

WHY DO SCIENCE WITH
PEOPLE?

SOCIAL PSYCHOLOGY IS
EXPERIMENTAL

TODAY'S CONTENT

- Science = Theory and Research
- Theory and Hypotheses
- Hypothesis-testing Experimentation
- Experimentation with People: Special considerations

Science = theory and research

- Theory consists of a set of theoretical statements plus “coordinating definitions” that tell us what counts as elements.
- From which we can derive hypotheses
- Which we can then subject to research tests

A social-psychological example

- Starts with a puzzle. Why didn't people help?
- Generates theory
- Derives a hypothesis: the diffusion of responsibility hypothesis
- It is decided to test the prediction experimentally
- Links the hypothesis to a real world realization.

The Experimental Result

- Of those who faced it alone, 85% helped
- Of those who faced it with one other person known to be present, 62% helped
- Of those who faced it with four others known to be present, only 32% helped.

What are the possible conclusions?

- Is the theory confirmed?
- No, but a corner of it receives support.
- Is the hypothesis confirmed?
- The hypothesis receives some confirmation.
We would like to see more tests.

Methods of testing hypotheses

- Correlational
- I look in the world to see if my independent variable relates to what I think it causes--the dependent variable.
- Experimental
- I manipulate my hypothesized independent variable, and observe whether it increases the rate of the dependent variable.

Correlations, what can we infer from them?

- We observe that the rate of ice cream sales correlates quite well with deaths by drowning. Inference?
- People both eat ice cream and swim (and drown) in the summer.
- Most probably, neither causes the other.

More on correlations

Look. I am a school teacher, and over the years I have become convinced that children who watch a lot of violent television are the ones who are violent with their children. Watching violence on television causes the kids to be violent themselves. They are desensitized to violence, they think it is normal, they learn that it is the appropriate response to a perceived difficulty. I really wish that the parents would control their children's TV watching.

A correlation can come about for three reasons

- What you identify as the cause does bring about the effect.
- What you thought was the effect was actually the cause
- Both “cause” and “effect” are brought about by an unidentified factor that causes both.

Correlations as theory tests

- Advantages?
- A often quick, cheap test of the hypothesis
- Disadvantages?
- Doesn't add a conclusive confirmation. The ugly question of a third factor causing both is particularly troubling.

So, reluctantly, experimentation

- Theories make causal claims
- Experimentation, uniquely, establishes causation.
- Thus there is a preference among theoreticians for experimentation.
- Which in one sense is a pity, because experiments are hard, costly, time consuming....

But do we need to experiment in Human Psychology?

- Can we not intuit what causes our behavior?
- There are numerous demonstrations that we cannot.
- Think of your phone number
- Priming the Pope
- Causes of choices and preferences
- The influence of others on our behavior

Thinking about the internal
anatomy of the experiment with
humans

Why is the “double blind” study the “gold standard?”

- Take the following case. Researchers have produced a new anti-depressant.
- How do we know it works better than current anti depressants or nothing?
- Why don't we give the pill to an experimental group and see if it helps? Ask them?

The anatomy of the double blind experiment

- We insist that the patient does not know whether he is getting a placebo or state of art pill, or the new pill. Why?
- So that he does not simply believe in the goodness of the new treatment, and exaggerate the good that it does.

More Anatomy

- Why do we insist that the physician does not know which patients are getting the new drug, and which the old?
- Because the physician, invested in the success of the new drug, may inadvertently do something to cause it.
- Or, believing in success, coming to see it.