

Start Thinking About Research: Topics, Ideas, Methods

15.301 Managerial Psychology

Why Do Research?

- To make better decisions
- To test our intuitions
- To increase scientific knowledge
- To build skills
- To participate in a distributed community of researchers
- To impress important people

The Influence of Financial Services Internships on MIT Students

Method: Survey (Correlational design)

- A survey was conducted among four groups of students: seniors who had interned in financial services firms, seniors who had interned in other places, and juniors intending to take summer internships in financial services or elsewhere. Each student answered several questions, among which was a question asking if they would be willing to change jobs for extra pay.

Results and Conclusions

- Seniors who interned in financial services firms were more willing to change jobs for extra pay than seniors who interned elsewhere or juniors (who had not yet had internships). The research team concluded that internships in financial services firms change the attitudes and values of students toward financial self-interest.

Questions

Who cares about these results?

Do you believe the conclusions -- What else could be happening?

How much can we generalize the conclusions?

How would you design a future study to make the results more credible and generalizable?

The Effect of Codes of Conduct on Cheating Behavior

Method: True Experiment

- Students were recruited to participate in an experiment and were told that they would be paid according to their performance in a difficult quiz. Students were randomly assigned to two different conditions. Half of the students had to sign a code of conduct pledging not to cheat before doing the quiz; the other half didn't. After the quiz, all students were allowed to grade their own quiz.

Results and Conclusions

- Student who signed a code of conduct cheated much less than students who did not sign such a code. This suggests that public commitment to certain ethical standards increases ethical behavior even when unethical behavior is private.

What is Good Research?

- Research questions: ***interesting, generative, answerable***
- Design: ***be where the action is, make meaningful comparisons***
- Measures: ***valid to build your “case”***
- Analysis: ***objective***
- Presentation of results: ***persuasive***
- Maintaining an ***open mind*** !

Building Your Case

- A researcher builds a “case” with evidence, but critiques and alternative explanations will emerge (by reviewers, other researchers)
- How good is your case?
 - How good is the fit between your measures and your concepts/constructs? **MEASUREMENT**
 - Can you credibly claim a casual relationship? **CAUSALITY**
 - Does your result generalize to other contexts/populations? **GENERALIZABILITY**
- But..there is no perfect research study
- Thus, researchers to work in different ways, using different methods and contexts.

Two Types of Studies:

Exploratory/Descriptive & Hypothesis Testing

1.- Exploratory/Descriptive Studies ~ Open ended questions

(the end result may be a testable hypothesis) e.g. :

“How do individuals feel about cheating?”

“What processes do companies follow to reduce unethical behavior?”

2.- Hypothesis Tests ~ Statements of correlation or causality involving at least two variables, e.g. :

H1: Individuals are less likely to cheat if they committed publicly to not cheating.

H2: Interning in a financial services firm increases the value students place on monetary work compensation.

Your Group Project Assignment

Two requirements:

1. Hypothesis Tests

with Causal Associations (not just correlations)

2. Data Collection (not just existing data sets)

Example:

Hypothesis with Causal Association – “Signing a code of conduct *causes* an increase in ethical behavior.”

Hypothesis with Correlation – “Graduates from top-10 universities get higher scores on their GREs.”

Making a Case for Causality

- How can we conclude that something (the *independent variable*) **caused** something else (the *dependent variable*)?
- **Covariation** – if x, then y; if not x, then not y. (i.e., knowing one allows better prediction of other)
- **Time order** – x occurred before y
- Rule out ***plausible rival hypotheses***
 - “true experiment” with random assignment
 - or strong comparisons that provide a pattern of results
- For example, if grads of top universities have higher GREs, is this due to intelligence, education, motivation, more practice/coaching in test taking?

True Experiments

- You manipulate your independent variable
- Random assignment
- Nothing else varies systematically across conditions, except for the manipulation.
 1. Laboratory experiments
 2. Field experiments
 3. Natural Experiments
- Not always possible to manipulate and randomly assign, so...

Strong Comparisons

- Longitudinal study of the same cohort of students over time
- Comparison groups of cohorts of students by gender, age, major, university
- Multiple dependent variables to show distinctive effects
- For example, comparing seniors with different types of internships and juniors with different internship plans, try to control for major, GPA, career goals, etc.

More examples

- Students were more likely to favor a fake MIT presidential candidate if quoted polls favored him in comparison to other students randomly assigned polls favoring the opponent or no information from polls; however, the effect was asymmetric, as the weakest party in the control condition attracted more votes in response to favorable polling data.
- Students who were asked difficult questions about George Bush came to believe they were more knowledgeable and were more confident of their support for/against Bush.

More examples...

- Watching TV in a gym made people feel better after a workout.
- Both male and female MIT students believe admission standards have been lowered for MIT females, yet measures of success at MIT showed female students outperformed in GPA, leadership roles, and internship offers. Those female students who believed that females were perceived less favorably spent more hours studying.
- Students who studied abroad have more world awareness than those who remain at MIT throughout their undergraduate studies.

Questions to Generate Ideas...

- What are you passionate about?
- What real world problems do you care about?
- What puzzles you about human behavior?
- What is the most irrational behavior you recall observing?
- What needs fixing at MIT? (think of a client here at MIT or elsewhere)

Some Challenges

- Get off campus! Almost all studies involve MIT students. Although it's convenient, can we study another university or maybe respondents in the work world? Or non-students at MIT?
- Do field experiments where participants don't know they are in a study, e.g., asking directions, collecting for charity, lost letters, mood induction, negotiating for rare coins or used furniture