

# Conducting Research on Sexuality

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How do we know what people do sexually? What are their attitudes, feelings, and beliefs about sex? What factors influence these aspects of peoples' sexuality? Although far from perfect, our best approach for obtaining answers to these questions is to conduct empirical research. By systematically gathering data, analyzing those data, and making sense out of what those data tell us about people, the goal is to inch closer to answers. It sounds straightforward, but there are usually numerous potential problems to consider and options to weigh.

## What Type of Research is the Best Choice?

Of course the answer to the question in the section heading depends on the type of research question being asked. Do we want to know what people do, think, or feel? Those types of questions may call for descriptive studies. Do we want to know how behaviors, thoughts, and feelings are related to each other or to other behaviors, thoughts, and feelings? Those types of questions probably involve correlational research. Or do we want to know what variables influence peoples' sexual behaviors, thoughts, and feelings. Questions involving how one variable affects or influences another usually require an experimental approach. How do these types of research differ?

### Descriptive Research

Descriptive studies include attempts to determine the prevalence of some attitude, belief, or experience. For example, what percentage of people has been coerced into a sexual experience with another person? What proportion of people view sex outside of a committed relationship as morally wrong? Descriptive research also includes attempts to better understand peoples' experiences by investigating them in greater depth than with simply yes/no questions. So, for example, research participants may be asked to describe their experiences of having been coerced into sexual behavior. Who were the perpetrators? What were the circumstances? What forms of sexual behavior were coerced? How did the people react?

Descriptive research may be considered quantitative or qualitative in its approach. Quantitative studies are focused on numerical data, such as rates and ratings, whereas qualitative studies are focused more on allowing respondents to generate their own descriptions of their experiences, attitudes, beliefs, and so forth. Descriptive studies that are quantitative tend to be focused on establishing estimates of the frequency or prevalence of something, whereas qualitative descriptive approaches tend to be focused on understanding the nature or details of respondents' experiences. In either case, descriptive studies are frequently the first step in research on a particular topic because such research establishes that such a phenomenon exists, and thus warrants further examination. Prior to this kind of exploratory descriptive research, a particular experience, behavior, or belief may have been reported only anecdotally, perhaps in a clinical case report, or news story, or even a work of fiction.

## Correlational Research

Once it has been established that particular sexual behaviors, experiences, beliefs, or attitudes exist among people, often the next step is asking what factors are related to those phenomena? For example, are particular sexual experiences related to specific other sexual experiences? What about possibly being related to specific attitudes, family backgrounds, and so forth? The possible questions about relationships among variables are seemingly endless. Beyond sheer curiosity, however, why would researchers pose such questions, and why would they choose to examine relationships among some variables and not others? Frequently the choices revolve around attempts to better understand what causes, or at least influences, the phenomenon the researcher is studying. If one variable causes or influences another, the two variables will be statistically related, so examining such correlations is a first step toward researching causes and influences affecting peoples' sexuality.

Notice that correlational research is quantitative by necessity. The variables the researcher is examining have to be measured in a quantitative way so that numerical values associated with each variable can be correlated. Coming up with measures of sexuality poses particular potential problems, and some of those issues will be considered below. Here, however, we need to emphasize the relationships between variables. When one variable influences another, the two variables will be statistically correlated, but just because two variables are statistically correlated does not mean that one influences the other. Instead of being so wordy, researchers summarize this point with a traditional maxim: "Correlation does not equal causation."

Correlation between two variables is a necessary but not sufficient condition for establishing that one variable influences or affect the other. The problem is that two variables may be statistically related (correlated) due to both being caused by some third variable (or set of variables) rather than one causing the other. For example, suppose that researchers find that respondents who report masturbating more frequently also report more frequently engaging in sexual activity with a partner. In other words, there is a positive correlation between frequency of masturbation and frequency of sexual activity with partners. It is tempting to try to explain why masturbation causes more frequent sexual activity with partners (or vice-versa). However, it is possible that these two variables are statistically correlated because both are caused by some third variable. In this example, perhaps sex drive, or interest in sexual stimulation, is the causal factor behind both frequency of masturbation and frequency of sexual activity with partners.

Notice that it can be difficult to determine where the causal chain ends, as well as how many variables cause or influence the variables the researcher is attempting to understand. In the example with the correlation between masturbation and sexual activity with a partner, further research might establish that both are caused by sex drive or interest in sexual stimulation. However, this begs the question: What causes differences in sex drive across individuals? Perhaps there is another "third variable" that explains the correlation between sex drive and frequency of sexual behavior (masturbation and activity with partners). Also, perhaps sex drive is just one of a set of factors that cause or influence peoples' frequency of masturbation and sexual activity with partners.

To add yet another layer of complexity, what about the possibility that two variables mutually cause or influence each other? For example, consider the common finding of correlations

between sexual attitudes and sexual behavior. When people who report particular sexual attitudes are also most likely to engage in particular sexual behavior, it's easy to jump to the conclusion that the attitudes cause (or allow) the behavior. Because a correlation does not indicate the direction of causation, it's possible that engaging in the particular sexual behavior affects peoples' attitudes. However, it's also possible that the attitudes lead to the behavior, engaging in the behavior then affects the attitudes, and so on, in an ever-repeating cycle. These kinds of questions and possibilities are why, typically, multiple studies are required to start to untangle the web of connections among sexuality variables.

## Experimental Research

If correlation between two variables indicates the *possibility* that one may be influencing the other, how do researchers determine whether one variable actually does influence the other? Traditionally the gold standard for determining whether one variable affected another was to perform a well-designed experiment. The word “experiment” is frequently used among non-researchers as a generic term for empirical research, but instead it refers to a specific form of research. At a minimum, a true experiment must include: 1) a manipulation of the variable that is being considered as the possible influence on another variable, and 2) random assignment of research participants to the different conditions or levels of manipulation. Here the word “manipulation” does not mean that the research participants are being manipulated, but rather that the researcher is taking control over the variable being studied, and systematically manipulating that variable so that the researcher can determine whether it affects research participants. This is what is meant by the term “experimental conditions:” two or more groups of research participants are created, each being exposed to a different manipulation of the research variable being studied. Frequently, one of the experimental conditions is considered a *control* condition in which the experimental variable is not manipulated at all. That way there is a comparison group that represents what would occur “naturally” (without manipulation by the researcher).

The manipulation of the variable being studied is the first of the two criteria for a true experiment. The second criterion is that research participants are randomly assigned to the experimental conditions (groups). The issue of random assignment is important because the goal is to create comparison groups of research participants who differ in only one way: with regard to the manipulation of the variable being studied. If that goal is met, then any differences in the groups at the end of the experiment presumably must be due to differences in the manipulation, so the researcher can determine what effect (if any) the manipulation had on the research participants. Why is random assignment to the experimental conditions so important? As an example, consider research focused on whether exposure to pornography affects peoples' sexual attitudes.

Suppose previous research revealed correlations between the amount of exposure people had to pornography and the sexual attitudes of those individuals. Because correlation does not equal causation, a researcher decides to conduct an experiment on the effects of exposure to pornography on sexual attitudes. Suppose there are two levels of experimental manipulation: one condition consists of one 30-minute session whereas the more intensive condition consists of three 30-minute sessions. For additional comparison, the researcher includes two control groups who spend just as much time viewing wildlife documentaries as the experimental conditions do

viewing pornography. However, for whatever reason, suppose that the researcher is unable to randomly assign participants to each of the four conditions (groups). Instead, each participant gets to choose which condition he or she will participate in. Without random assignment, this study no longer meets the criteria for an experiment, but why is that a major problem?

We can imagine ways in which the participants who decide to choose each condition probably differ from each other. It's likely, for example, that the participants who choose the exposure to the pornography have more liberal attitudes toward pornography, and probably have more experience with pornography, compared to those participants who choose to view the wildlife documentaries. So, if measures of sexual attitudes administered after participating in the study reveal differences between the groups, how does the researcher know whether those differences are the result of the experimental manipulation (viewing pornography rather than wildlife films) or were there from the start? It may be tempting to answer that the researcher could simply measure those same attitudes prior to exposures to the experimental conditions. Indeed, this approach would reveal how much change there had been in each group. However, if the goal is to try to determine the effects of exposure to pornography on attitudes among people in general, this approach would only reveal how 30 minutes or 90 minutes of exposure affects individuals who started out with liberal attitudes and possibly extensive experience with pornography prior to the study. If the researcher finds little or no change in this select group, would it be accurate to conclude that exposure to these doses of pornography has no effect on the sexual attitudes of people generally?

With random assignment to experimental conditions comes the assumption that each experimental group is equal or the same in all ways except what each group experiences during participation in the experiment. Of course this assumption may be wrong. One experimental condition (group) may end up with more or fewer of a particular type of person, just as a fluke of chance. If so, the experimental groups may display differences at the end of the experiment not because of what was manipulated, but because they started out as different. This is less likely to be the case if each group contains a large number of participants, or if the experiment is conducted multiple times. So, in those cases, we can have greater confidence that the results of the experiment were due to the experimental manipulation, and not due to chance fluctuations from one experimental group to the next.

Although we usually think of conducting an experiment as the way to determine what influences a variable, there are numerous sexuality variables for which this would be impossible. As one example, what about researching the influences on the number of different sex partners one has? Or what influences people to engage in sexual infidelity? Even the previous example of the experiment designed to examine the effects of pornography on sexual attitudes was very limited in the amount of exposure to pornography that could be included in the experiment. Plus, the pornography exposure in the experiment was not the same experience as exposure to pornography of one's own choosing in the privacy of one's own residence. In these cases (and many others), are researchers left without the ability to study influences or effects on sexual attitudes and experiences? Fortunately, the answer is a qualified "no."

When it is impossible to perform an experiment on the relationship between two variables, researchers may choose to try to rule out as many "third variables" as possible as alternative explanations for the link between the two variables of interest. These forms of correlational

studies rely on *multivariate* statistical tests; in essence, more than one correlation between the variable of interest and other variables is considered at the same time. Sometimes researchers use such terms as "statistically controlling for" a particular set of variables, or "partialing out" the effects of a particular set of variables. In these analyses, the correlation between variable X and variable Y is determined while statistically "taking out" of the correlation the degree to which these X and Y are correlated with variables A, B, and C. If X and Y are still correlated after statistically controlling for their relationships to A, B, and C, researchers conclude that A, B, and C are not the entire reasons for the relationship between X and Y.

The details of multivariate statistical tests are well beyond the scope of this chapter, but it is important to recognize that, even when performing an experiment is impossible, researchers can try to determine whether particular "third variables" are the causes for the apparent correlation between two variables. One of the primary problems with multivariate approaches, however, is anticipating and accurately measuring all of the relevant variables that may be the actual causes for the correlation between two particular variables. Selecting particular variables to include in the analyses depends on assumptions about what are the most likely explanations for the correlation between two variables in which the researchers are interested.

Because no one study can include all of the possible variables that need to be considered to answer a research question absolutely, once and for all, it's important that researchers perform multiple studies on a particular topic. After several related studies have been conducted, it can be very informative to examine patterns across those studies. Are there solid conclusions that can be drawn based on consistencies in findings, even as each researcher approached the topic differently? Sometimes simply reading these various studies is enough to be able to draw some conclusions. However, there is a more formal method for statistically analyzing other researchers' studies: *meta-analysis*.

In performing a meta-analysis, the researcher gathers all of the studies available on the variables or topic chosen. The results for each of those studies can be translated into a standardized format so that the results across studies can be combined. The results of the meta-analysis may reveal how strongly variables are related to each other, or under what conditions particular variables are and are not related. Also, the results from each study are weighted so that studies that are based on more participants are weighed more heavily than studies that are based on smaller numbers of participants. Whether it's a single study or a meta-analysis of 128 studies, it's important to consider who these people are who participate in the research we depend on to better understand sexuality.

### **Who Are These People, Anyway?**

Sexuality research relies on people agreeing to participate, which typically involves sharing sensitive information about themselves, their experiences, attitudes, and reactions, all with total strangers (the researchers). Such participation, even if completely anonymous, still requires time and energy. Who are these people willing to give their time and energy to reveal potentially sensitive information about themselves? What is their motivation for doing so? The reason these are important questions has to do with *generalizability* of the research findings.

Researchers start with a *population* of interest. Because it is typically impossible, or at least not feasible, to study every member of the population of interest, researchers must rely on studying a selected group, or *sample*, of those individuals. Results are generalizable to the extent that the findings of the study (which are based on the sample) mirror what one would find in the larger population of interest. Ideally, a research sample would be perfectly *representative* of the population of interest (that is, all members of the population would have an equal chance of being included in the research). In reality, this is impossible to achieve as there are always some potential participants who could not be contacted or who refuse an invitation to take part in the research.

The larger concern is the extent to which a particular sample differs from the population of interest. If the people in the sample differ in important ways from the larger population from which they were drawn, we should question the extent to which the findings apply to the people in the population who were not part of the research sample. In such a case, we might refer to the sample as *biased* in the sense that it is not truly representative. Notice that we are not saying that the individuals in the sample are biased toward the topic that is being studied, but rather that the sample as a whole is biased to including more of a particular type of person than exists in the population. One important form of potential sample bias comes from the principle that it is unethical to force people to participate in research. So, by necessity, all such research is based on volunteers. If those who volunteer to participate in research differ overall from those who had the opportunity to participate but chose not to, we have a case of *volunteer bias*.

How does all of this apply to people who participate in sexuality research? Traditionally, participants for sexuality research are recruited through courses taught either by the researchers or their colleagues. So, one form of prevalent sample bias is results from the fact that only college students who are enrolled in particular types of courses are liable to be sampled for sexuality research. Traditionally, potential college-student participants in sexuality research have been recruited through two primary means: Research participant pools and classroom enticement. As we'll see, each comes with its own set of issues to consider as to how the resulting samples may be biased.

Particularly at large universities, departments of psychology frequently maintain a college student *subject pool*. The word "subject" here derives from the traditional use of the term in psychology to refer to a participant in a particular study. Typically the students who comprise the subject pool are those enrolled in an introductory psychology course and who are provided with strong incentives to participate in a pre-determined amount of time in research. The incentives may include that research participation is factored into the final course grade or that such participation is a prerequisite for earning credit for the course. Because it is unethical to absolutely require research participation, students are typically provided with an alternative to such participation, which may involve writing a paper or performing community service. However, most students would probably consider the research participation their least troublesome option. The rationale for requiring research participation is that participation in actual psychological research is a valuable educational experience (with the goal of better understanding the process of conducting research in psychology).

There may be hundreds of students who comprise a subject pool during any given academic term at a particular university, and there may be dozens of studies from which each student can

choose. Notice that most students who participate in research through a subject pool do not participate in research on sexuality. Typically students read brief descriptions of each study and select those in which they wish to participate. Even if the description is brief, it would probably be clear which studies involved sexuality and which did not. The potential problem is whether students who choose to participate in the sexuality studies differ from those who choose the non-sexuality studies.

Comparing volunteers and non-volunteers with regard to their sexual attitudes and experiences is difficult, because doing so would involve asking the non-volunteers to provide sexual information that they did not volunteer to provide. However, a few studies have involved using different sign-up sheets, although all participants completed the same measures, or asking research participants whether they would be willing to participate in various types of sexuality-related research. In general, college student volunteers for sexuality research are more likely to be male, more sexually experienced, more comfortable with sexual topics, and more liberal in their sexual attitudes compared to non-volunteers. So, even when researchers investigate college student's sexual attitudes and experiences, they may be examining students who differ from in important ways from college students generally.

In addition to some general differences between volunteers and non-volunteers for sexuality research, the more sensitive or revealing the information requested, or the more sexually explicit the requirements of participation, the more likely the sample will deviate from the population. Typically, if asked to complete a brief, anonymous survey on their sexual attitudes, only a small proportion of college students will refuse. However, if the same sample is asked to complete a face-to-face interview regarding their sexual experiences, a larger will refuse. If the same group is asked to view sexually explicit videos while their genital responses are recorded using specialized instruments, an even greater proportion will refuse. The more sensitive or involved the research, the more concerned we should be about the generalizability of the results.

One last sampling issue to consider is generalizability beyond the college students attending the school from which the sample was drawn. When researchers employ a sample of college students from a particular school in the United States and write, "Based on the findings, it appears that men are more likely than women to stimulate their own genitals for pleasure," the implication is that something was discovered that applies to human males and human females generally. However, research has demonstrated that the college years are a unique developmental period during which individuals' personalities frequently undergo important changes, at least some of which may be the result of experiences within intimate relationships. So the college years may be a time during which sexual experiences and attitudes undergo more change compared to other periods in life, which may explain why male-female differences in sexual experiences and attitudes are greater in college-student samples than in samples of older adults. The point is to remember that research results based on college students in one culture may not generalize to adults in general, or even to college students in other cultures.

## How Do Sexuality Researchers Collect Data?

Variables such as sexual arousal, gender, and attitudes toward rape are each *concepts*. Concepts are useful because the words we use to represent a concept allow us communicate more efficiently than if we had to always describe each the phenomena that a concept captures. Suppose we had no concept labeled “sexual arousal,” but in communicating we needed to make reference to that set of experiences. We might have to say something like “You know. That experience when one feels most interested in sexual activity, and blood flow increases to one’s genitals, and males get an erection and females get increased vaginal lubrication.” It’s so much easier to have a shared concept labeled “sexual arousal.”

Concepts are extremely useful, but there are downsides. Concepts are constructed by humans, so they do not exist in an absolute sense. Concepts have to be inferred from other indicators. For the example of the concept labeled “sexual arousal,” we may use genital blood flow as an indication that sexual arousal is present. However, what if an individual feels sexually aroused but there is no increase in genital blood flow? What about if there is increased blood flow to the genitals but the individual does not “feel” sexually aroused. For many concepts there are various ways to define them, and hence numerous indicators of those concepts. Researchers are usually interested in studying concepts, but to do so, they must decide how those concepts will be translated into concrete measures and sets of circumstances. That is, each of the variables needs to be *operationally defined*.

For example, earlier we discussed a case in which researchers were interested in the effects of exposure to pornography on men’s attitudes toward women. In that example exposure to pornography was operationally defined as watching certain sexually explicit video clips in the laboratory. Attitudes toward women would probably be operationally defined as answers to a questionnaire regarding attitudes about women. Or, perhaps the researchers would arrange for the research participant to interact with a female shortly after having viewed the video clips. Notice that researchers are interested in how concepts such as pornography and attitudes are related, yet they are faced with translating those concepts into manipulations and measures that are feasible given their resources. The specific ways they do that are what we mean by the operational definitions of the variables.

In most cases, researchers measure or operationally define their variables in ways that rely on self-reports from research participants. In some cases, researchers are able to measure more directly peoples’ sexual responses. However, as we will see, both types of measures have their advantages and disadvantages.

### *Direct Measurement of Sexual Response*

Researchers can measure directly the physiological arousal or response associated with sexual stimuli. These methods of gathering data typically are carried out in a laboratory because specialized equipment is needed. Specifically, data on male sexual response is typically gathered using some form of strain gage consisting of a loop placed around the base of the penis to form a snug fit. Then, as the penis becomes increasingly erect, the expansion in the circumference of the base of the penis stretches the loop. The degree to which the loop is stretched is recorded by a computer connected to the strain gage via wires. Note that because penises vary in size, the

strain gage has to be calibrated to each research participant. Baseline measurements are obtained for the participant's penis in a non-aroused state as well as at the point of full erection. Then, during the experiment, the researchers are able to determine how relatively aroused the research participant is at any one time.

To measure female sexual arousal and response, researchers typically use a vaginal photoplethysmograph, which consists of a clear acrylic device about the same size and shape as a menstrual tampon. Inside the photoplethysmograph is a light source and a photo-cell to record the amount of light present. The photoplethysmograph is inserted inside the research participant's vagina and, just as with the penile strain gage, the photoplethysmograph has wires running from it to a computer. The photoplethysmograph continuously sends data to the computer regarding how much of the projected light is being reflected off of the walls of the vagina. As the research participant becomes increasingly sexually aroused, the walls of her vagina become engorged with blood, and less light is reflected back to the photoplethysmograph. Note that, just like the penile strain gage, the photoplethysmograph provides data on how relatively aroused the research participant is compared to that individual's baseline measures, but it does not give an absolute measure of sexual arousal that can be compared to other research participants.

Research based on physiological measures of sexual response makes up only a very small proportion of research on sexuality, probably for several reasons. For one, physiological measures of sexual response are relevant only to certain research questions (e.g., factors related to sexual dysfunction or sexual response to deviant images). Also, this method of collecting data requires specialized equipment and expertise, as well as research participants who are willing to engage in the highly unusual behavior of having their sexual response monitored by strangers. An alternative method for collecting data is observations made by researchers.

### *Observations of Behavior*

Direct observation of sexual behavior is problematic for several reasons. Doing so without peoples' knowledge and consent is illegal, and those people who allow researchers to observe them are likely to be unrepresentative of the general population. Even volunteers would probably act differently while being observed than they would in private. There are instances in which direct observation of behavior is possible and useful, but when?

Some behaviors related to sexuality are public, such as flirting with new acquaintances in a bar or displaying affection for a mate. Indeed, researchers have studied these and other topics through direct observation. In such instances, researchers are said to conduct *field research* in that the researchers go out to where people live rather than requiring research participants to come to the researchers. The primary advantage is that researchers are able to observe how people actually behave in real-life situations, especially if the researchers are observing in such a way that the research participants do not know that their behavior is being observed. The primary disadvantage is that there are only a limited number of topics that can be studied through direct observation, especially if the process of observation is to remain hidden from the people being observed. Also, observational researchers are left with only what they can see and hear—the perspective of the research participant is missing. Surveys are a popular alternative method for collecting data on sexuality.

### *Survey Research*

The most common way to gather data on sexual behavior and attitudes is through surveys or questionnaires. Surveys are based on asking people questions about their behavior and attitudes, and tallying the responses, typically from large groups of respondents. Still, surveys vary in the extent to which respondents interact with researchers and are anonymous. Whether administered on paper or over the internet, if the questionnaire does not ask the respondents to identify themselves, and the completed questionnaire is returned in such a way that the researcher cannot identify whose questionnaire is whose, the questionnaire is said to be completely anonymous.

People are most likely to respond accurately and honestly under completely anonymous conditions. However, there are disadvantages to the anonymous questionnaire. Because the respondent does not interact with the researcher, there is no opportunity for either the researcher or the respondent to ask for clarification. If a research participant does not understand a question or a word, he or she is left to guess. If a researcher is faced with a respondent's answer that does not seem to make sense, or conflicts with other answers the respondent provided, there is no way to clarify. Also, people may be less motivated to participate in research when it is easy to opt out of doing so without anyone knowing about it.

To handle these disadvantages, some survey researchers employ trained interviewers to ask questions of research participants. These interviews may be conducted over the telephone or in person (face-to-face). Interviews allow the researcher to have more control, but there are disadvantages. Even if the identity of research participants is not recorded, respondents may not feel anonymous because they are revealing sensitive information directly to a stranger (who does know who the respondent is, at least at the time of the interview). In an attempt to handle this loss of anonymity, some sexuality researchers have aimed for a middle ground by using computer programs to conduct interviews. The computer program presents the questions on the screen, a voice reads each question for the respondent, and there are help windows if the respondent should need clarification.

### **Measuring Sexuality: Easier Said than Done?**

When researchers ask respondents about their sexuality, either through interviews or questionnaires, there are several factors that can influence responses. Unfortunately, researchers have documented that such responses are affected by several other factors, besides the respondents' attitudes or experiences, and these other factors have been lumped together under the terms *response bias* or *reporting bias*.

Although the forms of response bias are numerous, we will consider the few most troublesome and the ones we should consider when examining any example of research on sexuality. First, we'll address the primary reasons research participants may not provide perfectly accurate answers to researchers' questions, even when they try.

### *Memory and Recall*

Suppose researchers presented the following question to respondents: "With how many different partners have you had vaginal intercourse during your lifetime?" Who would most likely be able to provide an accurate response? Probably those respondents who have never had vaginal

intercourse, or who have had one, two, or three partners, would easily be able to recall the exact number of partners.

Consider a second type of example: “How many times during the past 12 months have you used your mouth to stimulate a partner’s genitals?” We can imagine that someone who had not performed oral sex during the past year or so would easily produce an accurate response (0 or “none”). However, what about respondents who have had several recent partners or who have had only one partner with whom they have had an ongoing sexual relationship over the previous year? Certainly it is unrealistic to expect that these respondents could remember each instance of oral sex, even if highly motivated and given enough time to try.

How do respondents produce answers to these types of questions about their behavior when it is impossible to recall and count every actual instance of the behavior? In the end, most respondents estimate their experience, and respondents do so in different ways depending on the frequency and regularity of the behavior about which they are being asked. For example, in response to the number of sex partners question, respondents with several partners are liable to give a round, “ball-park” estimate. Respondents with more than about 10 partners typically provide numbers that end in 0 or 5 (e.g., 10, 15, 25, 30, 50, 75, 100). Researchers who compute the average number of reported partners and compare groups, say males versus females for example, will end up with averages that look precise (e.g., 4.13 versus 2.27) yet are based on a substantial proportion of respondents who provided global estimates.

Considering responses to frequency questions, such as the oral sex question posed above, it appears that people who have had numerous such experiences go through a reasoning process to arrive at an estimate. The thinking of one hypothetical respondent might go something like this, “Well, my partner and I typically have sex about twice a week or so, and I perform oral sex about half of those times. There are 52 weeks in a year, so I guess I performed oral sex about 50 times during the previous 12 months.” The entire line of thinking may only take a second or two. Notice that the respondent does not even attempt to remember each instance because doing so is impossible. How accurate the resulting estimate is depends on how regularly the respondent engages in the behavior as well as the accuracy of his or her recall (or estimation) of that typical frequency. Minor exceptions (e.g., that week the respondent was out of town or was ill or was fighting with the partner) are typically not factored in when forming global estimates.

### *Degree of Insight*

Now that we have examined the inherent recall problems in asking people to report accurately on their own behavior, consider how people might attempt to answer the following sexuality questions, and how accurate their responses might be.

- 1) *During what proportion of sexual contacts was a condom used?*
- 2) *How did you feel during your first experience of sexual intercourse?*
- 3) *How comfortable are you communicating your desires to a sexual partner?*
- 4) *At what age did you first stimulate your own genitals for pleasure?*

Each of the questions in this list is heavily dependent on the respondent's memory, yet the questions also vary with regard to the degree of insight the respondent needs to have into his or her own mental processes. For example, the second and third questions require insight into one's emotions whereas the first and last questions do not. Conceivably, people who are generally less introspective (less aware of their own feelings and thoughts) will probably have greater difficulty answering the second and third questions, and they may be more prone to providing inaccurate answers as a result.

Now consider questions that require an even greater degree of introspection: "Why did you decide to have sexual intercourse with your current partner that first time that you did? Why did you fall in love with your most recent partner? Why did you break-up with your most recent partner?" These questions not only demand recall (memory) but also a great degree of insight into one's own motives and the factors that led to particular emotions and decisions. Humans may not have good insight into these mental processes. This is liable to be true especially with complex feelings and decisions like the ones asked about here.

When asked questions about their motives or decisions, people do readily provide responses. "I felt pressured." "He was the kindest person I had ever met." "We were no longer communicating and just grew apart." These are typical answers people might give to the three questions posed at the start of the previous paragraph, yet how well do they capture all of the complexity that went into decisions to engage in sexual activity with someone for the first time, or the experience of falling in love, or the difficult decision to end a meaningful relationship? It may be that people provide such answers based on stereotypes or beliefs they hold regarding the causes of relationship events. These stereotypes or beliefs may or may not accurately reflect what occurred within the respondent's individual life.

Sometimes researchers ask respondents to report what they would feel or do in a hypothetical situation, such as finding out that their respective romantic partner had cheated on them. Besides needing to clarify what "cheating" would entail, the respondents are being asked to anticipate a situation that would likely elicit very strong feelings in an actual occurrence, yet the hypothetical situation is lacking the rich context in which actual cheating would occur. In other words, when someone discovers that one's partner has "cheated," the discovery occurs in a larger context, including how the cheating was discovered, what the circumstances were, how the person who discovered the cheating feels about that cheating partner generally, and so forth. Asking people to anticipate how they would react in a given scenario will produce a response, but the extent to which that anticipated reaction is in any way similar to how people would actually respond is an entirely different question.

### *Motivation and Social Desirability*

Up to this point we have been talking about problems in accuracy of recall and degree of insight that occur because of the limitations of the human brain, even when motivation and honesty are high. There are also forms of response bias that arise from low motivation to produce accurate responses, or motivation to present oneself in a certain light (regardless of the accuracy of that portrayal).

First, considering lack of motivation, how motivated are respondents when who are participating because of the requirements of one of their college courses? What if they have no such requirement, but are simply asked to participate by an instructor of one of their courses? In contrast, might motivation be higher if participants are paid a substantial amount of money for participating? Or might they be less motivated because they're more likely to be doing it for the money?

There are no definite answers to these questions, but it is important to consider the extent to which participant motivation might affect responses. Also, respondent motivation is liable to vary across participants within any given study. There also may be differences between those who do not answer some questions in a sexuality survey and those who answer all questions.

In addition, some respondents in sexuality studies may distort their responses, consciously or unconsciously, to present themselves in a positive light. For example, if a respondent who has had several sexual partners believes that greater sexual experience is something of which to be proud, she or he may tend to overestimate the lifetime number of sex partners. In contrast, if a respondent feels ashamed of something sexual from his or her past, the respondent may not remember or admit this experience in an interview or on a questionnaire. Researchers refer to these types of distortion as *social desirability response bias*, and such bias may even differ as a function of whether the interviewer is the same or other gender as the respondent. The degree to which respondents believe their answers are anonymous can also alter the degree to which responses are tainted by social desirability response bias.

Besides conscious distortion or deceit in people's sexual self-reports, there are unconscious forms of response bias. In a fascinating example, college women were randomly assigned to two conditions, each involving visualization of the faces of two people known to the participant. In one condition the women were asked to picture the faces of two acquaintances on campus whereas in the other condition participants were asked to visualize the faces of two older members of their own family. All of the women were subsequently presented with the same sexual story and asked to rate their response to it. Interestingly, those college women who had been asked to visualize family members rated the sexual stories less positively than did the women in the other condition. Why? Although we cannot be sure, it is likely that the internal "presence" of the family members led the women to respond more in line with what would be expected by the family members. In a sense, the women's responses were distorted (perhaps unconsciously) by what they had focused on prior to providing their ratings.

We have seen that there are several reasons that the responses research participants give to questions about their sexuality may be inaccurate. These include constraints on memory, inaccessibility to one's own motives or other mental processes, degree of motivation, and tendencies to distort (intentionally or unintentionally) one's responses to be consistent with an image of the self that one wishes to portray. So, research in which respondents have an incentive to participate, are asked direct questions about their behavior over short periods of time, and are assured of anonymity should produce more credible results than research in which participants have little incentive, are asked questions about their behavior over long periods of time or their feelings or motivations, and are unsure of their anonymity. Thus far, the forms of response bias we have focused on involve factors related to the respondent. There are, however, aspects of the research itself that may result in response bias.

### *Question Wording and Terminology*

To elicit self-reports, researchers must rely on words, either spoken or printed, to form the questions and to represent the concepts being studied. The problem is that any time we use words there is the possibility for misunderstanding. Can the researcher be sure that the words used in an interview or in a questionnaire have the same meaning to all respondents as they do to the researcher? Researchers often take great care in choosing the wording for questions, sometimes trying them out on a small sample to work out any problems before actually conducting the study (often referred to as “piloting the questions” or conducting a “pilot study”). For example, would respondents know the meaning of formal sexual terminology such as *fellatio* (performing oral sex on a male) and *cunnilingus* (performing oral sex on a female)? Despite care in question wording, it is easy for different meanings to arise. Consider the following questions:

- 1) *How many sex partners have you had during your lifetime?*
- 2) *How often have you and your partner engaged in sex during the past month?*
- 3) *Have you ever forced someone to have sex against their will? (Or, have you ever been forced to have sex against your will?)*
- 4) *How often do you experience sexual desire?*
- 5) *How frequently do you masturbate?*

If confronted with these questions in a survey, you might generate answers quite readily, especially if a scale was provided for you to indicate frequency. However, other respondents may interpret the meaning of certain words differently than you do. In the first three questions, what does the term “sex” mean? If you are heterosexual, you are liable to interpret “sex” to mean vaginal intercourse. For many heterosexual individuals, if there was not a penis moving around inside a vagina, there was no “sex.” However, others will interpret “sex” to include oral or manual stimulation of the genitals. How does anal intercourse figure in to the equation?

What about lesbian respondents? Heterosexual definitions of sex rely on the involvement of a penis, and episodes of sex typically are marked by ejaculation from that penis. So, if heterosexual couples are asked the second question (“How often have you and your partner engaged in sex during the past month?”), responses will likely be based on the number of times the man in each couple ejaculated after having been inside his partner’s vagina, regardless of the number of orgasms each woman did or did not have. How might lesbian respondents arrive at an answer to the same question? Would the question even have meaning for such respondents?

In the above list of questions, how might the terms *partners*, *forced*, *sexual desire*, and *masturbate* be interpreted by different respondents with different histories, different upbringing, different religious values, and so forth? Does the term *partners* include every individual with whom one has had any sexual contact, or only those individuals with whom one also shared an emotional relationship? How strong does the experience of sexual desire have to be to count? What about a fleeting sexual thought or fantasy? What qualifies as force in a sexual situation?

The last question in the list above had to do with masturbation. This term was chosen intentionally to demonstrate that some sexual words may elicit a stronger emotional reaction than others. Imagine being confronted with the question “How frequently do you masturbate?” versus “How frequently do you stimulate your own genitals for sexual pleasure or release?” Is the second question less threatening and easier to answer? What if the question had been preceded with a statement about masturbation being a common experience? Referring to a particular behavior (e.g., masturbation) as relatively common may lead respondents to be more likely to admit having performed the behavior themselves. When examining the results of a sexuality study, we need to be sensitive to the questions and terminology that were presented to respondents because these are liable to have a substantial effect on the answers the researchers received.

### *Context Effects*

When people respond to questions in a questionnaire or interview, they do not respond to each question in a vacuum. That is, respondents consider the questions that came before and after a particular question when trying to determine what the researchers mean by the question. The impact of certain questions on other questions in the same study is referred to as *context effects*. Because respondents may provide the first appropriate answer that comes to mind, previous questionnaire or interview items may influence responses to a current question because those previous items called to mind particular experiences, attitudes, or feelings. For example, suppose that researchers ask respondents to rate their overall satisfaction with their current dating partners. If this item is preceded by several items having to do with the quality of the sexual aspects of the respondent’s relationships, how the respondent feels about his or her sex life is liable to color how he or she rates the overall satisfaction with his or her dating partner.

### *Conditions and Procedures*

Apart from the questions asked and the context in which those items are embedded, researchers may affect respondents’ answers by the conditions under which they ask participants to respond. Imagine for a moment answering questions about your first sexual experiences. Under what circumstances would you feel most comfortable and free to do so? Chances are you imagined writing about such experiences, not expecting anyone else to see your answers. Indeed, as a general rule, people are more comfortable and more willing to admit personal, potentially embarrassing information about their sexuality when they are completing an anonymous questionnaire compared to when they believe others have access to their answers. So, all else being equal, we might expect people to be more likely to admit masturbation or extramarital sex when completing an anonymous questionnaire compared to answering the same questions posed in a one-to-one interview. Even within interviews, respondents are liable to be more comfortable with certain types of interviewers compared to other types.