

**Discrepancies Between Men and Women in
Reporting Number of Sexual Partners:
A Cross-National Comparison**

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Tom W. Smith

NORC

University of Chicago

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Sexual behavior may be among the most difficult of topics to collect reliable data on. First, sexual behavior concerns intimate, personal matters. Reporting on such matters, even in fully confidential and/or anonymous settings, conflicts at least in part with the inherently private nature of sexual behavior (Bradburn and Sudman, 1979; Catania, McDermott, and Pollack, 1986; DeMaio, 1984). Second, sexual behavior is deeply entangled with issues of self- image and personality. Sexual behaviors are not merely discrete, physical activities, but activities that are associated with basic notions of self-esteem and are integral parts of self-definition.

Third, a number of sexual behaviors are either morally condemned by large segments

of society (e.g. homosexuality and infidelity) or illegal (e.g. rape, incest, and child molestation). Reports related to such behaviors open respondents to moral disapproval (by an interviewer) and/or potential social and legal repercussions (should confidentiality be breached). Fourth, much sexual behavior can not be validated and even what validation is theoretically possible can be achieved only through elaborate and expensive research designs (Miller, Turner, and Moses, 1990). Finally, the above inherent difficulties of studying sexual behavior are made worse by the dearth of experience in collecting sexual behavior data. Despite the manifest importance and centrality of sexual behavior, there have been few surveys designed to collect such data and even less methodological work on developing optimal collection procedures (Smith, 1990).

This paper examines the reliability of one key type of sexual behavior by comparing reports of the number of opposite gender sex partners reported by men and women. Within a closed population, the number of female sexual partners reported by men must equal the number of male sexual partners reported by women. Thus, agreement between men and women validates the aggregate reports and suggests that the reports are reliable. Discrepancies on the other hand indicate either a deviation from the closed population assumption or some inaccuracy in the data for one or both genders (Gorman, 1989).

Data

Data on number of sexual partners are available from six surveys in four countries. Basic details on these surveys are given in Table 1. Each are representative, probability samples of either all adults or of adults up to approximately age 60. Three different data collection modes are employed: four used self-completion forms during a personal interview, one was over the telephone, and one was a mail questionnaire.

Each of these surveys ask a series of questions that allow the determination of number of heterosexual partners over varying reference periods (Appendix 1). These questions differ in their wordings, response categories, and time frames.

We will 1) report the results from each survey, considering as we do possible adjustments, 2) examine the general pattern across all surveys, 3) consider explanations for the patterns that are observed, and 4) offer suggestions for testing and improving the measurement of number of sexual partners.

NORC-GSS, 1988-1989

In both the 1988 and 1989 General Social Surveys (Davis and Smith, 1989), the number of female sexual partners during the last 12 months reported by men greatly exceeded the number of male partners reported by women. In 1988, among all male heterosexuals the mean number of partners reported was 1.84, while female heterosexuals reported only 0.98 partners. In 1989 the number of partners reported were 1.48 by men and 0.90 by women. Among heterosexuals for each female partner

that a man had a woman has a male partner. Thus in a closed population the number of heterosexual partners for women should be equaled by the number of heterosexual partners for men. Instead of parity we find that the ratio of female partners to male partners is 1.88:1 in 1988 and 1.64:1 in 1989.

First, we consider the possibility that these differences are the result of a few extreme values affecting the mean. Means of course can be disproportionately affected by a small proportion of cases with extreme values. Such cases have been shown to distort findings on frequency of sexual intercourse (Jasso, 1985; Kahn and Udry, 1986; Jasso, 1986) and there has been speculation that similar distortion might be occurring in reports of number of sexual partners (Wadsworth, Johnson, Field, Wellings, Anderson, and Bradshaw, 1990). Since the GSS figures are based on grouped ranges (Appendix 1), they already reduce the impact of extreme values. We further minimized their impact by converting all reports in the top two categories (21-100 partners and more than 100 partners) to 30 partners. This reduced the number of female and male partners in 1988 to 1.51 and 0.94 and the ratio to 1.61:1. For 1989 the number of female and male partners decreased to 1.43 and 0.86, but the ratio marginally increased to 1.66:1. Thus, truncation does not eliminate the discrepancies in reported number of sex partners. In addition, since we have no empirical basis to question the extreme cases, we can not accept the truncated values as more accurate than the raw values.

Next, we consider the possibility that differences in the magnitude or pattern of item non-response might explain the discrepancies. Non-response is always a potential cause of bias and there is some evidence that non-response on sexual behavior items is correlated with having a less permissive sexual orientation in general and fewer sex partners in particular (Catania, McDermott, and Pollack, 1986). For non-response to account for the differences observed here, non-respondents among men would have to have fewer partners than responding men and/or nonrespondents among women would have to have more partners than responding women. Overall, there are similar levels on item-nonresponse (including not doing the whole self-completion supplement) for men (1988=6.6%; 1989=10.4%) and for women (1988=5.9%; 1989=9.1%). An analysis of this non-response found that "non-response does not appear to be related to differences in sexual behavior. Non-response differentials appear to be absent among those variables most closely related to sexual behavior. Non-response instead is related to general factors such as low political interest and general uncooperativeness that are not highly related to sexual behavior (Smith, 1989)." It therefore appears unlikely that non-response explains the discrepancies in number of heterosexual partners.

Finally, we consider whether differences in the gender distribution of the target population can explain the differences. Within a closed population the number of cross group dyads must have the same mean only if the two groups are equal in size. In a population of two men and eight women, if women reported a mean of one male partner, the men would have a mean of four female partners. Of course within the target population (US residents 18+ living in households), the two genders are in fairly close balance. There is however a surplus of women and when we compare the aggregate number of partners reported for the total populations of men and women, we find that

the ratios are reduced. For example, in 1988 multiplying 1.84 female partners by an estimated 81,113,000 heterosexual men gives 149,248,000 female partners in total. For women 0.98 times 90,717,000 gives 88,903,000 male partners. The ratio between the total number of female and male partners is 1.68:1. For 1989 the adjusted ratio is 1.47:1. Thus, the adjustments for the relative share of the two population does lessen the discrepancy, but does not explain it away.

In 1989 it was also possible to compare the number of lifetime adult partners reported by men and women. As with the annual rates reported above, among heterosexuals the number of partners reported by each gender should balance out once out-of-scope partners are accounted for. Because of greater error in recall, the greater likelihood of out-of-scope partners, and much higher item non-response, the adult lifetime comparisons of male and female partners are more problematic than the comparisons based on the last year counts of number of partners. These complications would not necessarily have any systematic effect on gender differences in reports on number of partners and would seem to be insufficient to account for the large differences between genders in Table 2. Both with and without adjustments for item non-response and extreme values, men report a much higher number of partners than women do (female-to-male ratios of 3-4:1).

In brief, there is no evidence that non-response explains the discrepancies in number of sex partners; extreme values explain some of the difference in the annual rates (in 1988 if not for 1989) and the adult lifetime rates, but there is no evidence that the extreme values are errant; and differences in population distribution do potentially explain some, but by no means all, of the difference.

Before considering what factors might explain the discrepancies, we will review the results from other American, Canadian, British, and Norwegian surveys.

United States, 1970

The 1970 NORC survey conducted for the Kinsey Institute (Klassen, Williams, and Levitt, 1989; NORC, 1987; Klassen, Williams, Levitt, Rudkin-Miniot, Miller, and Gunjal, 1989) found that men had between 7.26-7.44 female partners before their first marriage, while women reported 0.87-0.88 premarital male partners for a ratio of 8.34-8.45:1. Truncating extreme values to 50 reduced the number of female partners reported by men to 6.80-6.97 and lowered the ratio to 7.82-7.92:1. Item non-response was higher for men (11.5%) than for women (4.2%), but an extensive analysis of the correlates of non-response indicated that non-response was not particularly related to sexual behavior and the correlates were similar for men and for women. Since the reference period was before marriage for cohorts over the entire century, no age-gender adjustments for the target population were conducted.

Canada

The 1988 Canadian survey (Ornstein, 1989) found that men reported 3.61 female

partners over the last five years, while women reported 1.17 male partners for a female-to-male ratio of 3.09:1. We examined the impact of extreme values by truncating values above 50 to that maximum. That lowered the number of female partners reported by men to 3.32. Since no women reported more than 50 partners their mean remained 1.17 and the ratio fell to 2.84:1. Since item non-response was nearly equal for both genders (men=5.4%, women=5.8%), no adjustment was made for this factor. Since there are slightly more women 18+ than men 18+, the unadjusted ratio for the target population falls to 2.92:1 and the truncated ratio for the target population is 2.69:1.

Great Britain

The 1988-1989 British survey (Wadsworth, et al., 1990) asked about number of sexual partners over the last six months, year, two years, five years, and lifetime. The number of female partners reported for men was respectively 0.99, 1.22, 1.58, 2.59, and 9.15, and the number of male partners reported by women were respectively 0.85, 0.95, 1.12, 1.49, and 2.79. The female-to-male ratios were 1.16:1 for six months, 1.29:1 for one year, 1.42:1 for two years, 1.73:1 for five years, and 3.28:1 for ones lifetime. Since these figures are calculated from reported means and grouped data, we cannot calculate truncated means, but the available information indicates that truncation would have reduced the ratio in a manner similar to that of other surveys (Wadsworth, Johnson, Field, Wellings, Anderson, and Bradshaw, 1990). Item non-response levels ranged from 7.0 to 14.7% across time periods for men and from 7.5 to 10.9% for women. No adjustment was made for this non-response. We applied adjustments based on the age-gender structure of the target population for the figures for six months to five years. (Lifetime figures were not adjusted since the age-gender structure at any single point in time is not applicable.) Since there are slightly more men than women the ratios widened: six months=1.18:1, one year=1.32:1, two years=1.44:1, and five years=1.76:1.

Norway

The 1987 Norwegian survey (Sundet, Kvaem, Magnus, and Bakketeig, 1988; Sundet, Magnus, Kvaem, Groennesby, and Bakketeig, 1989) indicated that men had 12.52 female partners over their lifetime, while women had 5.21 male partners for a ratio of 2.40:1. When extreme values were truncated to 115, the number of female partners dropped to 11.29 and the ratio to 2.17:1. Item non-response did not vary greatly by gender (men=9.7%, women=8.1%), so no adjustments were made. Since there are slightly more Norwegian men 18-60 than women, the unadjusted ratio for the target population rose to 2.50:1 and the truncated ratio increased to 2.25:1.

General Results

Table 3 indicates that in all surveys men report more female partners than women report male partners. The ratio of female-to-male partners ranges from a low of 1.16:1 among the British over the last six months to 8.45:1 among Americans before their first

marriage. It is clear that the discrepancies increase as the reference period lengthens and there may also be cross-national differences in the magnitude of the ratio, but the discrepancies in all cases are in the same direction.

Item non-response levels are usually similar for men and women, although marginally higher for men (Table 4). At least in the three American surveys there is no evidence that item non-response is linked to sexual behavior. In all but one case (1 year rates in the US in 1989), truncation reduces the discrepancies, but the decreases are small and are not necessarily more accurate than the untruncated ratios. Finally, adjusting for the gender distribution of the target population decreases the ratios when the entire adult population is covered (Canada and Great Britain) and increases the ratios when the elderly are excluded (Great Britain and Norway). As the survey-by-survey discussion above indicated, various adjustments of the data for item non-response, extreme values, and the age-gender structure of the various target population occasionally moderates the differences, but does not explain them.

Explanations for the Discrepancies

There are three basic explanations for the discrepancies in the number of sexual partners: a) non-coverage, b) non-response, and c) misreports. With special attention to the 1988/1989 GSS data, we will examine each of these explanations to see which might be the most likely sources of the discrepant reports.

As noted above, a balance between the reports of men and women rests on the assumption that there is a closed population. That is, that the partners of the men and women in the target population are all members of the same target population. Or, in other words, that none of the partners are out-of-sample. This condition is never strictly true, but it will be closer to being true when the target population is broadly defined (e.g. all adults, rather than adults of restricted age ranges) and the time frame is narrowly defined (e.g. one year vs. a lifetime). There are numerous reasons why sexual partners may be out-of-sample. First, they may no longer be alive. Second, they may be institutionalized or live in group quarters. Third, they do not reside in the country in question. Finally, they may fall outside the age range. For these factors to account for the discrepancies, there would have to be more female partners out-of-scope than male partners. That is the sum of female partners who were outside the age range, institutionalized, non-residents, and/or dead would have to be greater than the number of out-of-sample male partners.

In considering the possible impact of these out-of-sample factors we need to make a distinction between short time frames (say one year or less) and long time frames. The likelihood of the various out-of-sample reasons will differ between short and long time frames. We will first consider short-term reference periods and then long-term periods.

First, partners who have died are outside the target population (Klassen, 1990). Death however is not a likely explanation at least over the last year. The number of people dying in the last year is too small to notably affect the overall figures (about 2

million a year out of a population of 240-250 million). In addition, about 100,000 more men die annually than women, so factoring in the dead is likely to add more reports of female partners than male partners. If we take the most common scenario, we can see how this factor is unlikely to account for the difference. A 67 year old man dies leaving a 65 year old wife. Interviewed six months after her husband's death she reports having had one sexual partner in the last year (her late husband). Her husband of course can not be interviewed and therefore can not report her as a sexual partner. Thus the larger number of male deaths would tend to increase the ratio rather than reduce it. Only if women with many partners tended to die younger and/or men with few partners died younger would deaths tend to lower the ratio. There is no evidence of such opposite mortality patterns for men and women and at least over the short-term unlikely that any such differential would make up for the surplus male deaths.

Second, non-household residence could account for the discrepancies either if partners left the household population over the last year or if members of the household population had members of the institutionalized/group quarters population as their partners. The changed status possibility is not likely to be a major factor since number leaving the household population within a given year is relatively small. In addition, more men live outside of households than women and the non-household men (e.g. prisoners, servicemen) tend to be in sexually active ages, while the women tend to be from among the less sexually active elderly. Likewise, not being able to count partners who were already outside the household population is not a notable factor, since there are more men in this situation than women and for notable segments of the non-household population sexual relations with members of the household population is either not allowed (e.g. most prisons) and/or not common (e.g. old age homes, long-term care hospitals).

Third, there are at least four ways that geographic mobility and non-residence status could affect sex partner ratios (Johnson, et al., 1990; Kinsey, 1953; Klassen, 1990). First, US residents could have sexual partners in other countries. Second, foreign nationals could have sexual partners who were US residents. Third, people could immigrate into the US, bringing their sexual history, but not their sexual partners with them. Finally, people could emigrate from the US, taking their sexual reports but not their sexual partners with them. Travel and migration represent significant population flows and thus a noteworthy breach in the close population assumption. We might examine the comparative number of migrants and travelers who were men and women to gauge the likely impact of this possible explanation, but if we look at the female: male ratios from our four countries, we see that this explanation is not going to work. While one country might find its unaccounted for female partners in other countries, all countries can not find their extra-female partners in other countries. Across all nations there would have to be a balancing out of ratios, but, as we have seen, all four nations report an excess of female partners, so the non-resident explanation is not going to explain the cross-national pattern.

Finally, perhaps the most likely source of out-of-sample partners would be people outside the age range of the surveys. In all countries this would include persons below

the minimum age (16- 21, depending on the survey) and in Britain and Norway it would also include those over 59/60. Those over 60 do not offer a likely explanation for the discrepancies since surveys that include this age segment (the Canadian and American) still show large discrepancies. We therefore turn to the underaged as a possible source of the discrepancies. Since (at least in the US) women tend to both date and marry men slightly older than they are, we would expect some of the unaccounted for female partners to be underage. However, this explanation runs into two difficulties. First, if we look at reports of sexual activity among teenagers, we find male teenagers reporting more than enough activity to account for all of that reported by female teenagers (Hofferth, Kahn, and Baldwin, 1987; Sonenstein, Pleck, and Ku, 1990). Second, even if we ignore the studies of teenage sexual activity and assume that there is a net surplus of teenage female partners with adult men, there are not enough out-of-sample female partners to significantly matter. If we supposed that the number of women under 18 with male sex partners over 18 minus the number of males under 18 with female sex partners over 18 was 1 million and assumed that these "extra" females had an average of 1.42 partners (the mean for women 18-24 in 1988), that would account for 1,423,000 of the partners reported by men on the GSS. In 1988 adding in these female partners would lower the age-gender adjusted female-to-male ratio from 1.68:1 to only 1.66:1.

All of the reasons for out-of-sample partners become more likely as one moves from short-term reference periods to longer- term time spans. On the other hand, since the discrepancies widen so much as the time period lengthens, many more out-of-scope partners would be needed to explain the long-term differences than the short-term discrepancies. Undoubtedly many of the partners being referred to by respondents are out-of-sample and therefore the strictures of a closed population do not apply. However, as the above examination of short-term effects makes clear, it is uncertain that the deviations from closure necessarily explain the discrepancies between the reports of men and women. For sample exclusion to explain the difference there would have to be more out-of-sample female partners than male partners and the edge would have to be sufficiently large to make up the large imbalances. Klassen (1990) offers one possible scenario to explain the large differences in premarital reports. Based on Kinsey data on use of prostitutes (Kinsey, et al., 1948), he conjectures that the prostitutes and other women with highly permissive sex lives have been differentially eliminated from the current household population either due to higher mortality from sexually transmitted diseases, illegal abortions, childbirth, and/or other causes or from institutionalization (penal and medical). While there is little evidence on the link between mortality and sex behavior for either gender, Klassen's explanation has a certain plausibility to it. Whether it could be a major explanation for the discrepancies is impossible to say from available evidence.

A second possible explanation for discrepancies in reports is non-response (Ornstein, 1989; May, Anderson, and Blower, 1989; Klassen, 1990). Total non-response consists of survey non-response plus item non-response. We have already explored the issue of item non-response and found no evidence that non-response is related to sexual behavior. Survey non-response would be a factor if women with many sexual

partners and/or men with few partners were excluded. There is no particular reason to believe that sexually inactive men would tend to be non-respondents, but one might well argue that one well-known group of sexually active women, prostitutes, might tend to be non-respondents. Adding just one woman with 200 male partners would lower the 1988 female-to-male ratio to 1.34:1 and two such respondents would nearly close the gap (1.11:1). Likewise, in 1989 two prostitutes would decrease the ratio to 1.06:1.

If however we look at the number of female prostitutes reported by men on the 1988 GSS and remove these partners from the reports, we lower the mean for men only from 1.84 to 1.81 (using assumptions that maximized the estimated number of prostitutes). Using that mean reduces the female-to-male ratio to only 1.65:1. The situation in 1989 is similar.

There are no reliable aggregate figures on either the number of women engaged in prostitution or the average number of partners per annum of prostitutes (Turner, Miller, and Moses, 1989; Miller, Turner, and Moses, 1990), but adopting the two prostitute hypothesis in 1988 would mean that 31% of all partners of men would be prostitutes. This is hardly a believable figure. In addition since men actually reported only very slight use of prostitutes, we would either have to believe that men were reporting almost none of their traffic with prostitutes or that they were reporting sexual partners who were prostitutes, but misdescribing them as representing some other type of relationship (e.g. pick-up, friend, etc.). If they were not reporting partners who were prostitutes, then we would have to add these figures to the mean of men and the female-male differential would widen again. If men misreport the nature of their relationship to paid partners, then not only are the women means off because of the non-representation of prostitutes, but the sexual relationship data of men would be dramatically changed.

The final source of explanation are respondent misreports. These misreports might be either unintentional or intentional. Unintentional misreports would include faulty recall (Johnson, et al., 1990). Errors of recall undoubtedly increase as the reference period lengths, but there is no reason to believe that there would be differential recall by men and women such that men either telescoped or overestimated more than women did. Another possibility is that men and women might define who is a sexual partner differently, with men possibly having a broader definition than women (Kinsey, et al., 1953). However, this seems unlikely as a basic explanation since the same pattern shows up over many notably different ways of defining and asking about sexual experience (Appendix 1) and since several of the wordings provide clear definitions of sexual partners either in the questions themselves or in introductory sections. However, the British survey does provide both the fullest, most precise definition of terms and reports the lowest discrepancies, so wording may be a contributing factor.

Of possible intentional misreports probably the most likely might be some combination of overreporting by men and underreporting by women (Kinsey et al., 1953; May, Anderson, and Blower, 1989; Ornstein, 1989; Klassen, 1990). This pattern is supported by the known gender differences in sexual values. Women are less approving of sexual permissiveness than men and both men and women are less

approving of sexual permissiveness among women than men. For example, in the 1970 NORC/Kinsey study of sexual attitudes and behaviors 31% of men thought it was always wrong for a teenage male to have sex with a girl he loved and 37% thought it was wrong for a teenage girl to do the same. Among women 44% objected to a teenage male having sex and 55% to a teenage female. Using the men's approval of the teenage male as the norm closest to that guiding their self-reports and the women's approval of the teenage female, we see an approval gap of 24 percentage points (55% - 31%). This suggests that women are under more pressure to minimize reports of sexual activity than are men.

This pattern holds up for teenagers not in love and for unmarried adults in love and not in love (Klassen, Williams, and Levitt, 1989). From the 1989 GSS we know that women are more opposed to both premarital sex and extramarital sex than men (respectively by 12.2 percentage points and 6.1 percentage points). The GSS questions did not ask about approval by gender of the sexual partners.

Past studies of sexual behavior present only mixed support for this explanation however. Studies of independent reports of frequency of marital intercourse by husbands and wives produce highly similar mean estimates (Kinsey, et al., 1953; Clark and Wallin, 1964; Levinger, 1966; Card, 1978). Analysis of item non-response and the use of a candor scale on the 1970 Pornography Commission survey suggested that the reports of men were more candid and complete than those of women (Commission, 1971), while a small panel study of teens found girls more consistent in their reports of being sexually active (Newcomer and Udry, 1976). However, neither on NORC's 1970 survey on sexual behavior (NORC, 1987), nor in the GSS did interviewers' evaluation of either general frankness or cooperativeness relate to gender (Smith, 1989). Thus, the assumption of boasting by men and modesty by women that might explain the differences is not clearly supported by the few studies that might be relevant.

A second literature suggests that more candid reports are given when the interviewer is the same gender as the respondent. Since almost all NORC interviewers are women, that should have encouraged women to give more truthful reports. On the other hand, the self-completion format of the sex behavior questions on the 1970 NORC-Kinsey survey and the 1988 and 1989 GSS may have negated any gender interaction effect.

However, there is one bit of evidence that both fits the hypothesis of exaggeration by men and underreports by women and also offers an explanation for the rising differentials over longer reference periods. Discrepancies may increase as the time period lengths because the longer the time frame the more reports of premarital sexual activity are covered. Over the last year reports

of sexual partners among the currently married are almost within marriage rates (except for those married for less than a year), while for those currently unmarried almost all are reporting on pre- or post-marital activity (except for those divorced or widowed within

the last year). For lifetime rates people will be reporting over the total number of sexually active years - premarital, marital, and post-marital. If most sexual partners are accumulated during non-marital years (and data on both sexual activity by marital status and age and monogamy support this assumption - Greeley, Michael, and Smith, 1990; Michael, Laumann, Gagnon, and Smith; Smith, 1990) and if men feel compelled to exaggerate their number of sexual partners and/or women feel constrained to underreport their number of partners, then longer term reports, which cover more non-marital years, would be the most distorted. If premarital reports are the main source of misreports, then we would expect the discrepancies to be greatest for premarital reports. This appears to be the case since the premarital reports for the 1970 US survey show the largest discrepancy. In addition, in the GSS studies the discrepancy between the sexes on number of partners comes almost entirely from the unmarried. In both years the married respondents did not significantly differ in their reported number of sex partners (1988: men=1.29, women=1.10; 1989: men=1.00, women=0.91). Unmarried men on the other hand reported many more partners than unmarried women (respectively 2.67 vs. 0.86 in 1988 and 2.29 vs. 0.89 in 1989). Of course the marital status of partners is not known and could vary by gender and the proportion of adults married does differ by gender. Still the numbers indicate that the differences in reports are largely centered among the unmarried.

The discrepancies in the number of sexual partners reported by men and women may result from limited sample coverage, non-response, or misreports. While no definitive evidence exists, we feel that some underrepresentation of prostitutes coupled with some combination of female underreporting and male overreporting seems most plausible explanations. Furthermore, as a speculative hypothesis, we believe that underreporting by women may be more of a problem than overreporting by men. We reach this conclusion, largely because we believe that the social pressure for women to preserve their modesty is greater than the pressure on males to exaggerate their experience.

Further Research

Given the private nature of sexual behavior and the difficulty of validating respondent reports, it will be difficult to confirm our hypothesized explanations for the discrepancies in number of sex partners reported by men and women. Below are some research strategies that we feel will help to illuminate the problem.

1. Conduct a survey with four experimental treatments a) the standard brief and simple wording, b) a wording designed to minimize exaggeration, c) a wording designed to maximize reports, and d) a wording designed to stress accuracy and precision. Differences between genders would be examined across all versions. If exaggeration by men was the main problem, the ratio should narrow under the no exaggeration condition. If underreports by women was the problem, the ratio should narrow under the maximum reports condition. The accurate accounting condition would test whether satisficing by men and/or women contributed to the discrepancy. Wording experiments with vaguer and more precise definitions of sexual partners should also be carried out.

2. Create an attitudinal scale on sexual morality and preferred sexual practices. These would include items on permissiveness; approval of premarital sex with the age, gender, and degree of attachment of the partners being varied; and the appropriateness of various numbers of partners. Such a scale would document whether women and men operate under different sexual moralities and whether women might be under more pressure to underreport their partners and/or men are under more pressure to overreport their sexual experience.

3. Collect a sample of patients from a sexually transmitted disease (STD) clinic rated by whether the attending physician thought the reports on number of sexual partners was accurate or not. Then interview these patients along with a non-STD sample matched for age, sex, race, and marital status. Interviewers and respondents would both be blind as to how respondents were selected for the sample. For the patient sub-sample this would allow the validation of the survey reports against the clinical records.

4. Draw a sample of individuals for whom certain desirable and undesirable behaviors are known from public records and other sources. Desirable behaviors might include voting, contributing to charities, and being a member of certain groups. Undesirable behaviors might include both sexual matters such as prostitution arrests and STD treatment and non-sexual matters such as other arrests, civil suits, and late payment of utilities. Validation rates for men and women for sexual and non-sexual matters would be compared to see if there is any tendency for men or women to provide more accurate reports.

5. Follow-up a sample of respondents to the standard self-completed sex survey with open-ended interviewing by specially trained interviews who would attempt to assess the truthfulness and accuracy of respondents, collect details to substantiate the number of partners currently reported, and probe for partners not initially reported.

6. Carry out special studies of prostitutes to calculate their number and how many male clients they have had.

In brief, a number of complex and experimental designs can be used to help identify the likely sources of response error in reports of number of sexual partners.

Conclusion

Information on sexual behavior is important for understanding human society in general and in particular such facets as gender relations, sex roles, marriage, fertility and birth control, and social networks. In addition, the spread of AIDS and other STD's makes an accurate knowledge of sexual behavior a pressing public health concern. Yet the discrepancies in the reports of men and women on number of sexual partners raises the question whether reliable and accurate sexual behavior data can be collected. The discrepant reports of men and women on number of sex partners indicate that great care must be taken when working with sexual behavior data and probably any analysis

should be conducted under the assumption that either the rates reported by men or those reported by women might be correct. More methodological work is needed to isolate and minimize measurement error so that more reliable and accurate data on sexual behavior can be collected.

Appendix 1:

Questions on Number of Sexual Partners

A. Canada

How many sexual partners have you had in the past five years? During the last five years have you had sex with men only, with men and women, or with women only? In the last five years, with how many men have you had sex? In the last five years, with how many women have you had sex?

B. Great Britain

These questions are about the number of people you have had sex with at different times in your life. Please include everyone you have had sex with, whether it was just once, a few times, a regular partner, or your husband/wife. Be as accurate as you can: enter '0' if none; give your best estimate if you can't remember exactly. Altogether in your life, so far, with how many men/women have you had sexual intercourse (vaginal, oral, or anal)? WRITE IN THE NUMBER _____

IF ANY

Please tick whether the number above is... the exact number [] or, your best guess [] AND, with how many men/women have you had sexual intercourse...

in the last 5 years? _____

in the last 2 years? _____

in the last year? _____

in the last 6 months? _____

in the last 3 months? _____

C. Norway

Har du hatt noen form for seksuelt samvaer med personer av samme kjonn som deg selv? [Have you had some form of sex together with person of same gender as yourself?]

Har du noen gang hatt samleie? [Have you no time had intercourse?] Omtrent hvor mange seksualpartnere har du tilsammen hatt inntil ha? (medregnet eventuelle ektefeller/samboere) Oppgi antall |__|__|__|[About how many sexual partners have you altogether had so far? (including eventual Give number |__|__|__|spouses/partners)

D. United States

NORC, 1970

How old were you the first time you had sexual activity with someone of the opposite sex, when either you or your partner came to sexual climax? (If the first time was when you got married, please give your age at that time.) This includes other sexual activity, as well as intercourse, if one of you had a climax (orgasm). If ever heterosexual sex: Did you ever have this experience before you were married? If "Yes": With how many persons altogether did you have this sexual experience before you were married? (If it happened with your husband or wife before you were first married, this counts as one person, too.)

NORC-GSS, 1988

How many sex partners have you had in the last 12 months? 0/1/2/3/4/5-10/11-20/21-100/more than 100 Have your sex partners in the last 12 months been exclusively male, both male and female, [or] exclusively female?

NORC-GSS, 1989

As in NORC-GSS, 1988 for last 12 months. Now thinking about the time since your 18th birthday(including the past 12 months) how many female partners have you ever had sex with? Now thinking about the time since your 18th birthday(including the past 12 months) how many male partners have you ever had sex with?

Country	Organization	Dates	Mode	Ages	N	Response Rate
Canada	ISR-York Un.	9-12/1988	T	18+	1289	64%
Grt Brit	SCPR	11/88-1/89	P-SC	16-59	977	65.2
Norway	NIPH	11/87-1/88	M	18-60	6155	62.7
USA	NORC(Kinsey)	10-11/1970	P-SC	21+	3018	---1
USA	NORC-GSS	2-4/1988	P-SC	18+	1390	72.6
USA	NORC-GSS	2-4/1989	P-SC	18+	1401	70.8

ISR=Institute for Social Research

SCPR=Social and Community Planning Research (London)

NIPH=National Institute for Public Health (Oslo)

NORC=National Opinion Research Center, University of Chicago

GSS=General Social Survey

T=Telephone

M=Mail

P-SC=Personal with self completion form

1 Since probability sampling with quotas was employed, no response rate can be calculated.

Table 2	Mean Number of Adult Lifetime Sex Partners, 1989 GSS	(Heterosexuals only)	
		Men	Women
Unadjusted	13.00	3.24	4.06:1***
Adjusted for	12.05	3.03	3.98:1***
Non-response* And adjusted for	9.36	3.02	3.10:1***
Extreme Values**			

*=Values of 1.0 given to men and women with missing data

**=Values of 50 and greater recoded to 50

***=male/female means different at .0001 level

Table 3	Summary of Unadjusted Ratios of Number of Sex Partners Reported by Men and Women		(Female Partners: Male Partners)	
Period		Countries		
	Canada	Great Britain	Norway	United States
6 months		1.16:1		
1 year		1.29:1		1.88:1 (1988) 1.64:1 (1989)
2 years		1.42:1		
5 years	3.09:1	1.72:1		
Since Age 18				4.06:1
Lifetime		3.28:1	2.40:1	
Before First Marriage				8.34-8.45:1
		Table 4		
		Item Non-Response by Gender	(% No Response: Men, Women)	

	Countries			
Period	Canada	Great Britain	Norway	United States
6 months		13.7,	10.7	
1 year		14.4	10.9	1988: 6.6, 5.9 1989: 10.4, 9.1
2 years		14.7	10.7	
5 years	5.4,	5.8		
Since Age 18				8.0, 10.5
Lifetime		7.0, 7.5	9.7, 8.1	
Before First Marriage				11.5-13.7, 4.2-5.5

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