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Abstract: It is in only in the last hundred years that psychologists, biologists and others have tired to discover the truth about human sexual behavior in a scientific and objective manner. One of the main tools used in such investigations has been the sample survey. But with such a sensitive subject as sex, such surveys may have often given distorted accounts of the truth.

History of Surveys of Sexual Behavior

My own belief is that there is hardly anyone whose sexual life, if it were broadcast, would not fill the world at large with surprise and horror.

Somerset Maugham

According to psychiatrist Anthony Storr, 'sexual intercourse is one of the most natural and certainly the most rewarding and the most life-enhancing of all human experiences.' Few of us would argue with that, but although sex

plays a vital part in our lives, it has for long periods been associated with guilt and shame, rather than enjoyment. Perhaps this explains why it is only in the last hundred years or so that psychologists, biologists and others, have tried to discover the truth about human sexual behaviour in a scientific and objective manner. One of the main tools used in such investigations has been the **sample survey**.

Survey research is largely a product of the 20th Century, although there are some notable exceptions. In the last decade of the 19th Century, for example, Charles Booth, a successful businessman and dedicated conservative, sought accurate data on the poor of London after becoming disturbed by a socialist claim that a third of the people in the city were living in poverty. But it is only in the last 70 to 80 years that survey research has become more firmly established, particularly in the forms of market research, opinion polling and election research. Among the factors that brought the approach into favour was the change in social psychology and sociology from speculation to empiricism – the demand that 'hunches' were backed by numerical evidence, i.e. data.

Sample surveys provide a flexible and powerful approach to gathering information, but careful consideration needs to be given to various aspects of the survey if the information collected is to be accurate, particularly when dealing with a sensitive topic such as sexual behaviour. If such surveys *are* to be taken seriously as a source of believable material a number of issues need to be addressed, including;

- Having a sample that is truly representative of the population of interest. Can the sample be regarded as providing the basis for inferences about the target population? A biased selection process may produce very deceptive results.
- Having a large enough sample to produce reasonably precise estimates
 of the prevalence of possibly relatively rare behaviours,
- Minimizing non-response. Non-response can also be a thorny problem for survey researchers. After carefully designing a study, deciding on an appropriate sampling scheme, and devising an acceptable questionnaire, such researchers often quickly discover that human beings can be cranky creatures; many of their potential respondents will not be at home when they call (even after making an appointment for a specified time), or will not answer their telephones, or have

moved away, or refuse to reply to mail shots, and so generally make the researcher's life difficult. In many large-scale surveys it may take a considerable amount of effort and resources to achieve even a response rate as high as 50%. And non-response will often lead to biased estimates.

• The questions asked. Do the questions illicit appropriate responses? Asking questions that appear judgemental can affect the way people answer. The wording of questions by the interviewer or on the questionnaire to be completed by the respondent is critical. Everyday English, as it is used in colloquial speech, is often ambiguous. For surveys, definitions of terms need to be precise to measure phenomena accurately. At the same time they need to be easily understood – technical terms should be avoided. This is not always easy and there are few terms that are universally understood. This is particularly true in surveys of sexual behaviour. The meaning of terms such as 'vaginal sex', 'oral sex', 'penetrative sex' and 'heterosexual', for example, is taken for granted in much health education literature, but there is evidence that much misunderstanding of such terms exists in the general public.

Are people likely to be truthful about their answers? Systematic distortion of the respondent's true status, clearly jeopardizes the validity of survey measurements. This problem has been shown to arise even in surveys of relatively innocuous subject matter, owing in part to a respondent's perceptions and needs that can emerge during the data collection process. Consequently the potential for it to cause problems in surveys of sensitive information is likely to be considerable, due to heightened respondent concern over anonymity-and a person's sex life is very likely a particularly sensitive issue. The respondents need to be assured about confidentiality and in face-to-face interviews the type and behaviour of the interviewer might be critical.

In the end the varying tendencies among respondents in sensitive surveys (particularly sex surveys), to cooperate in the first instance, or to under-report/over-report if they agree to respond at all, can easily lead to estimates of the extent of the sensitive phenomena under study that are wildly inaccurate. There *are* techniques by which sensitive information can be collected that largely remove the problem of under or over reporting, by

response yet at the same time allows the researcher sufficient data for analysis. The most common of these techniques is the **randomized**response approach but there is little evidence of its use in the vast majority of investigations into human sexual behaviour.

Surveys of Sexual Behaviour

The possibility that women might enjoy sex was not one that occurred to the majority of our Victorian ancestors. The general Victorian view was that women should show no interest in sex and preferably be ignorant of its existence unless married; then they must submit to their husbands without giving any sign of pleasure. A lady was not even supposed to be interested in sex, much less have a sexual response. (A Victorian physician, Dr. Acton, even went as far as to claim "It is a vile aspersion to say that women were ever capable of sexual feelings".) Women were urged to be shy, blushing and genteel. As Mary Shelley wrote in the early 1800s, "Coarseness is completely out of fashion". (Such attitudes might, partially at least, help to

explain both the increased interest in pornography amongst Victorian men and the parallel growth in the scale of prostitution.)

But in a remarkable document written in the 1890s by Clelia Mosher, such generalizations about the attitudes of Victorian women to matters sexual are thrown into some doubt, at least for a minority of women. The document, "Study of the Physiology and Hygiene of Marriage", opens with the following introduction;

In 1892, while a student in Biology at the University of Wisconsin, I was asked to discuss the marital relation in a Mother's Club composed largely of college women. The discussion was based on replies given by members to a questionnaire.

Mosher probed the sex lives of 45 Victorian women by asking them whether they liked intercourse, how often they had intercourse, and how often they wanted to have intercourse. She compiled approximately 650 pages of spidery handwritten questionnaires but did not have the courage to publish, instead depositing the material in Stanford University Archives. Publication had to await the heroic efforts of James MaHood and his colleagues in collating and editing the questionnaires, leading in 1980 to the appearance of their book, *The Mosher Survey* [9].

Clelia Mosher's study, whilst not satisfactory from a statistical point-of-view since the results can in no way be generalized (the 45 women interviewed were, after all, mature, married, experienced American women largely with a college education), remains a primary historical document of pre-modern sex and marriage in America. The reasons are clearly identified in [9];

...it contains statements of great rarity directly from Victorian women, whose lips previously had been sealed on the intimate questions of their private lives and cravings. Although one day it may come to light, we know of not other sex survey of Victorian women, in fact no earlier American sex survey of any kind, and certainly no earlier survey conducted by a woman sex researcher.

Two of the most dramatic findings of the Mosher survey are;

- The Victorian women interviewed by Mosher appeared to relish sex, and claimed higher rates of orgasm than women reported in far more recent surveys.
- They practised effective birth-control techniques beyond merely abstinence or withdrawal.

So for these experienced, college educated women at least, the material collected by Mosher produced little evidence of Victorian prudery.

Nearly 40 years on from Mosher's survey, Katharine Davis studied the sex lives of 2,200 upper-middle class married and single women. The results of Davis's survey are described in her book, *Factors in The Sex Life of Twenty Two Hundred Women*, which as published in 1929 [3]. Her stated aim was to gather data as to 'normal experiences of sex on which to base educational programs'. Davis considered such normal sexual experiences to be, to a great extent, scientifically an unexplored country. Unfortunately the manner in which the eponymous women were selected in her study probably meant that they were to remain so for some time to come.

Initially a letter asking for cooperation was sent to 10,000 married women in all parts of the United States. Half of the addresses were furnished by a 'large national organization' (not identified by Davis) who were then asked that the names submitted should be those of normal married women — 'that is, women of good standing in the community, with no known physical, mental, or moral handicap, of sufficient intelligence and education to

understand and answer in writing a rather exhaustive set of questions as to sex experience'. (The questionnaire to be used was eight pages long.)

The remaining 5000 names were selected from either published lists of membership in various clubs belonging to the *General Federation of Women's Clubs*, or from the alumnae registers of women's colleges and coeducational universities.

In each letter was a return card and envelope. The women were asked to indicate on the card whether they would cooperate by filling out the questionnaire; this was then sent only to women requesting it. This led to returned questionnaires from 1000 married women.

The unmarried women in the study were those five years out of a college education; again 10,000 such women were sent a letter asking whether or not they would be willing to fill out, in their case, a twelve-page questionnaire.

This resulted in the remaining 1200 women in the study.

Every aspect of the selection of the 2,200 women on which Dr. Davis's study was based is open to statistical criticism; an unrepresentative sample,

the respondents were volunteers who were educationally far above average and only about 10% of those contacted ever returned a questionnaire. The results are certainly not generalizable to any recognisable population of more universal interest. But despite its flaws a number of the charts and tables in the report retain a degree of fascination and interest. Part of the questionnaire, for example, dealt with the use of methods of contraception. At the time of the study contraceptive information was categorized under federal law as obscene literature. Despite this, 730 of the 1000 married women who filled out questionnaires had used some form of contraceptive measure. Where did they receive their advice about these measures?

Table 1
Sources of Information as to Contraceptive measures (from [3]).

Physicians	370
Married women friends	174
Husband	139
Mother	42
Friend of husband	39

Books	33
Birth-control circulars	31
'Common knowledge'	27
Nurse	15
Medical studies	9
'Various'	8
'Drug-store man'	6
The Bible	2
A servant	1
A psychoanalyst	1

Davis along with most organizers of sex surveys also looked at frequency of sex figures; these are shown in Table 2.

Table 2
Frequency of Intercourse (from [3]).

Answer	Number	Percent
More than once a day	19	2.0
Once a day	71	7.6
Over twice, less than seven times a	305	31.3
week		
Once or twice a week	391	40.0
One to three times a month	125	12.8
'Often' or 'Frequently'	22	2.4
'Seldom' or 'Infrequently'	38	3.9
Total answers	971	100
None in early years	8	
Unanswered	21	
Total group	1,000	

Davis's rationale for looking at these figures was to investigate the frequency of intercourse as a possible factor in sterility and for this purpose she breaks down the results in a number of ways. She found no evidence to

suggest a relationship between marked frequency of intercourse and sterilityindeed she suggests that her results indicate the reverse.

For a methodological point-of-view, one of the most interesting aspects of the Davis report is the attempt to compare the results from interviewing women with those from the questionnaire approach. Only a relatively small number of women were used in this comparison (50) but in general there was a considerably higher incidence of 'sex practices' reported in the questionnaire group. Davis makes the following argument as to why she considers the questionnaire results to be more likely to be closer to the truth;

In the evolutionary process civilization, for its own protection, has had to build up certain restraints about the sex instinct which, for the most part, have been in a sense of shame, especially when indulged in outside of the legal sanction of marriage. Since sex practices prior to marriage have not the general approval of society, and since the desire for social approval is one of the fundamental motives in human behaviour, admitting such a practice constitutes a detrimental confession on the part of the individual and is more likely to be true than a denial of it. In other words, the group admitting the larger number of sex practices is assumed to contain the greater number of honest replies.

The argument is not wholly convincing, and would certainly not be one that could be made about the respondents in contemporary surveys of sexual behaviour.

Perhaps the most famous sex survey ever conducted was the one by Kinsey and his colleagues in the 1940s. Alfred Charles Kinsey was undoubtedly the most famous American student of human sexual behaviour in the first half of the 20th Century. He was born in 1894 and had a strict Methodist upbringing. Originally a biologist who studied *Cynipidae* (gall wasps), Kinsey was a professor of zoology, who never thought to study human sexuality until 1938, when he was asked to teach the sexuality section of a course on marriage. In preparing his lectures, he discovered that there was almost no information on the subject. And so, initially without assistance, he gathered sex histories on weekend field trips to nearby cities. But gradually this work involved a number of research assistants and was supported by grants from Indiana University and the Rockefeller Foundation.

Until Kinsey's work (and despite the earlier investigations of people like Mosher and Davis) most of what was known about human sexual behaviour

was based on what biologists knew about animal sex, what anthropologists knew about sex among natives in Non-Western, non-industrialized societies, or what Freud and others learnt about sexuality from emotionally disturbed patients. Kinsey and his colleagues were the first psychological researchers to interview volunteers in depth about their sexual behaviour. The research was often hampered by political investigations and threats of legal action. But in spite of such harassment, the first Kinsey report, Sexual Behaviour in the Human Male, appeared in 1948 [7], and the second, Sexual Behaviour in the Human Female, in 1953 [8]. It is no exaggeration to say that both caused a sensation and had massive impact. Sexual Behaviour in the Human *Male*, quickly became a bestseller, despite its apparent drawbacks of containing stacks of tables, graphs, and a bibliography, plus a 'scholarly' text that it is kind to label merely monotonous. The report certainly does not make for lively reading. Nevertheless six months after its publication it still held second place on the list of non-fiction bestsellers in the USA. The first report proved of interest not only to the general public, but to psychiatrists, clergymen, lawyers, anthropologists and even home economists and reaction to it ranged all the way from extremely favourable to extremely unfavourable – here are some examples of both;

- The Kinsey Report has done for sex what Columbus did for geography,
- a revolutionary scientific classic, ranking with such pioneer books as Darwin's *Origin of the Species*, Freud's and Copernicus' original works,
- it is an assault on the family as the basic unit of society, a negation of moral law, and a celebration of licentiousness,
- There should be a law against doing research dealing exclusively with sex.

What made the first Kinsey report the talk of every town in the USA lies largely in the following summary of its main findings;

Of American males:

- 86% have pre-marital intercourse by the age of 30,
- 37%, at some time in their lives, engaged in homosexual activity climaxed by orgasm,
- 70% have, at some time, intercourse with prostitutes,

- 97% engage in forms of sexual activity, at some time in their lives, that are punishable as crimes under the law,
- Of American married males, 40% have been involved in extra-marital relations,
- Of American farm boys, 16% have sexual contacts with animals.

These figures shocked since they suggested that there was much more sex, and much more variety of sexual behaviour amongst American men than was ever suspected at the time.

But we need to take only a brief look at some of the details of Kinsey's study to see that the figures above and the many others given in the report hardly stand up to statistical scrutiny.

Although well aware of the scientific principles of sampling, Kinsey based all his tables, charts, etc., on a total of 5,300 interviews with volunteers. He knew that the ideal situation would have been to select people at random, but he did not think it possible to coax a randomly selected group of American to answer truthfully when asked deeply personal questions about their sex lives. Kinsey sought his volunteers from a diversity of sources so that all

types would come into the sample. The work was, for example, carried on in every state of the Union, and individuals from various educational groups and the like were interviewed. But the 'diversification' was rather haphazard and the proportion of respondents in each cell did not reflect the United States population data. So the study begins with the disadvantage of volunteers and without a representative sample in any sense. The potential for introducing bias seems to loom large since, for example, those who volunteer to take part in a sex survey might very well have different behaviour, different experiences and different attitudes towards sex from the general population. In fact, recent studies have shown that people who volunteer to take part in surveys about sexual behaviour are likely to be both more sexually experienced than those who do not agree to take part, and also more interested in sexual variety.

A number of procedures were used to obtain interviews and to reduce refusals. Contacts were made through organizations and institutions that in turn persuaded their members to volunteer. In addition public appeals were made and often one respondent would recommend another. Occasionally payments were given as incentives. The investigators attempted to get an unbiased selection by seeking all kinds of histories and by long attempts to

persuade those who were initially hostile to come into the sample. In the short space of a two-hour interview, Kinsey's investigators covered from 300 to 500 items in the respondent's sexual history, but no sample questionnaire is provided in the published report. The definition of each item in the survey was standard, but the wording of the questions and the order in which they were given were varied for each respondent. In many instances leading questions were asked, of the type, 'When did you last....' or 'When was the first time you....', thereby placing the onus of denial on the respondent. Kinsey's aim was to provide the ideal setting for each individual interview whilst retaining an equivalence in the interviews administered to all respondents. So the objective conditions of the interview were not uniform and variation in sexual behaviour between individuals might be confounded with differences in question wording and order. In addition the use of leading questions is generally thought to lead to the overreporting of an activity.

The interview data in the Kinsey survey were recorded in the respondent's presence by a system of coding consigned to memory by all six interviewers involved in the study during their year-long training which proceeded data collection. Coding in the field has several advantages such as speed and the

possibility of clarifying ambiguous answers; memory was used in preference to a written down version of the code to preserve the confidence of the record. But the usual code ranged from six to twenty categories for each of the maximum of 521 items that could be covered in the interview, so prodigious feats of memory were called for. One can only marvel at the feat – unfortunately, although field coding was continually checked, no specific data on the reliability of coding are presented and there has to be some suspicion that occasionally, at least, the interviewer made some coding mistakes.

Memory almost certainly also played a role in the accuracy of respondent's answers to questions about events which may have happened long ago. It's difficult to believe, for example, that many people can remember details of frequency of orgasm per week, per five-year period, but this is how these frequencies are presented. Are we to assume that most of the people in Kinsey's studies kept diaries with detailed figures about their most intimate moments?

Many of the interviews in the first Kinsey report were obtained through the cooperation of key individuals in the community who passed on friends and

acquaintances, and through the process of developing real friendship with the prospective respondent before starting the interview as the following quotation from the report indicates;

We go with them to dinner, to concerts, to nightclubs, to the theatre, we become acquainted with them at community dances and in poolrooms and taverns, and in other places which they frequent. They in turn invite us to meet friends in their homes, at teas, at dinners, at other social events.

This all sounds very pleasant both for the respondents and the interviewers but is it good survey research practice? Probably not, since experience suggests that the 'sociological stranger' gets the more accurate information in a sensitive survey, because the respondent is wary about revealing his most private behaviour to a friend or acquaintance. And assuming that all the interviewers were white males the question arises as to how this affected interviews with say, African-American respondents (and in the second report, with women)?

Finally there are some more direct statistical criticisms that can be levelled at the first Kinsey report. There is, for example, often a peculiar variation in the number of cases in a given cell, from table to table. A particular group will be reported on one type of sexual behaviour, and this same group may be of slightly different size in another table. The most likely explanation is that the differences are due to loss of information through 'Don't know' responses or omissions of various items, but the discrepancies are left unexplained in the report. And Kinsey seems shaky on the definition of terms like **median** although this statistic is often used to summarize findings. Likewise he uses the sample **range** as a measure of how much particular measurements varied amongst his respondents rather than the preferable **standard deviation** statistic.

Kinsey addressed the possibility of bias in his study of male sexual behaviour and somewhat surprisingly suggested that any lack of validity in the reports he obtained would be in the direction of concealment or understatement. Kinsey gives little credence to the possibility of overstatement;

Cover-up is more easily accomplished than exaggeration in giving a history.

Kinsey considered that the interviewing approach used provided considerable control against exaggeration but not so much against

understatement. But given all the points made earlier this claim is not at-all convincing, and it is not borne out by later, better-designed studies, which generally report lower levels of sexual activity than Kinsey. For example, the "Sex in America" survey [10] was based on a representative sample of Americans and showed that that individuals were more monogamous and more sexually conservative than had previously been reported.

Kinsey concludes his entire first report with;

We have performed our function when we have published the record of what we have found the human male doing sexually, as far as we have been able to ascertain the facts.

Unfortunately the 'facts' arrived at by Kinsey and his colleagues may have been distorted in a variety of ways because of the many flaws in the study.

But despite the many methodological errors, Kinsey's studies remain gallant attempts to survey the approximate range and norms of sexual behaviour.

The Kinsey report did have the very positive effect of encouraging many others to take up the challenge of investigating human sexual behaviour in a scientific and objective manner. In the United Kingdom, for example, an

organization known as *Mass-Observation* carried out a sex survey in 1949 that was directly inspired by Kinsey's first study. In fact it became generally known as "Little Kinsey" [4]. Composed of three related surveys, "Little Kinsey" was actually very different from its American predecessor. The three components of the study were;

- A 'street sample' survey of over 2000 people selected by random sampling methods carried out in a wide cross-section of cities, towns and villages in Britain.
- 2. A postal survey of about 1000 each of three groups of 'opinion leaders': clergymen, teachers and doctors.
- 3. A set of interrelated questions sent to members of Mass-Observation's National Panel with responses from around 450 members.

The report's author, Tom Harrison, was eager to get to the human content lying behind the line-up of percentages and numbers central to the Kinsey report proper, and suggested that Mass-Observation's study was both 'something less and something more than Kinsey', which tapped into 'more of the actuality, the real life, the personal stuff of the problem'. He tried to achieve these aims by including in each chapter some very basic tables of

responses, along with large numbers of comments from respondents to particular questions. Unfortunately this idiosyncratic approach meant that the study largely failed to have any lasting impact, although later authors, for example, Liz Stanley in *Sex Surveyed 1949-1994* [11], claim it was of pioneering importance and was remarkable for pinpointing areas of behavioural and attitudinal change. It does appear to be one of the earliest surveys of sex that uses random sampling. For interest here are some of the figures and comments from Chapter 7 of the report, *Sex Outside Marriage*.

The numbers who disapproved of extra-marital relations were;

- 24% on the National Panel,
- 63% of the street sample,
- 65% of doctors,
- 75% of teachers
- 90% of clergymen.

And amongst the street sample the following further figures are given for those opposed to extra-marital relations;

- 73% of all weekly church goers,
- 54% of all non-church goers,
- 64% of people leaving school up to and including 15 years,
- 50% of all leaving school after 16,
- 68% of all living in rural areas,
- 50% of all Londoners,
- 67% of all women,
- 57% of all men,
- 64% of all married people over 30,
- 48% of all single people over 30.

he Kinsey report, "Little Kinsey2" and the surveys of Clelia Mosher and Katherine Davis, represent, despite their flaws, genuine attempts at taking an objective, scientific approach to how to gather information about sexual behaviour. But sex, being such a fascinating topic also attracts the more sensational commercial 'pseudo-survey' like those regularly carried out amongst the readership of magazines such as *Playboy* and *Cosmopolitan*. Here the questions asked are generally of a distinctly 'racier' variety than in more serious surveys-here is just one example;

- When making love, which of the following do you like? (check all that apply)
 - 1. Have your man undress you,
 - 2. Pinch, bite, slap him,
 - 3. Be pinched, bitten, slapped,
 - 4. Have someone beat you,
 - 5. Pretend to fight physically with the man or try to get away.

The aim is generally to show that the readership of the magazine enjoy sexually exciting lives, to celebrate their reader's 'sexual liberation' and to make the rest of us green eyed with envy (or red faced with shame). And results are generally presented in the form of tabloid type headlines, for example;

Frenchmen have sex more than most

(Comment from a *Playboy* survey.)

Such surveys are, essentially, simply sources of fun, fantasy and profit and can, of course, be easily dismissed from serious consideration because of their obvious biases, clear lack of objectivity, poor sampling methods and shoddy questionnaire design.

Unfortunately there have been several surveys of sexual behaviour that demand to be taken seriously, but to which the same criticisms can be applied, and where, in addition, attempts to interpret the findings of the survey may have been coloured by the likely a priori prejudices of the survey's instigator. One such example is the basis of that 1976 bestseller, *The Hite Report on Female Sexuality* [6].

Shire Hite is a member of the *National Organization of Women* and an active feminist. When she undertook her study in the 1970s, the aim of which she stated as 'to define or discover the physical nature of [women's] sexuality', she clearly had a feminist political axe to grind. – 'Most sex surveys have been done by men' she said and nobody had asked women the right questions. She wanted 'women to be experts and to say what female sexuality was about'. Nothing wrong with any of that except that Dr. Hite often appeared to have a strong prior inkling of what her respondents would

tell her and such clear prior expectations of results are always a matter of concern. But before expanding further on these particular points we need to consider the methodology underlying the Hite report.

Hite sent questionnaires to 'consciousness-raising', abortion rights, and other women's groups and also advertised for respondents in newspapers and magazines, including *Ms.*, *Mademoiselle* and *Brides*. Out of 100,000 questionnaires distributed, Hite received somewhat over 3000 responses, a response rate, she claimed, that was standard for surveys of this type. Most serious survey researchers would however regard it as very low. So the survey begins badly with an extremely biased sample and a very low response rate.

A further problem was that the questionnaire used in the study was hard to complete. Each question contained multiple sub-questions, never a good idea in any survey. And the survey began with numerous questions about orgasm rather than in a rather more leisurely fashion. Many questions called for 'essay-like' responses and others asked for seemingly impossible details from past events. Here are some examples;

- Do you have orgasms? If not, what do you think would contribute to your having them?
- Do you always have orgasms during the following (please indicate whether always, usually, sometimes, rarely, or never):
 - 1. Masturbation,
 - 2. Intercourse (vaginal penetration),
 - 3. Manual clitoral stimulation by partner,
 - 4. Oral stimulation by a partner,
 - 5. Intercourse plus manual clitoral stimulation,
 - 6. Never have orgasms
- Also indicate above how many orgasms you usually have during each activity, and how long you usually take.
- Please give a graphic description of how your body could best be stimulated to orgasm.

Hite's questionnaire began with items to do with orgasm and much of her book dwells on her interpretation of the results from these items. Briefly she concludes that women can reach orgasm easily through masturbation but far less easily, if at all, through intercourse with their male partners. Indeed one of her main messages is that intercourse is less satisfying to women than masturbation. She then goes on to blame what she sees as the sorry state of female sexual pleasure on patriarchal societies, such as the United States, that glorify intercourse. Critics pointed out that there may be something in all of this, but that Hite was being less than honest to suppose that her views were an inescapable conclusion from the results of her survey. As the historian Linda Gordon has pointed out, the Hite report was orientated towards young, attractive, autonomous career women, who were unencumbered by children and focused on pleasure. These women could purchase the vibrators, read the text, and undergo the self-improvement necessary for one-person sexual bliss.

The Hite report certainly has severe methodological flaws and these are compounded by the suspicion that its writer is hardly objective about the issues under investigation. The numbers are neither likely to have accurately documented the facts, nor to have been value-free.

(It is not, of course, feminist theory that is at fault in the Hite report, as the comprehensive study of sex survey research given in [5], demonstrates; these two authors manage to combine feminist theory with a critical analysis of survey research to produce a well-balanced and informative account of the area.)

If the Hite Report was largely a flash in the media pan (Sheer Hype perhaps?), the survey on sexual attitudes and lifestyles undertaken in the UK in the late 1980s and early 1990s by Kaye Wellings and her co-workers [12] acts as a model of excellence for survey research in such a sensitive area. The impetus for the survey was the emergence of the HIV pandemic, and the attendant concern to assess and control its spread. The emergence in the 1980s of a lethal epidemic of sexually transmitted infection focused attention on the profound ignorance that, despite Kinsey and others, still remained about many aspects of sexual behaviour. The collaboration of epidemiologists, statisticians and survey researchers managed to plan and carry through a survey about sex in which all the many problems with such surveys identified earlier were largely overcome.

A feasibility study was first undertaken to assess the acceptability of the survey, the extent to which it would produce valid and reliable results and the sample size needed to produce statistically acceptable accuracy in estimates of, in many areas, minority behaviour. The results of this study guided the design of the final questionnaire used in obtaining results from a carefully selected random sample of individuals representative of the general population. A sample of 20,000 achieved interviews was aimed for, with 18,876 completed interviews being achieved. Non-response rates were generally low. The results provided by the survey give a convincing account of sexual lifestyle in Britain at the end of the 20th Century. For interest one of the tables from the survey is reproduced in Table 3.

Number of respondents taking part in different sexual practices in the last year and ever, by social class (from [12]).

Table 3

Vaginal intercourse			Oral sex			
Men	Last	Ever	Number of	Last	Ever	Number of
	year	%	respondents	year	(%)	respondents
	%			%		
Social						
Class						
I, II	91.5	97.7	2757	67.9	84.3	2748
III NM	90.3	95.5	1486	67.9	78.2	1475
III M	86.1	95.2	2077	60.4	72.8	2058
IV, V	83.3	91.0	849	57.6	67.3	840
Other	52.9	61.6	693	40.8	50.0	686
Vaginal intercourse		Oral sex				
Women	Last	Ever	Number of	Last	Ever	Number of
	year	%	respondents	year	(%)	respondents

	%			%		
Social						
Class						
I, II	91.8	98.2	3460	61.0	76.2	3413
III NM	85.9	94.3	2248	60.3	71.5	2216
III M	90.1	97.2	1857	54.5	65.5	1826
IV, V	81.9	93.6	1007	52.4	64.3	992
Other	56.7	74.5	1212	41.9	54.7	1200

NM=non-manual; M=Manual

The impact of AIDS has also been responsible for an increasing number of surveys about sexual behaviour carried out in the developing world, particularly in parts of Africa. A comprehensive account of such surveys is given in [2].

Summary

Since 1892 when the biology student, Clelia Mosher, questioned 45 upper middle-class married Victorian women about their sex lives, survey

researchers have asked thousands of people about their sexual behaviour. According to Julia Ericksen in her book, Kiss and Tell, 'Sexual behaviour is a volatile and sensitive topic, and surveys designed to reveal it have great power and great limits'. Their power has been to help change, radically change in particular aspects, attitudes about sex compared to fifty years ago. Their limits have often been their methodological flaws. And, of course, when it comes to finding out about their sexual behaviour, people may not want to tell, and even if they agree to be interviewed they may not be entirely truthful. But despite these caveats the information gained from many of the surveys of human sexual behaviour that have been undertaken has probably helped to remove the conspiracy of silence about sex that existed in our society for far too long and condemned many men and women to a miserable and unfulfilling sex life. The results have confronted views held for a large part of the last hundred years or so that sex was not central to a happy marriage and even that sex, as a pleasure for its own sake, debased the marital relationship. Sex as pleasure is no longer regarded by the majority of people as a danger likely to overwhelm the supposedly more spiritual bond between a man and a woman thought by some to be achieved when sex occurs solely for the purposes of reproduction. Overall the information about human sexual behaviour gathered from sex surveys has

helped to promote, all be it in a modest way, a healthier attitude towards sexual matters and perhaps a more enjoyable sex life for many people.

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