

Research Methods (F07) Outline

- Today's outline:
 - Review correlational and experimental research
 - Give you examples of each from my own research
- The research process is similar in that hypotheses are translated into data
- What is this process called? _____
- Correlational Research
 - Examines relationships between variables
 - Relationship can be positive or negative
 - Example: The more education people have, the greater their income
 - Is this a positive or negative relationship?

Causality Question

- Can we say that education causes higher incomes?
- _____
- A third factor might explain them both – like motivation
- Highly motivated people might (a) get more schooling, and (b) work harder to get \$\$

Next example

- As people get older, they often lose their memory
- What kind of correlation is this? Positive or negative?
- The _____ years the _____ memory

Causality Question

- Can we say that aging causes memory loss?
- _____
- A third factor might explain them both – like _____

Correlation is not equal to Causation!

- All we can say is that there's a relationship between two variables
- These can range between _____ (perfectly negative) to _____ (perfectly positive)
- Even when we think the relationship **MUST** be causal, we can't assume so without conducting experiments

- There are two reasons why correlation is not equal to causation
 1. The Third Variable Problem
 2. The _____ problem (chicken and egg)

Experimental Research

- Experimental Criteria
 - ** _____
 - Treatment vs. Control (2 groups) common
 - Outcome for each group is compared
 - Treatment can be claimed as the _____ of any observed group difference (the effect)

Example

- You want to know if caffeine helps students do well on an exam
- Half are randomly assigned to drink coffee while studying for the test (treatment)
- The other half drink water (controls)
- If people in the treatment group outperform the controls, you can say that coffee caused this difference

Experimental Language

- Treatment = the _____ variable (IV)
 - The variable that is manipulated (coffee/water)
 - Presumed to be the causal factor
- Outcome = the _____ variable (DV)
 - The variable that **depends** on the IV (test score)
 - The effect you are interested in

Today's Examples

- Correlational: Do women who have strong romantic fantasies also show less interest in personal power and success? (Rudman & Heppen, 2000)
- Experimental: Does rap music cause people to think about (and judge) Blacks as hostile? (Rudman & Lee, 2000)
- Let's start with the correlational study

Do Women Avoid Personal Power?

- Women are 46% of the workforce, but over-represented in low status occupations
- Gender prejudice plays a role, but so does _____ (choices made by women themselves)
- Women shy away from occupations that carry the highest economic and social rewards (e.g., money, stocks, prestige)
- For as long as they do, gender inequality will persist

Power and Romance

- Romance idealizes femininity, and places women on a pedestal
- However, women are taught (e.g., via romantic fairy tales) to depend on men for rewards
- The research examined the costs of romantic socialization for women

Romantic Fantasy Scale

- I think of my lover as a Prince Charming
- I think of my lover as a White Knight
- I think of my partner as a hero
- My partner is very protective of me
- My partner is magical

Implicit Romantic Fantasies

- We expected women to score low on the Romantic Fantasy Scale (and they did)
- So we also assessed implicit (unconscious) romantic fantasies
 - the automatic association between romantic partners and fantasy (e.g., Prince Charming)

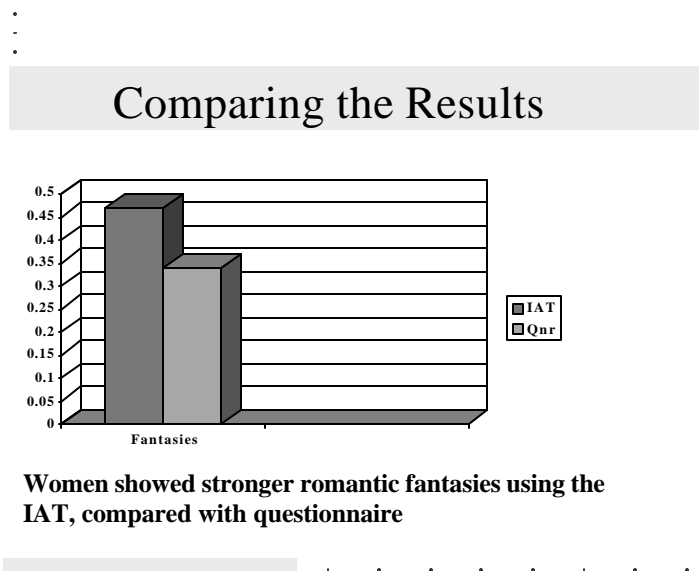
How to measure implicit fantasies?

- We used the Implicit Association Test (IAT)
- It uses computer-based reaction times (RTs)
- People see words on the screen (one at a time) and they have to categorize them
- What follows is an IAT “demonstration”

Note: you can take the IAT yourself (although not the romantic fantasies IAT) by going to my homepage and clicking on the link to the Implicit Association Test

- The task that is easiest to do takes less time than the task that is harder to do
- Which task do you think it was easier for women to do (circle one)?
- Boyfriend +reality?
- Boyfriend + fantasy?
- Did you guess right?

The figure below places the questionnaire and the IAT measure in the same metric (called effect sizes, but you won't have to know that) in order to compare the two.



Results

- Women showed _____ implicit (versus self-reported) romantic fantasies
- But would either of these measures correlate with women's interest in personal power?

3 Power-Related Outcome Variables

- Occupation choice – tell us what you are planning to be when you graduate
 - E.g., doctor, lawyer, teacher, social worker
- Using a standard 1998 reference book:
 - # 1 = Projected Income (for subjects' occupational choice)
 - #2 – Educational goals (how many years of college education do you wish to achieve?)
 - #3 = Interest in _____
- In each case, high score = greater interest in personal status and achievement

Reminder

- The hypothesis: women who scored high on romantic fantasies would be less interested in personal power
 - What kind of relationship is this? Pos or neg? (Circle the right answer)
- On the next slide, correlations followed by an asterisk (*) have passed statistical tests for significance

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Correlations

	Projected Salary	Educational Goals	High-Status Jobs
Fantasy IAT	-.38*	-.23*	-.37*
Fantasy Qnr	-.18	.07	-.01

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Summary

- Women who possessed IMPLICIT romantic fantasies
 - Chose occupations associated with low financial rewards
 - Reported _____ interest in higher education
 - And less interest in high-status occupations

“A Glass Slipper” effect?

- These findings provide initial support for a “glass slipper” effect
- Women who associate men with chivalry and heroism may be less motivated to seek their own personal fortune
- Instead, they may (implicitly) believe that “someday their prince will come”
- Does this mean that romantic fantasies cause women to underachieve?

Yes or No (circle one)

Questions

- Women showed _____ (more or less?) romantic fantasies using the IAT, compared with a questionnaire measure?
- Women who possessed implicit romantic fantasies were _____ (more or less?) interested in personal power?
- These results indicate a possible glass _____ effect

Rap Music Experiment

- Media often perpetuate stereotypes about group members
- A stereotype about Blacks is that they are more hostile than Whites
- Does “gangsta rap” – with its violent themes – activate this stereotype?

Hypotheses

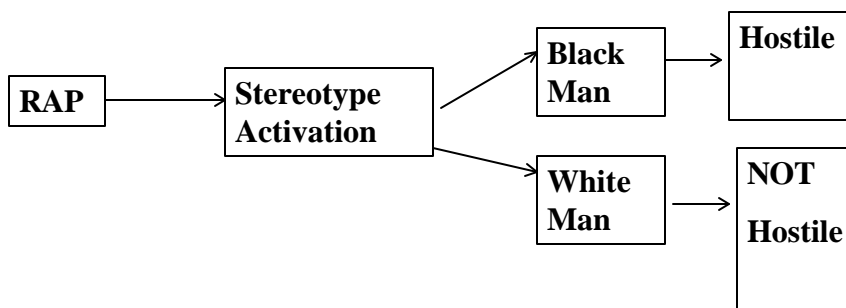
- People exposed to rap music will judge a Black target as more hostile than an identical White target
- Control subjects (exposed to pop music) will not show this difference

IVs and DV

- There are 2 independent variables
- 1. Music Type (rap vs. pop)
- 2. Target Ethnicity (Black vs. White)
- There is 1 dependent variable (_____)

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Experimental Model



Control subjects (exposed to pop) should not have their stereotype activated, so they should rate both Black and White men as not hostile

_____

- When subjects can detect what your hypotheses are, they may feel that certain behaviors are “demanded” of them
- Researchers use _____ (mild deception) to avoid **experimental demand** at all costs

Method

- Cover story
 - Disguises true purpose of research
 - “Music Ratings Project”
 - Ostensibly “Market Research”
- Random assignment to music condition
 - Rap vs. Pop music

Music Ratings Phase

- Subjects heard a music clip, then rated it
- After 6 music clips, we staged a crisis – the equipment appeared to fail!
- At this point, subjects have only completed half of their experimental obligation – what to do?

Person Perception Phase

- Enter Experimenter 2, who just happened to be getting a new project ready in the lab
 - Subjects volunteered for this project to fill their time
- They were then escorted to private cubicles, where they received a packet
 - The packet contained a description of a man going about his daily activities
- ½ the subjects read about a man named Tyrrel (African American name)
- The other ½ read about a man named Donald (a White name)
- The paragraph about the man follows
 - I went to see my old pal X [Tyrrel or Donald] today. Soon after I arrived, a salesman knocked on the door, but X refused to let him in. The phone rang and X let the machine pick up. X explained he was avoiding his landlord because he refused to pay rent until he had the place painted...
 - We had lunch at a café. X said he couldn't tip the waitress because he needed the money to fix his car. We went to the park and then stopped at a hardware store, where X got annoyed at the saleslady for filling his bags too slowly. As we left, a Red Cross volunteer asked us to give blood, but X told her he had diabetes and could not.

Ambiguous Behavior

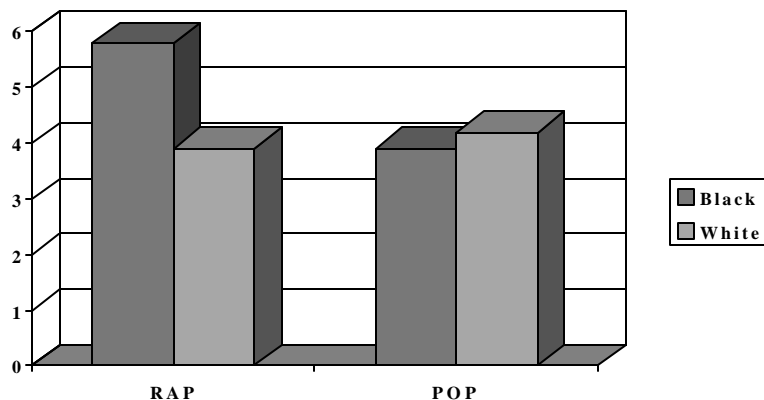
- The man's behaviors could be viewed as hostile or reasonable, depending on the frame of mind we're in
- Stereotypes are known to affect our frame of mind – in particular, **they can guide the way in which we interpret _____ behavior**
- After reading about the man, subjects rated him on several scales
- There were only 3 items we cared about
 - How hostile was X? How angry was X? How aggressive was X?
 - Combined to form **the hostile index**

Hypothesis Reminder

- Rap music group: Tyrrel will be rated as _____ hostile than Donald
- Pop music group: Tyrrel and Donald will be rated as equally hostile

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Hostile Index Results



Summary

- As hypothesized, rap music subjects rated a Black target as more hostile than a White target
- Can we say that rap music caused this difference? Yes or No (circle one)
- Because we randomly assigned people to hear either rap or pop
- And because pop music subjects did not show differences in their ratings of Donald and Tyrrel

Implications

- In general, these findings show that media can influence how we view other people's behavior
- Specifically, media that activate stereotypes can lead to "stereotype consistent" judgments of group members

Experimental Research

The key to success is _____

Why? It controls for

1. Subject selection effects
2. Experimenter bias

Random Assignment

Controls for all kinds of variables that might explain the results otherwise (personality, age, SES, intelligence, mood, etc. etc.)

- If everyone who walks in has an equal chance to be in the treatment OR the control group, both groups should contain similarly different types of people

Debriefing

- When we use deception in research (e.g., a cover story) we always carefully "debrief" people afterwards
- In this case, we explained to subjects the real reason for the research
- Many were surprised to find out that the equipment had not really failed!

Experimental Realism

- Staging the crisis gave us an experiment that was high in **experimental realism**
- This means that the experiment was likely to be involving for subjects (i.e., make a psychological impact on them)
- Your text contrasts this with _____ (experiments in which people do things they are likely to do in their daily lives)

Example

- Subjects drink coffee and then take a math test (other subjects drink water)
- High on mundane or experimental realism?
- Suppose subjects were led to believe they had spilled a cup of coffee into a bag that had expensive camera equipment in it?
- High on mundane or experimental realism?

Questions

- Which of the following was NOT an independent variable in the rap music study?
 - A. hostility ratings
 - B. type of music
 - C. target race

- The rap music project showed that subjects who heard rap music:
 - A. cried less than subjects who heard pop
 - B. were angry at the experimenter
 - C. rated Tyrrel as more hostile than Donald
 - D. rated Donald as more hostile than Tyrrel

- Telling people they are participating in “market research” instead of stereotyping research is known as
 - A. a smokescreen
 - B. a lie
 - C. a cover story
 - D. a blanket effect

- Based on the rap music project results, “gangsta” rap may activate
 - A. Ice Cube
 - B. stereotypes about Blacks as hostile
 - C. music appreciation
 - D. hearing problems

Rap music most likely affected subjects’ hostility ratings of Blacks because

- A. people are prejudiced
- B. people use accessible stereotypes when judging others
- C. rap music makes people angry

Conclusion

- Examples of two different types of research
- Correlational – measure your variables, and see if they relate to each other in the way you think they should
- Experimental – manipulate your variables, and see if they have the effect you think they should

Which is best? _____ Why? _____