.57)
Used sex toys last year				
no	95.1	1.00	67.7	1.00
yes	92.3	0.61 (0.32–1.15)	75.2	1.45 (1.01–2.08)
Sexual permissiveness				
low	90.8	0.48 (0.24–0.93)	64.8	0.81 (0.57–1.15)
moderate	95.4	1.00	69.6	1.00
high	95.5	1.03 (0.37–2.88)	71.3	1.09 (0.71–1.67)
Frequency of sex in last 4 weeks				
0	95.8	1.00	67.9	1.00
up to twice a week	92.9	0.57 (0.28–1.15)	65.0	0.88 (0.64–1.20)
more than twice a week	97.5	1.73 (0.78–3.82)	76.3	1.52 (1.05–2.21)
Partner type				
regular	95.5	1.00	70.0	1.00
other	87.6	0.34 (0.19–0.58)	48.7	0.41 (0.27–0.62)
Relationship length*				
< 1 year	92.2	0.19 (0.05–0.65)	69.1	0.56 (0.25–1.25)
1–2 years	98.5	1.00	79.9	1.00
2–5 years	93.3	0.22 (0.06–0.77)	72.0	0.65 (0.32–1.32)
5–10 years	96.2	0.40 (0.10–1.57)	72.9	0.68 (0.35–1.33)
10–20 years	96.7	0.46 (0.13–1.61)	71.3	0.63 (0.33–1.19)
> 20 years	95.3	0.32 (0.09–1.12)	65.3	0.47 (0.25–0.91)
Total	94.8		68.9	

*Respondents who had sex with a regular partner.

and also received both manual and oral stimulation; indeed, it appeared to be most frequent among the small number of women who received such stimulation but did not have intercourse, though numbers for some combinations were too small to permit significance testing.

DISCUSSION

This study was based on a large national representative sample with a high response rate (73.1%). Although prevalence estimates from such studies are likely to suffer some residual bias due to higher refusal rates among more embarrassed and less sexually active respondents—the “sex survey volunteer effect”—this is a minimal issue for

this analysis based on the last sexual encounter in the previous year. People who had not had sex in the past year were not asked these questions.

More women (1.9%) than men (0.5%) reported sexual encounters including none of the six practices we asked about. This suggests that women may be more likely to count activities as sex when they do not include intercourse, though such a suggestion is not supported by other research. In the French national survey (Messiah et al., 1995), 99% of encounters reported by both men and women included intercourse, and in three studies of university students in different countries, men were more likely than women to count non-coital activities as “sex” (Pitts

Table 5. Numbers of Sexual Practices During the Most Recent Heterosexual Encounter and Their Association With Orgasm

Number of practices	% who did this	% had orgasm	OR (95% CI)	OR (95% CI) adjusted*
Men				
None	0.5	16.7	0.02 (0.00–0.08)	0.02 (0.00–0.10)
One	10.3	92.3	1.00	1.00
Two	17.2	95.8	1.90 (0.77–4.71)	2.00 (0.82–4.90)
Three	40.1	94.0	1.32 (0.59–2.97)	1.30 (0.58–2.88)
Four	16.6	96.5	2.34 (0.84–6.49)	2.68 (1.00–7.17)
Five	14.8	97.8	3.65 (1.39–9.63)	3.86 (1.44–10.33)
Six	0.6	97.2	2.95 (0.37–23.66)	4.96 (0.55–45.03)
Total	100.0	94.8		
Women				
None	1.9	18.4	0.23 (0.05–1.10)	0.33 (0.06–1.76)
One	14.5	49.0	1.00	1.00
Two	16.5	58.6	1.47 (0.96–2.26)	1.38 (0.87–2.17)
Three	39.6	72.3	2.71 (1.85–3.98)	2.61 (1.74–3.90)
Four	15.8	80.6	4.31 (2.56–7.25)	4.14 (2.41–7.12)
Five	11.5	89.0	8.40 (4.86–14.53)	8.69 (4.80–15.72)
Six	0.2	83.4	5.21 (0.82–33.13)	5.54 (0.80–38.59)
Total	100.0	68.9		

*Adjusted for effect of significant demographic and sexual history variables identified in Table 3 and Table 4.

& Rahman, 2001; Richters & Song, 1999; Sanders & Reinisch, 1999).

Men were more likely to report all the practices asked about, particularly those that they did to their partner (manual stimulation of the vaginal area and cunnilingus) rather than those received from the partner (manual stimulation of the penis and fellatio). It may be that women regard some manual or oral stimulation received from their partners during foreplay as too perfunctory to report, or the men's responses may be subject to social desirability bias. However, the data allow us to form a view of the most common sexual encounter between men and women in Australia. It consists of vaginal intercourse preceded, accompanied, or followed by the partners stimulating each other's genitals by hand. At their most recent sexual encounter, about half the respondents had vaginal intercourse plus manual stimulation of either or both partners. About a third had vaginal plus manual plus oral sex (given and/or received), and 12% had only vaginal intercourse. Only around 7% had any other combination, including "none of the above" (i.e., they had sex but not any of the practices we asked about), oral or manual sex without vaginal intercourse, and any combinations including

anal sex. Although the percentages are not directly comparable because we did not ask about "caresses," the finding of a lack of repertoire diversity is broadly similar to the French survey (Messiah et al., 1995). Despite the fact that a range of possible practices was not asked about, the heavy concentration on a few of the many possible combinations of the six practices we did ask about suggests that a fairly limited "script" for sex is well-established (Gagnon & Simon, 1974).

Other practices that people may have done at their last sexual encounter but which were not asked about include hugging and kissing, licking or stroking non-genital areas of the body (including nipples or anus), "dry humping," stimulating their own genitals, bondage and discipline, and using substances, objects, or equipment in sex play. Later in the questionnaire, respondents were asked about their experience of role-play or dressing up, use of sex toys, bondage and discipline, group sex, digital anal stimulation, rimming, and fisting in the past year. The most common of these were digital anal stimulation, reported by 17.3% of men and 14.3% of women, and use of a sex toy, reported by 11.8% of men and 14.1% of women. Each of the other practices was engaged in by less than 5% of respondents

Table 6. Combinations of Sexual Practices Received and Orgasm at Respondents' Most Recent Heterosexual Encounters

Practice	Men		Women	
	% who did this	% who had orgasm	% who did this	% who had orgasm
Vaginal intercourse only	22.8	94.5	18.9	49.6
Vaginal intercourse + manual stimulation of respondent	48.0	95.2	51.3	70.9
Vaginal intercourse + oral stimulation of respondent	2.4	98.6	2.5	72.8
Vaginal intercourse + manual + oral stimulation	21.6	97.7	20.6	85.6
Manual stimulation only	1.9	81.6	2.4	78.7
Manual + oral stimulation	1.7	87.3	0.9	90.0
Oral stimulation only	< 0.1	*	< 0.1	*
Any combination that included anal intercourse	1.0	91.2	0.7	69.5

Note. Manual and oral stimulation of the partner by the respondent are omitted from this analysis, so columns do not add up to 100%.

*Numbers too small to allow reliable estimate with weighted data.

(Richters et al., 2003b). It is unlikely, therefore, that any of these practices form a large part of the regular sexual interactions between heterosexual couples. Hugging, kissing, and perhaps massage, stroking, or licking other parts of the body are more likely to form part of the standard heterosexual encounter.

Demographic and relationship characteristics were associated with orgasm, but the differences were not as dramatic as the associations with gender and with sexual practice. The exception is what appears to be a learning effect: men and women under 20 and men with less than three years' sexual experience were less likely to have an orgasm. (Less experienced women also appeared to have a lower likelihood of orgasm, but the difference did not reach statistical significance.) The nature of the relationship in which the sex occurred also had a strong effect: less than half of the women having sex with a casual or occasional partner reached orgasm.

The associations between orgasm and demographic characteristics suggest a social class effect, with better-educated, non-immigrant women more likely to have orgasms. The effect of sexual permissiveness was weak—indeed non-significant in women—though the association between use of sex toys and orgasm in women may indicate a link between orgasm and sexual interest or adventurousness, which may affect orgasm directly or via a wider repertoire of sexual practices. The lower rate of orgasm in women over 50 and in relationships lasting over 20 years may have a physiological component, but is probably compounded by an age-cohort-related cultural limitation of sexual practice.

It is unusual for a man not to have an orgasm when he has sex with a woman: only 5.2% of men did not reach orgasm at their last heterosexual encounter. It is much more common for women, 31.1% of whom did not reach orgasm. This difference is reflected in the survey's findings on sexual difficulties, which showed that women were much more likely than men to have trouble reaching orgasm (Richters et al., 2003c).

One reason for this may be the heavy concentration on vaginal intercourse as the central, almost compulsory sexual practice, which is more effective as a way for men to reach orgasm than for women. This conjecture was confirmed when we examined the relationship between combinations of sexual practices and orgasm in Tables 5 and 6. In general, men were highly likely to have an orgasm in any encounter that included vaginal intercourse, but were somewhat less likely to do so if they only received oral and/or manual sex. Nonetheless, among men whose partners stimulated them manually or performed fellatio as well, more than 80% had an orgasm. In contrast, women who had vaginal intercourse but no oral or manual stimulation had only a 50% chance of reaching orgasm. Among those who had vaginal intercourse and whose male partners also stimulated them manually—the largest group—71% had an orgasm. Few people had anal intercourse, but it did not seem to make much difference in the likelihood of orgasm for men or women.

Although women were more likely to reach orgasm when the encounter included manual and oral sex, their orgasms did not necessarily occur *during* these practices. Some encounters may be based on the understanding of fairness or reciprocity articulated by Braun, Gavey, and McPhillips's (2003) New Zealand respondents (white, largely tertiary educated). One man summarized this script as "usually she will come first, I go down on her and then later I'll come inside her." It is also probable that some women are more likely to reach orgasm during intercourse if they have been highly aroused by other practices first. Braun et al. suggested that there were limits to the discourse of reciprocity: the man's orgasm tends to "signal an end to 'sex'" (p. 247); if the woman wants further stimulation after this, she needs to claim it explicitly.

We cannot assume, of course, that everyone having sex wants to reach orgasm on that occasion. Although there is evidence that women who have frequent orgasms are more likely to be satisfied with their sex lives (Haavio-Mannila & Kontula, 1997), it does not matter to everyone. Women who had sex more than twice a week in the past four weeks were more likely to have an orgasm at their last encounter, but the difference was not large.

One possible explanation for the discrepancy between male and female experience of orgasm in partnered encounters is that men want sex more often than women, with the result that in established couples, some of the sexual interactions are what women popularly call "mercy fucks" or "freebies." When asked how often they would ideally like to have sex, men's stated ideal frequency was somewhat higher than women's. The median response from men was four to six times a week, whereas the median response from women was in the "two or three times a week" category. Only 3.4% of men but 10.1% of women wanted sex less than once a week, and 24.3% of men but only 8.3% of women wanted sex daily (Richters et al., 2003a). This means that there are likely to be more relationships in which the man wants sex more often than the woman than vice versa. (Note that this does not necessarily mean the woman wants less sex; she may desire longer or more elaborate sessions rather than daily "quickies.") Thus, some of the intercourse-only events may be occasions on which the woman is not interested in orgasm but is obliging the man, and some of the no-intercourse events consisting of manual and oral stimulation of the woman may be occasions on which the man, uninterested in reaching orgasm himself, is obliging the woman.

If we return to the sexual practice findings with this in mind, we see that nearly 12% of reported sexual encounters consisted of vaginal intercourse alone, with a high chance of orgasm for the man but a comparatively low chance for the woman. The putative counterpart of this encounter for women is manual stimulation, or manual stimulation plus cunnilingus, reported by less than 0.3% of respondents. It is hard to escape the conclusion that when the man is keen to have sex but the woman is not, intercourse ensues and the man reaches orgasm, but when the

woman is keen but the man is not, sex rarely happens.

Another possible explanation for the discrepancy between male and female experience of orgasm in partnered encounters is that women are intrinsically less keen on sex than men and/or less physiologically capable of reaching orgasm. There may be evolutionary reasons for this. Nonetheless, in cultures that support and encourage female sexual pleasure, women do often reach orgasm and appear to enjoy sex more and be happier if they do so. Our findings suggest that manual and oral sex provide the direct stimulation for many women that makes orgasm more likely, though still less likely than for men. Women having sex with women were more likely to reach orgasm at their last encounter (76%) than women with male partners (69%), though this is still a lower proportion experiencing orgasm than among men with male partners (89%; Grulich, de Visser, Smith, Rissel, & Richters, 2003).

All of these comparisons, however, make the naïve assumption that orgasms are qualitatively all the same and can simply be counted, and that more is better. Sex therapist Bernard Apfelbaum (personal communication) has argued that we should not see men's greater number of orgasms as an unalloyed advantage for them; for many, he argued, sex consists of a valiant but often failed effort to avoid ejaculation that comes too early, before arousal has had much chance to build. This correlates with our finding that more men than women (24% vs. 12%) reported reaching orgasm too early (Richters et al., 2003c).

Considerable effort has been expended on the "sex problem" of women: they appear to be less interested in sex than men, they report more problems, and they are less likely to reach orgasm in partnered sex (Gagnon & Simon, 1974; Kinsey et al., 1953; Richters et al., 2003c). Recent attempts to medicalize women's sexual difficulties to create a market for a "pink Viagra" (Moynihan, 2003; Wyllie, 2005) and the arguments against this (Kaschak & Tiefer, 2001) have drawn attention to the issue. Our findings suggest, however, that the proximal cause—the sexual stimulation delivered to women in the typical, rigidly-scripted heterosexual interaction—has more to do with whether they reach orgasm (and, we suspect, enjoy sex) than with more obscure and distant causes. Most demographic and sexual history variables, apart from young age and non-English-speaking background, were comparatively weakly associated with orgasm. It is likely that insofar as such factors affect the likelihood of orgasm, they do so partly or even largely through the mechanism of sexual practice.

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APPENDIX

Questions Asked About Sexual Practices During Women's Most Recent Sexual Encounter With Men

The last time you had sex, did he put his penis into your vagina?

The last time you had sex, did he put his penis into your anus?

The last time you had sex, did you have oral sex with your mouth on his penis?

Did you have oral sex with his mouth on your vaginal area?

Did you stimulate his penis with your hand?

Did he stimulate your clitoris or vaginal area with his hand?

And the last time you had sex with him, did you have an orgasm?