Jan 20: Introduction

Point of course: obviously good to know about research methods if you're going to do sociological research. But what if you're not? Still useful in order to make informed judgments as a citizen, parent, consumer, etc.

Basic question of any course of research methods: How do we know?

Most of the time when we say we "know" something, we're really just accepting what someone told us. When you think about it, there's not much that any person can actually prove. You're just trusting some authority, or relying on your intuition about what seems reasonable.

Not possible (or necessary) to check everything, but you can usually do better than that. For example, suppose you have an idea about whether the death penalty reduces murder. If you think it doesn't, you could point out that the US has the death penalty, Canada doesn't, and the US has a higher murder rate than Canada. But if you think it does, you could point out that 50 years ago, the death penalty was more widely used in the US than it is today, and the murder rate was lower. In fact, usually it's possible to come up with some examples that seem to support any idea you have. Rather than just coming up with examples to support your idea, it's important to consider all the relevant evidence.

People sometimes speak of fields like sociology, economics, psychology as "social sciences," while physics, chemistry, geology, etc. are "natural sciences." There are definitely some differences between them. One is that lots of people have opinions and feel qualified to offer them. If you were a journalist and were doing a story on whether there might have once been life on Mars, you'd talk to recognized experts—astronomers and biologists. They're the only people whose opinions would be worth considering. If you were doing a story on why the crime rate has fallen over the last 10 years or so, he might ask sociologists, but also might ask the local police, political officials, community leaders, ordinary people in the neighborhood....

This is one of the things that makes sociology interesting for some people--you can bring in things from your own experiences. But it also means that there are lots of competing claims out there, which can be frustrating. How do you sort out the good from the bad? Often hard to reach a definitive answer. But you can usually at least cut down the possibilities--there's a lot of 'information' out there that's simply false, or explanations that don't fit the facts very well. So a person with some knowledge of research methods can at least avoid some mistakes that other people will make.

The basic research process is similar in all sorts of science. In everyday life, we often are careless in observation, make mistakes in reasoning, and accept explanations without thinking about whether they make sense or whether there are alternatives—psychologists who've studied everyday thinking have identified lots of systematic failings. For example, people place a lot of weight on things that happened to themselves, or their friends or families, even if they're not typical. The idea of science is to make this inquiry more careful. Once we start doing this, we can eliminate false ideas, confirm true ideas and build on them.

What does social science do? Two key things:

Description: Tell how things actually are. People may find this information interesting for its own sake, or they may find it useful for making some other decisions.

Sometimes comparing the way things are in different places, or at different times. E. g., do Americans have different values than Europeans?

Once you've described something, you would usually go on to understand why things are that way. Explanation--identification of causes.

Description: deals with "What?" Explanation: deals with "Why?"

Two basic techniques of sociological research: quantitative and qualitative.

Quantitative: Involves numbers: e. g., analysis of surveys (opinion polls) of opinions about economic inequality, comparison of crime rates in different cities.

Qualitative: everything else--look at detailed descriptions of things and interpret them. E. g., talk to a few people at length about economic inequality, and try to make sense of their views. Or observe police as they go about their work.

Most sociologists concentrate on one or the other. Each one takes a while to master, so it's hard to do both. Also, people often have a preference for one, either because of their own tastes or because of their beliefs about knowledge and social life. I'll try to cover both, although giving somewhat more attention to quantitative. Partly because it's less familiar, partly because it's easier to do a small quantitative project.

Projects:

1. Project involving social change—basically how life has changed in the last generation. Partly statistics; partly interviews with people from a "generation" ago (that is, aged 40-60) about their lives when growing up.

2. Carry out a survey, as a class. You will then have to do a paper with a basic statistical analysis of a few questions from that survey.

Jan 23 What is Social Science?

Sociology and other sciences: The term "science" has a lot of prestige in the modern world. Sciences like physics and chemistry have clearly increased people's ability to do things, and are essential to our way of life. Even people who don't understand them believe in them, because they obviously work. The social sciences don't seem to have the same ability to generate solid results. [Tell us how to eliminate crime, war, drug abuse, etc.] Consequently, people sometimes wonder whether they really deserve to be called "sciences."

From the other side, other people are uneasy about the idea of applying science to people. Natural sciences seem to give people the power to predict and control nature. So wouldn't social science give people the power to predict and control the behavior of other people? That is, wouldn't it take away our freedom and individuality? So even if they could become like physics or chemistry, should they?

As a practical matter, it doesn't seem likely that this kind of control will happen soon. As I mentioned last time, social scientists seem to disagree a lot, not just on cutting-edge questions, but on basic things. E. g., does poverty cause crime, does education make people less prejudiced, is there a connection between unemployment and inflation?

So whether it's a good thing or a bad thing, we need to ask why the social sciences aren't more like the natural scientists. One thing that's sometimes suggested is that in the social sciences, people often have strong feelings about what should be true, because of their moral values, political opinions, or material interests. Hence, may be unwilling to accept evidence. This is a factor, but probably not the major reason—there are also strong feelings in many other areas of science (e. g., the dangers of smoking).

A second issue is that there are some practical reasons that make it harder to do scientific work, especially the difficulty of doing experiments.

A third is the nature of people. Sciences like physics put a lot of emphasis on establishing laws--if one thing happens, something else will happen. But they're dealing with objects that don't have a choice. With people, there's always some individual element—how the person understands the situation, what goals they want to achieve, possibly unconscious impulses that they don't understand themselves. Also, even if some "law" is more or less true in some situations, there are usually limits. For example, suppose you propose this "law": people are more likely to do something when they get paid for it. Seems valid for a lot of things. For example, if I were conducting some kind of research and couldn't get enough volunteers, it would make sense to offer to pay people to participate. But this is not true of all things in our society. There are things where offering money would not normally be effective. E. g., paying for marriage, friendship, sex.

Despite these differences, the basic process is similar in all sorts of science. In everyday life, we often are careless in observation, make mistakes in reasoning, and accept explanations without thinking about whether they make sense or whether there are alternatives—psychologists who'

Description: Tell how things actually are, or how things are different for different "units": times, places, groups.

The description can involve counts of things, like what percentage of the labor force is unemployed. We've become used to receiving a lot of descriptive information that we regard as pretty reliable, much of it from the government. Unemployment, inflation, number of crimes, number of votes cast in elections. All of this information required a lot of systematic collection of information. Most of it did not exist 100 years ago, and almost none of it existed 200 years ago. For example, if you want to know how many people lived in Connecticut in 1776, you couldn't get an exact number. No one made an effort to count all the people. Historians can put together various records to make pretty good guesses, but they would agree that there's still a good deal of uncertainty. If you wanted to know something like how many of the residents of Connecticut thought that it should remain a British colony, and how many wanted to be part of an independent nation, there would be even less certainty. Even a statement like "most people" would be open to debate.

Description can also involve qualitative accounts of experiences, eg talking about a day in the life of a homeless person. This sort of information is usually collected by individual researchers, not by government agencies. Maybe social scientists, but sometimes journalists or other people who are interested for one reason or another.

Description is useful, but once you've described something, you might want to go on to understand why things are that way. Explanation--identification of causes. Cause--in the social sciences it's almost always probabilistic (that is--most of the time). Also, most outcomes of interest have multiple causes. E. g., education as a cause of income--isn't the only thing that affects earnings. To say that education causes earnings means that on the average people with more years of schooling will earn more than otherwise similar people with fewer.

Also mentioned in the book:

Exploratory: looking into a relatively new area. Could involve both description and explanation, but mostly description. E. g., some social scientists are studying the effect of the internet on society--that's basically exploratory.

Critical: research intended to raise questions about society--make people aware of problems, or support some proposed action.

Applied: intended to have immediate practical impact. For example, an evaluation of a particular program designed to reduce prejudice.

All of these kinds of research would use some combination of description and explanation. Also, you might do both of them at once. For example, critical research would usually be applied in the sense of giving suggestions about what ought to be done, although in critical research they might be less "mainstream" solutions than in applied research. Hence, although these kinds of research are important, they don't involve a basic either/or distinction that you have with descriptive and explanatory research.

Jan 26 Conceptualization and Measurement

Will focus on quantitative research here, although some of the material will be relevant to qualitative research as well.

Quantitative research is based on variables. Variable—result of measuring something. The variable can be a number or the name of a category. E. g., earnings is a number. Sex (male or female) is a category. One thing to be careful of in thinking about variables: a single category (ie men) is not a variable. A variable has to have variation or difference. So a variable is all the categories together, because then you're making distinctions.

Conceptualization: Even in exploratory research, you begin with some ideas about what you want to measure. You want to end up with measurements that somehow represent your ideas. You can think of this process as a set of steps from a general idea to a specific piece of data, like a number or a category name.

1. Conceptualization: develop a more definite idea; sometimes give an explicit definition.

2. Operational definition: description of exactly how it is measured.

Conceptualization: getting clear on what you want to measure. A definition is to some extent a matter of individual choice. E. g., binge drinking is sometimes defined as: 'five or more drinks in one sitting.' Why five? Why "one sitting" rather than a specific period of time, like 6 hours? Basically, there's no right answer, and at some point you just have to make a choice. However, you want to make sure that your definition fits with your concept. This isn't too hard with "binge drinking", since the concept is pretty simple—drinking a lot in a short period of time. But many concepts are hard to pin down. E. g., "prejudice". Most of us feel like we know it when we see it, but different people often disagree about whether something is an example of prejudice. So you need an explicit definition. Although the definition might still be partly a matter of taste, it needs to be one you could defend as sensible. If you just think of a way to measure something off the top of your head, you may look back and decide you weren't really measuring the right thing.

The best way to obtain a good conceptual definition is to think about what you're interested in and how you'd define it. Also, it's a good idea to ask other people what they think. Thinking of examples is often helpful. E. g., would it be a case of prejudice if someone said that he wouldn't marry someone who belonged to a particular religion? That he wouldn't vote for someone with that religion for President? If he said he wouldn't want a neighbor of a that religion? And then try to think of why you answer in a particular way, and figure out the principle behind your responses.

Multiple or single measures: in some cases, you might measure a concept with a single question or observation. For example, how old someone is, how many children they have, how much money they earn. But in many cases, you would use several questions, and combine them into an "index" or "scale." Reasons: multiple questions may give you more accurate measurement. For example, suppose you're trying to measure knowledge of a topic. A person might get a single question right just by luck. Also, someone who doesn't know much might know the answer to a particular question; someone who knows a lot might not know the answer to a specific question. So rather than trying to think of one question that sums up everything, you

just ask a lot of questions, add up the number of correct answers. Same basic idea in measuring attitudes. Rather than right and wrong, you think of the answers as being in one direction or another. For example, the "life satisfaction" questions on p. 140. In a sense, they're all asking pretty much the same thing. However, if you ask these questions to people, most people don't give exactly the same answer to each. So rather than trying to pick one as the ideal measure of life satisfaction, why not ask them all and then add up the scores?

Unidimensional and multi-dimensional concepts. Usually, the concepts that sociologists use are based on popular concepts--things that ordinary people might talk about. E. g., the book mentions suicide, number of children people want, "life satisfaction." The first two are terms from everyday language. "Life satisfaction" isn't a term that regular people normally use, but it's closely related to the everyday term "happiness."

Popular ideas are often vague. On reflection, you might decide that the idea you start with has several different aspects, or could be interpreted in different ways. "Dimensions." In that case, you have a choice: (1) try to measure each dimension (2) focus on one aspect, and try to get "pure" measures of that. For example, the life satisfaction questions. The definition: "a cognitive judgment of one's life as a whole." The point of that definition is to narrow things down from the everyday idea of "happiness." Cognitive means that it involves thinking rather than feeling. So the questions ask about things like "the conditions of my life" and "the important things I want." They don't ask about emotions--e. g., how often people are worried, afraid, pleased, etc. You'd expect there to be some correspondence between cognitive judgments and the direction of emotions. However, these investigators decided that they weren't the same thing in principle, and that they just wanted to focus on the cognitive side.

Jan 28 Unidimensional and Multidimensional

The alternative is to measure all of the various dimensions that you think might be there. Usually this means that you don't go into as much depth on each one. For example, on a survey, you might have a few questions on one dimension, a few questions on another, etc. Remember that normally you have to make a choice between breadth and depth. For example, if I'm doing a survey, asking a question takes time, and there's a limit on how long people will participate (usually about an hour). Also, there is the time required to collect the information, get it into a usable form, and analyze it.

If you measure different dimensions, after you gather information, you can check and see whether the dimensions are actually distinct in practice. E. g., life satisfaction and positive and negative emotions. Is there really a distinction between them in practice? I can imagine a person who has positive judgments about his life but nevertheless feels bad. But do such people really exist? And if so, how common are they? And if there are significant numbers of people like that, what makes them that way?

So although you should think about conceptualization before you actually gather data, you can also revise your concepts in light of the data. That can help you in your analysis, or in plans for gathering new data. A back and forth process: ideas to data to ideas .....

Example of index (handout). The example involves survey questions, but an index can also be created by "coding" observations. Coding--converting observations into variables. A simple case would be if you looked at people passing by and classified them by hair color. However, some things are more complex--need to look at a number of things. Sometimes you can do this intuitively--for example, in judging people's age. But sometimes it's useful to draw up explicit rules. For example, if you go into different neighborhoods in a city, you often get a feeling about them--you may feel safe and comfortable, or you may feel the opposite. But if you wanted to come up with a variable for a study, you probably shouldn't rely on subjective judgments. You could draw up rules--e. g., subtract some points for abandoned buildings, residences that seem neglected, litter on the streets; add points for things like families and older people strolling on the streets, houses and stores being well maintained, and so on.

General principle: when in doubt about the best way to measure something, use both ways, and see whether it makes any difference to your conclusions. It's usually impossible to satisfy everyone on conceptualization. Also, there are going to be some cases that are tough calls, so that you're not sure that you're right. In those cases, the best thing to do is to try out the different definitions, and see how much difference it makes.

E. g., suicides. Intention is a key part of the definition. In some cases, there's direct evidence about intention, like a suicide note. In other cases, you might be pretty confident that a person wouldn't have died in some way unless he intended to end his life. But some cases would be tougher. E. g., a person who drowned, or died in an auto accident. And you can have gray areas in intention--a person act recklessly, for example, by driving too fast on a mountain road. So there are cases that are hard to classify. But you could take any ambiguous cases and see what happens if you do or don't classify them as suicides. If your conclusions about the differences between

groups, times, etc. stay the same, you can have more confidence in them. If they don't, then you need to think more.

Jan 30 Sampling

"Population": group you want to generalize about. Usually it's a large group like "Americans," "men," "college graduates." The ideal way to do this would be to observe everyone in the population: a census. Then if you observe accurately, you KNOW what the group is like (at least if you measure accurately). But with large populations, a census is usually impossible, or at least a great deal of work.

Bad way of sampling:

1. Anyone who's available (convenience sample, availability sample)--e.g., students in my classes. Problem is that these people probably will not be typical of any meaningful population like Americans, or American college students, or even students at UConn. Moreover, you usually don't know exactly how they differ.

Also relevant to a difference that people sometimes see between survey results and their own experience. People often see results of surveys showing that a large number of people hold a certain opinion and are surprised—no one they know seems to hold that opinion. Reason is that people generally associate with people who are similar. Also, in talking, people tend to focus on things that they agree about—e. g., if it's clear that a friend's political views are very different from yours, you're likely to steer the conversation to something else. So usually what any one person hears is not representative of the general public.

So a convenience sample may be very different from the population. Studies based on convenience samples may be useful for some purposes, especially where very little is known on a subject. But they aren't good at all for pinning down exact numbers.

Better:

2. "Judgement sample": Try to pick out a sample that resembles the population. Journalists often do something like this. E. g., during a Presidential election, they'll go around and talk to people in various parts of the country. What we'll do when we conduct the class survey—I assume there are places where most people agree that you will get a reasonably representative mix of students. Problems: (1) need to know a good deal about the population to do this and (2). Can't be sure how close you've come to being representative. E. g., if somebody is skeptical and asks why they should believe that you picked out a representative sample, you can't do anything except say that they should trust you.

One particular form of judgment sample:

Quota sample: Decide on the mix of people you want, and set up quotas. For example, if you know that the US population is about 12% black, you might say that your sample should be 12% black. Also, if the population is 50% female, your sample should be 50% female. Pick people to meet those quotas; apart from meeting those quotas, interviewer uses his or her own judgment.

This was once a popular method of sampling. The early Gallup polls used it, and it's still sometimes used in some other countries.

The problem is that the sample will be representative only for the variables for which you have quotas. So if you have quotas for age, sex, race, your sample may not

be representative with respect to people's jobs. And even if you add a quota for jobs, it may not be representative with respect to something else, say marital status.

Best: Probability (random) sampling. Definition: each member of population is given some known probability of selection. A random (totally unpredictable) mechanism is used to decide if the person is selected or not.

The random mechanism has do be designed carefully--if people just pick in a casual way, they usually display unconscious tendencies. Some mechanisms are used in games of chance: dice, flipping coins, well-shuffled packs of cards. Programs have also been designed to create random numbers.

Why is random sampling good?

1. Accuracy increases as the sample gets bigger. You can obtain any degree of accuracy you want by making the sample big enough. Only random sampling works this way. With non-random sampling, getting a bigger sample does not mean your result will be closer to the truth--you'll just repeat the same mistake on a larger scale. (Example of Literary Digest survey).
2. Difference between sample values and population values can be known (within some definite probability). Can make statements like, "I'm 95 percent sure that the average age in this population is between 46 and 50." (The figures would be based on the size of the sample and the distribution of ages in the sample). The 95% number would be meaningful, not just a guess. This also is only true of random sampling. With judgment sampling, all you could say is something like--"the average age in my sample is 48, and I'm confident that the population average is pretty close to that."
3. Don't need to know anything about the particular population to get a good sample (unlike judgment sampling).

Feb 2 More on sampling

There are several forms of random sampling. The simplest is equal probability sampling--everyone has the same chance of being selected. Go through list of people [sampling frame] and apply your selection procedure. Note that you need a complete list of people--this is often not available for large populations.

In a country where almost everybody has a telephone, you can get around this limitation because people have a telephone number. So you can select a random number of the appropriate length and dial it. If it turns out not to be used, or to be a fax or business number, you just pick another number and try again (random-digit dialing). Telephone surveys based on random digit dialing have become quite popular in the US because it's cheap and fast, although most researchers prefer face-to-face interviewing if they have a choice. [Need to take account of number of people per phone].

For face-to-face surveys, simple random sampling isn't generally practical for a large population like the whole US. But you can apply a modified version of the procedure--cluster sampling. Select places randomly (with a probability proportional to their populations), then pick dwelling units and random within the place. (The random selection of places would usually have several stages).

Nonresponse: "Target" and "achieved" samples. "Target" sample is the sample you try to reach. "Achieved" sample is the sample you actually do reach. (Terms aren't in book)

With some kinds of research, the target and achieved samples will be the same--it's possible to get information on each case that you want to study. For example, if you were doing quality control in industry, you would just pick a random sample of the products and test them. But when you're dealing with people, there's usually a gap between the target and achieved samples--sometimes a big gap.

For example, say you do a phone survey using random digit dialing. Some numbers will never be answered, despite repeated callbacks. There are people who aren't home much, or don't answer their phone. Some numbers will be answered, but the person will refuse to participate in your survey. So you may call, say, 2500 people, but only get answers from 1500.

The people who don't participate may be different from those who do. Some people aren't home as much--for example, people who work long hours or travel a lot. Also, some sorts of people may be more likely to refuse. It's reasonable to guess that people who are suspicious will be less likely to participate. Suspicion could involve people in general, or surveys, or the sponsors of surveys. For example, the Gallup poll used to introduce itself as sponsored by "leading newspapers in your area." That would reassure most people about its legitimacy, but might make people who didn't trust the newspapers even more suspicious. If the survey is sponsored by a university, people who don't think much of universities may refuse to participate. Also reasonable to guess that people who are busy will be less likely to participate. E. g., compare a family with two working parents and several young children to a retired couple. You'd figure that getting an answer from the first family would probably be more difficult.

Feb 4

Result: even if you set out to get a random sample, your achieved sample is probably NOT random. This fact helps to explain some of the "problems" with random sampling that the book mentions--for example, that most polls suggested Bush would win the popular vote in 2000. Those aren't really problems with random sampling, they're problems that arise because of the difference between target and achieved samples (possibly also because some answers were inaccurate--that people didn't tell the truth for one reason or another).

However, all other sampling methods have the same possibility of refusals. Hence, random sampling is still generally the best choice.

You can't eliminate refusals, but you should try to minimize them. The larger the number of people who don't respond, the larger the room for error. For example, the Literary Digest survey of 1936, which incorrectly predicted that Roosevelt would be defeated. Sent out about 10,000,000 postcards where people checked off the candidate that they preferred, only got 2,000,000 or so back. Often said that the problem was that they didn't use random sampling. Book says that they just sent out postcards to their subscribers, but that's incorrect. Some people say that the problem was that they relied on phone directories and tax records, so they missed many poor people, who tended to support FDR. That's probably part of the story. But there were some towns where the Literary Digest had a complete list of people and sent ballots to a random sample, and they were usually wrong in those towns too. The major problem seems to be that people who opposed FDR were more likely to send in their card.

People had strong feelings about him--lots of people loved him, but lots of others detested him. People who had strong feelings were probably more likely to send in the cards, and maybe strong negative feelings were a more powerful motivation than strong positive feelings. If they'd made more effort to get people to return the postcards, they would probably have obtained a more representative group of people. It's usually possible to get a substantial improvement in response rate if you make an effort. There are some people (maybe 20% in surveys of the general public) who just don't want to participate. However, there are a lot of people who may be willing, but don't get around to it, or are hard to get a hold of, or who can be persuaded. With mail surveys, you can get a better response rate by sending reminders, sending another copy of the survey, and including a small gift. With phone surveys, the major thing is to keep trying--if people say they're too busy now, offer to set up an appointment to call at a convenient time. If people are concerned about issues like confidentiality, or what will be done with the answers, explain it to them.

Another form of sampling that's sometimes useful--snowball sampling. Snowball sampling--idea is to get a representative sample. But you don't have a list of the population and can't define its boundaries, so random sampling isn't possible. Also, you don't know much about the population, so judgment sampling isn't possible. If the group is pretty large, you can do a survey of the population in general and use the first questions to screen out the people who don't qualify (e. g., suppose you were interested in getting Catholics--first question could be your religious denomination). But sometimes screening is impractical. The group you're interested in may be a very small fraction of the total population. Or the relevant people may be suspicious of "outsiders" coming in and asking questions. Snowball sampling: start with whoever you know

(convenience sample), then ask them to refer you to other people of the type that you want, then ask those to refer you to others, etc. Once you just start getting referred back to people you've already contacted, you can assume you're getting pretty complete coverage. Works well in groups where people know each other. Wouldn't work at all if the kind of people you're interested in are isolated from each other. Would work best for groups who had some kind of interest or activity that brought them into contact with each other. There would be a tendency to get people who were part of the "core"--those who were active and well connected. So you should make special efforts to make contact "peripheral" people too.

Secondary information: collected by someone else. Most of our discussion so far has involved collecting your own information. But using other people's information is actually more common in most of the social sciences, because it's not practical to investigate everything yourself. Also, if you are interested in the past, you have to use secondary data. Even if you aren't especially interested in the past for its own sake, you often will want to use it as a standard of comparison. That is, you'll want to ask whether things are changing? If so, how much?

Basic lesson: Look it up--try to trace facts or figures back to the original source. Don't assume that someone else has reported it correctly.

Example on my web site: "Over the years, teachers have been asked to identify the top problems in America's schools. In 1940, the teachers identified talking out of turn, chewing gum, making noise, running in the hall, cutting in line, dress code infractions and littering. When asked the same question in 1990, teachers identified drug use, alcohol abuse, pregnancy, suicide, rape, robbery, and assault." This has been reported in many reputable places (CBS news helped to spread it), but it's simply not true. The story about how it happened was published in 1994. However, there are still many web sites that report the "survey" results as a fact--basically, the true information takes a while to spread. In fact, it may take even longer, since it doesn't make as good a story for some purposes. An interesting thing is that the false information didn't stay the same--people report somewhat different lists, different dates, different sources for the surveys. Probably mostly not deliberate dishonesty--rather, relying on memory. Tend to forget things, also to unconsciously shape things into a form that makes sense to them. Goes back to what I mentioned at the beginning of the course about the limitations of everyday inquiry.

Feb 6

The most easily accessible secondary data comes in the form of statistics. Largely because they're compact, and can easily be put into a standardized form. For example, crime statistics: you could have a column of numbers showing counts of crimes in different years. There is lots of other information about crime--for example, newspaper stories, court testimony, police records, but it's harder to present this. So if you're looking for secondary information in standard references, you'll usually get statistics.

A couple of concerns about statistics from secondary data: (1) Are the numbers accurate? (2) Are definitions and procedures consistent over time, place, or whatever else you want to compare? (3) Do they match your conceptualization--that is, do they measure what you want to measure?

In some cases, you have to consider the possibility that statistics are just completely made up. Often there are political reasons to make things look better. E. g., governments will want to have good economic statistics, low crime rates.

How do we know that many official statistics in the US aren't fabricated? (1) Hard to keep secrets--if something is just made up, someone will reveal that fact (2) other, independent, people can collect information that will either support or cast doubt on the official information. E. g., a lot of non-government surveys ask people about there employment status. If the government claims that 5% of the labor force is unemployed, and these keep finding 10 or 15% saying they're unemployed, people will notice and try to figure out why they get that difference.

Usually in democratic countries--e. g., US, Canada, Britain--you could regard basic statistics as pretty much honest. They may be misleading in subtle ways, but they won't just be made up. For non-democratic countries, would want to look at figures more closely. Sometimes they may be pretty accurate--e. g., the statistical agency may be pretty independent and professional. Sometimes international agencies will impose standards for data collection and reporting (e. g., World Bank and IMF would set some standards for economic statistics). Sometimes they may be highly unreliable--for example, economic and social statistics from the old Soviet Union.

Assuming that they're honestly collected, still have to consider procedures. E. g., are they based on a random sample, or a non-random sample, or a census? If it's a sample, how large is it? Are they based on anonymous surveys, or on reports? If reports, who does the reporting? Are there clear and consistent definitions?

Definition is not necessarily a matter of right or wrong. In many cases, some more or less arbitrary decisions need to be made. But you still need to be concerned with whether definition is consistent over time or places, or whatever you're comparing. For example unemployment--usually defined to mean "looking for work, but unable to find it." What counts as "looking"? What counts as "not working"--is someone who does odd jobs occasionally "employed"? What about a person who was temporarily not working but has a job to go back to, like a construction worker during bad weather? Changes in the definition of these points can produce changes in unemployment rates. With newer "basic" official statistics, less likely to be a problem. If there are changes, someone would go back and recalculate things using both the old and new definitions. With older statistics, or ones that are less established, it may be a problem. For

example, statistics comparing academic performance of children in different parts of the country are still developing.

Consistency is a particular problem with statistics that involve a lot of individual judgment. E. g. child abuse. The number of child abuse and neglect cases "substantiated" roughly tripled between 1980 and 1990. On the surface, this seems to show that the problem was getting a lot worse. But how are these statistics compiled:

1. Complaints of child abuse made to officials. Complaints could be made by various people: e. g., teacher, neighbor, relative, medical personnel.
2. State agency investigates cases, decides if there's evidence of abuse or neglect.

So increase could result because (a) actual change in treatment of children (b) more reports of mistreatment (people's standards for what they report change) or (c) more of those reports are substantiated (standards of government agencies change). If it's (b) and (c), you might argue that the rise in "substantiated" cases was a good thing, since it meant people were becoming more sensitive to the problem. In fact, the number of substantiated cases could rise even if children are being treated better. So you should not immediately conclude that things were actually getting worse.

Feb 9 Secondary data (continuted)

Conceptual match: the most easily available statistics may not measure exactly what you had in mind. For example, people often talk about "teen pregnancy" as a social problem--say that it's becoming more common as part of changes in social standards. For example, from a health-related web site:

"Kids Having Kids: A Teen Pregnancy Epidemic

Teen pregnancy has become an epidemic with far-reaching consequences.... Why is this happening? The answer is simple: unprotected sexual activity -- at increasingly younger ages."

Suppose we look it up. It's easy to find the "fertility rate" for women at various age groups. This is basically the number of babies born relative to number of women in that age group.

	10-14	15-19
2000	0.9	48.5
1980	1.1	53.0
1960	0.8	85.1
1940	0.7	54.1

These numbers certainly don't suggest that teen pregnancy is a particularly big issue today--for ages 15-19, the rates are pretty much the same in all years except 1960. In fact, the 2000 rate is lowest of all. For ages 10-14, there may be some growth, but the numbers are so small that it's hard to say.

But is this really the best statistic to look at? (1) There are pregnancies that don't end in birth, but in miscarriages or abortions or stillbirths. It might be hard to get information on the number of abortions, but if you actually are interested in "teen pregnancy" you should. (2) Literally, "teen" means age 13-19. But when people talk about "teenagers," they usually seem to have the younger part of the group in mind. So maybe we should try to get information on a different group, say age 17 or less. (3) Marital status: a significant number of "teens" are married, especially in the older part of the age range. And it used to be more. So maybe you should look at married and unmarried people separately.

So the most easily available statistics aren't very well suited for examining the popular idea of "teen pregnancy." However, if you think about the issue, you can get a sense of what you need, and hopefully put it together from existing data sources.

Ways to check secondary data: (1) If more detailed information for individual cases is still available, can examine it and use it for your purposes. This is what was done in the study of murder by immigrants in Miami. The information wasn't part of the official statistics released to the public--they're just things that police record for their own use. This kind of information is not always available to the public, but sometimes a researcher can use contacts to get special permission. In this case, you can (a) get information that isn't normally released and (b) get a sense of how decisions are made

in creating official classification. E. g., from the description of a case, would it be treated differently by today's standards?

Looking at original case-by-case information is slow, and usually it would be limited to a particular place and time (e. g., Miami for the homicides involving various ethnic groups). Also, in many cases the original case information isn't available or doesn't contain much detail. So you're limited to the aggregate data.

Aggregate--totals for particular times and/or places. For example, number of murders in New York City in 1930, 1931, etc. Don't have information on who committed them or who the victims were--just have the totals.

If you are limited to aggregate data, it's good to try to think of alternative ways to measure something. Also, if you think the official statistics might be missing something, think about where that might show up. For example, with child abuse, you could look at emergency room records--how many children were taken in with injuries that might indicate abuse or neglect, like broken bones or burns. How many children were reported as dying in accidents that might be questionable?

Other kinds of secondary data:

1. published work, like newspapers and magazines. Useful because it tells you about conditions and things that were happening. Also tells something about what people were thinking about. Of course, doesn't necessarily represent the views and interests of all people--disproportionately reflects people who have more education and social position.

2. Unpublished work, like papers, letters, diaries. Some of this is in archives of universities, historical societies, etc. Prominent people often donate their papers to some institution, and then they would be catalogued and stored. Sometimes people would just find something stored away, for example letters written by a member of the family many years ago. This sort of material would be interesting for the historian or social scientist, because it isn't written with an audience in mind. It may also contain details about daily life that may have seemed trivial at the time, but would be interesting to researchers now. E. g., discussion of things in the writer's family might tell something about the relations between men and women, or parents and children, at the time. Although the people whose writings are preserved would not be a representative sample, they would cover a wider range than you would get in published work.

3. Oral histories: interviews with people that have been transcribed or recorded. Sometimes done by professional historians, sometimes by amateurs--e. g., people interested in local history or things in their family. Usually would also be stored in archives. UConn has a Center for Oral History which has undertaken various projects. Advantage of oral history is that interviewer can bring up topics that would not necessarily appear spontaneously in letters, diaries, etc. Also, you can get information from people who are not comfortable with writing. For example, some oral history projects were done in the 1930s interviewing people who had been slaves before the Civil War. Most of them had never received any education, so they could not have written down their stories, but they could tell them to an interviewer.

4. Physical records, including garbage, graffitti, possessions. Traditionally, archeologists make a lot of use of this kind of thing. Sociologists less often, because written information has come to be so prevalent. But one form that's emerging is electronic information--e. g., records from supermarket scanners, visitors to web sites, or media viewing. This information is collected automatically, so there's lots of it. Hasn't been used much in research, partly because much of it is private property (sales records). However, people might start making more use of it in the future.