Sociology & the Scientific Method: Crash Course Sociology #3

Crash Course: Sociology
https://youtube.com/watch?v=ZIwyNIdgJBE
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===== Introduction (0:00) =====

What puts the "science" in "social science"? The things you probably think of as "science" - like biology, or physics, or chemistry - can seem a world apart from sociology and the concepts we've introduced so far. But sociology is a type of science; it's just not one that uses beakers or microscopes.

Rather than investigating the physical, natural world, sociology explores the social world. Now, there are different schools of thought within sociology about the best way to understand the social world. But one of the primary means of conducting sociology uses many of the same, basic principles and methods as any of your hard, clinical sciences.

Can sociology use the scientific method? Check.

Does it rely on empirical data? Check.

And graphs? Heck yeah!

[Theme music]

===== Positivism (0:47) =====

A science is really any practice that uses a systematic method of observation to gain knowledge. And you probably know that systematic method as the scientific method. Bascially, you come up with some question about the world, and then develop a testable theory about how you could answer that question. And you develop and test your theory by gathering empirical evidence; that is, verifiable information that's collected in a systematic way.

Now, whether you're using it to explore the natural world or the social world, the scientific method is rooted in the philosophy known as positivism. First laid out by August Comte - yes, the same August Comte that we introduced as the founder of sociology a couple episodes ago - positivism argues that phenomena can be studied through direct observation, and that these observations can be pulled together into theories or facts that can help us understand how the world works.

Now, you might be wondering where the "positive" in "positivist" comes into play. Was Comte just a glass half-full kinda guy? Well, "positive" in this case doesn't refer to optimism, and it doesn't mean "I'm POSITIVE that I'm right!" Instead, a 'positive' theory is one that's objective and fact-based, whereas a 'normative' theory is subjective and value-based.

Which brings us to the first of our three types of sociological inquiry: positivist sociology, or the study of society based on systematic observations of social behavior. And here, "objective" is the key word. As scientific researchers, sociologists must set aside their own values and beliefs to approach their work as neutral observers, and use empirical evidence to answer questions about how the social world works.

===== Quantitative Research (2:05) =====

So, what kind of evidence are you looking for? If you're doing quantitative research, you want data. Quantitative research is the study of observable relationships in the world, using mathematical or statistical methods. Basically, quantitative evidence is information that you can count or tally up.

But this doesn't just mean number-based data, like income or age. You can also use it to categorize people or things, like the state you live in, your gender, or your race. And quantitative evidence can be used in lots of different ways. For example, there's descriptive data, which does just what it sounds like: it describes facts relevant to the question you're researching. Like, maybe you want to know how income is distributed across households in the United States. Quantitative data are your friend here.

This graph is the distribution of household incomes in 2014, produced by the US Census Bureau. The height of the bars in the graph indicate the number of households at a certain income level. And the point labelled "50th" is an important one because it's the median income, the absolute middle observation in the sample. That means that 50% of households have lower incomes than that level and 50% have higher incomes.

In this case, the median income is $53,700. But, be careful about the conclusions you draw from this graph! The median may be the observation in the middle, but it's not the same as average household income. That distinction goes to the mean, which is the sun of all the values, divided by the number of observations. So in 2014, the mean household income was $75,700. That's a lot higher than the median! What's up with that? Why is there a gap between the mean and the median?

Well, think back to the group that the Occupy Wall Street Movement was concerned with: "the 1%." That political label is actually a descriptive statistic! It describes the percent of the population with the highest income. And the fact that the income of the 1% is so much higher than the incomes of the other 99% - that's why we have a gap between the mean and median.

And I'm not being political here, it's pure mathematics: If you have 99 people making $50,000 per year and 1 person making $50 million per year - what's gonna happen to the mean income? It's gonna be pulled way up by the one, very rich person. Even though the mode - or the most common observation in your sample - is the same as the median income, $50,000, the mean will be over half a million dollars.

===== Quanlitative Data (4:04) =====

Another type of evidence that sociologists use is qualitative data - or information that's not in numerical form. Where quantitative data try to measure, qualitative data try to illustrate or characterize. Sometimes the information you need can't, or shouldn't, be distilled into a number in a spreadsheet.

Instead, you use descriptions of the world, gathered through interviews, questionnaires, and first-hand observation. Like, why do some people get married and some people commit to long term partnerships without getting married? Maybe some of that is quantifiable, but a lot of the process behind making a decision like that is going to come down to how the couple feels about marriage. And that can't be easily stated in a statistic.

===== Limits to Positivism: Observation (4:37) =====

There are, of course, limitation to sociology as a positivist discipline. Not everything you want to know about society is going to fit into observable, measurable categories. And what's worse: I don't know if you've noticed this, but human beings are pretty unpredictable. In much of the natural sciences, the environment in which research is done in is completely controlled by scientists. Like microbes in a

petri dish: They're probably not going to develop free will and mess around with your carefully designed experiment.

But if you're studying human behavior, you can't control the environment or how your subject interacts with that environment. So if you're interested in, say, the effects of quality parenting on child development, you can't randomly assign babies to parents. Because, ethics. Parents apparently want to raise their own spawn.

But more than that, you might not want to want to be controlling the environment so much. If you're interested in how humans behave in the real world, you don't want your research methods to make them act differently than they otherwise would. Because the fact is, subjects might change how they behave if they know they're being observed. For a really fun and fascinating example of this let's go to the Thought Bubble!

===== Thought Bubble (5:33) =====

In the late 1920s, Austrian sociologist Elton Mayo went to a telephone factory known as the Hawthorne Works in Cicero, Illinois. His goal was to help the Western Electric Company figure out how to make its workers more productive. So Mayo split the factory staff into groups: a control group who kept working under the same conditions as always, and an experimental group.

For the experimental group, Mayo made a series of changes to their working environment. He gave them different work hours, changed up their rest breaks, even turned up the lights on the factory floor. And lo and behold, the changes seemed to work! The workers in the experimental group became more productive, and absenteeism dropped.

But the truth is, the changes to the physical environment weren't what made the difference. Yes, brightening up the room made the workers more productive - but it turned out, so did dimming the lights! And so did reversing all the other changes that Mayo made. Eventually, Mayo realized that the workers were working harder because he was observing them.

The fact that the workers knew someone was watching how hard they worked made them want to work harder. And this finding at the Hawthorne Works led future researchers to be much more aware of how their own presence influenced their findings. And to this day, the influence of an observer on the behavior of her participants is known as the Hawthorne Effect!

Thanks Thought Bubble!

===== Objectivity and Subjectivity (6:36) =====

So, yes, studying humans and their behavior scientifically can be challenging. But yet another problem with positivist sociology is not that all social facts can be applied to all people, in all time periods. In other words, truth is not always objective. It's like when you tell someone about your favorite book. If you're trying to convince them that Harry Potter is "objectively" the best book series ever written, then you don't what the world "objectively" means at all.

There is no objective truth about what the best book is. That's strictly subjective - an idea that's built on your own experiences and feelings. But as sociologists, we still find subjective experiences to be valid, and important, and even worth studying - even if we can't generalize them into some capital-T truth about the world.

Instead, we might be interested in how patterns in people's subjective experiences form the structures that make up our social world. In sociology, we talk about subjectivity as the meaning that people give their own lived experiences.

===== Interpretative Sociology (7:26) =====

And this brings us to another way of doing sociology. Interpretative sociology is the study of society that focuses on the meanings that people attach to their social world. While positivist sociology is more interested in whether a person acts a certain way - something you can see as an outside observer - interpretative sociology asks: Why *this* behavior? What's the meaning behind it? And how do people view their own actions and thoughts?

Interpretative sociologists approach their subjects with the aim of seeing the world from their subject's perspective, rather than through quantitative data. So, there are fewer statistics involved in this type of research. Instead, interpretative sociologists often use interviews or face-to-face interactions with their subjects to understand the world.

===== Critical Sociology (8:03) =====

Now, there's one more school of thought about how the science of sociology can be conducted. And it actually relaxes some of the assumptions we made early on about the objectivity of the researcher. These thinkers believe there's plenty of room in sociology for subjectivity - especially for values. Values are the ideas a person has about what's good, and the attitudes they hold about how the world works.

And curiosity about a research topic often springs from these very values. Many researchers are drawn to the study of sociology out of a desire to understand moral or political questions about how societies work. Like, what's the relationship between race and poverty in the United States? How can understanding that relationship help break the connection between race and poverty?

The argument for value-driven research, rather than value-free research, is one of the origins of Critical Sociology, or the study of society that focuses on the need for social change. These ideas go back a long time starting as early sa the 19th century when Jane Addams developed the Hull House, an organization that not only provided things like housing and education to low-income people in Chicago, but also researched the causes of, and solutions to, the ills of poverty.

===== Conclusion (9:01) =====

We'll explore all of these schools of thought throughout the rest of the series. But for now, we talked about sociology as a science. We discussed positivist sociology and how sociologists use empirical evidence to explore questions about the world. And we introduced two alternatives: interpretative sociology and critical sociology.

Next time, we're going to learn about how sociologists actually do their research.

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