

Research Methods in Psychology

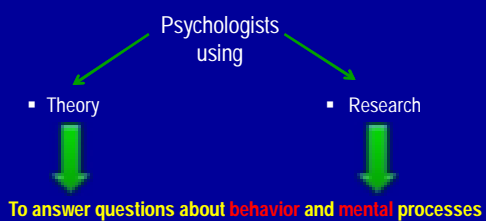
Chapter 1: Introduction

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1

The Science of Psychology



2

Let's go for an example:

What is the Effect of Media Violence on Aggression?

- Displaying media violence leads to:
 - ✓ Increase in aggressive thoughts, emotions, and behaviors
 - ✓ Short- and long-term effects
- Effects of media violence on aggression is same in:



3

Media Violence and Aggression

- Long-term studies Showed:

Observing media violence in Childhood
Adult aggression: physical assault, spouse abuse



- Theories supports exposure to violence
 - ✓ Activates aggressive cognitions and arousal.
 - ✓ Models aggressive behaviors: active and passive.
 - ✓ Facilitate learning aggressive behaviors.

4

Media Violence and Aggression

- Factors affect likelihood of aggressive response following media violence:

- **Characteristics of viewers:** Age, Understanding
- **Social environment:** Parental monitoring
- **Media content:** Realism of depictions



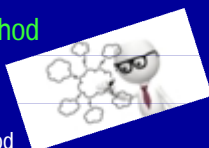
▪ **Nobody** is immune to the effects of media violence.

5

The Scientific Method

- What is "Scientific method"?

- An abstract concept
- Not a particular technique or method
- Ways in which scientists ask questions
- Logic and methods used to gain answers



- Two important aspects of Scientific method:

- Empirical approach: designing examinations
- Skeptical attitude: converging findings

6

Scientific Method

Empirical approach

- Observe behaviors directly
- Experimentation
 - Systematic control



7

Science in Three Contexts Historical, Social/Cultural, and Moral

Historical Context

- Increased scope psychology: Philosophy or Physical science?
- Early 1900s: empirical approach in sensation/perception
- 20th century: computer revolution raised cognitive psychology
- Shift: behaviorism to cognitive psychology
- Psychological organizations: APA, APS



8

Science in Context



Social/Cultural Context can affect psychology in:

- *Zeitgeist* influences: the spirit of the times
 - Research topics: benefit / problem
 - Society's acceptance: psychological findings
 - Research Location: Internet / lab / field
- *Ethnocentric bias*: the effect of culture on

9

Science in Context



Ethnocentric Bias

1. Understand behavior of individuals in *different culture* through framework of *own culture*.
2. Be aware of *cultural influences*.
3. Consider research questions that *go* against stereotypes.
4. Ethnocentric bias influences *how we interpret behavior*.

➤ Example: Stereotypes based on clothing, hairstyle, body art

Cross-cultural research helps psychologist to avoid the Bias.

10

Science in Context



Moral Context

- High standards for integrity and ethical conduct
- Scientists do not
 - Fabricate data
 - Plagiarize
 - Selectively report research findings

11

Science in Context



Ethical Codes of APA

- example: "under which condition researcher can deceive participant? "
- Evaluate research dilemmas involving
 - Risks and benefits
 - Deception
 - Animal research

12

Thinking Like a Researcher



- **Think like a researcher: skeptical attitude**

- Even of claims based on "published" findings
- and claims presented in the media

- **Accept based on strongest evidence**

- Converging evidence
- All claims are probabilistic.
- Do not accept a claim based on your "common sense".

✓ Psychology student must be more cautious than public!!!

13

Thinking Like a Researcher,



- **Similarity 1: between Science and Legal System**

- Both make decisions based on evidence.
- Psychologist
- Detective



- **Similarity 2: between Science and Legal System**

- A small amount of evidence leads to **suspicion**.
- A large amount of evidence is needed to **convict**.

14

Guidelines for Evaluating Reports of Psychological Research

- **There are three serious problem when psychological findings are reported in Media:**

- 1. They are not based on any research.
- 2. They are based on bad research.
- 3. Something can be lost in the translation.


- **Solutions:**

- Pseudoscience ≠ science
- Be skeptical.
- Go to the *original source*.



15


Getting Started Doing Research



- **What should I study?**
 - Choose a research topic by reviewing
 - Psychology journals, textbooks
 - Courses in psychology
 - Get involved in research
 - Attend colloquia
 - Join a research team
 - Most important: Read reports of psychological research.

16

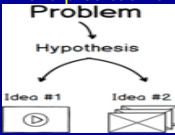
Getting Started



- **What is Research hypothesis?**

A hypothesis is:

- A tentative explanation for a phenomenon
- Stated in the form of a prediction and an explanation.



17

Getting Started



- **Example hypothesis:**
 - Research participants who play violent video games are predicted to behave *more* aggressively than participants who passively watch televised violence

because
video-game participants' aggression is reinforced (rewarded) while playing the game.

18

Getting Started



▪ Another example of hypothesis:

- Research participants who play violent video games are *predicted* to behave *less* aggressively than participants who passively watch televised violence

because

video-game participants have the opportunity to release any aggressive impulses.

19

What is Multimethod Approach?



- One scientific method.
- Many psychological research questions and research methods.
- Different areas of psychology require multiple methods
 - clinical, social, industrial/organizational, developmental, counselling, physiological, cognitive, educational, personality, human factors, neuropsychology, etc.

20

The Multimethod Approach



- No single research method or technique can answer all of the different questions in psychology.
- Multimethod approach gives
 - more complete understanding

21

The Multimethod Approach

- No perfect research method
 - Each method or measure of behavior has flaws
- Multimethod approach
 - Flaws associated with any particular method are overcome by other methods to fill in the gaps



22

The Multimethod Approach

- "Toolbox" with different tools for conducting research
- Focus of this course
 - Introduce different research tools



23

Steps of the Research Process

- Develop a research question.
- Generate a research hypothesis.
- Form operational definitions.
- Choose a research design.
- Evaluate the ethics of your research.
- Collect and analyze data; form conclusions.
- Report research results.



24

Discussion Questions



▪ **Have you heard or read media reports about psychological research?**

- Did you accept the report without questions? Why or why not?
- Did you have enough information?
 - What do other scientists say about the topic?
 - Could the report be biased?

25

Discussion Questions



▪ **Do you remember ever being skeptical about research presented in the media?**

- Why were you skeptical?
- What information would have made you less skeptical?
- Did a finding seem "too good to be true"?
- Did anyone have anything to gain through the report?
- Have the findings been replicated (repeated)?

26

Discussion Questions




▪ **What research topics in psychology interest you?**

- What hypotheses can you form about your topic?
 - What relationships might exist between variables (factors) you've identified?
 - Can you make predictions regarding your topic?
 - Can you identify potential causes for the behavior or phenomenon?

27


Discussion Questions



- **Does your cultural background influence your choice of topic and hypotheses?**
 - Would people with different backgrounds view your topic similarly?
 - Consider people with different sex, age, racial, socioeconomic status than yourself.
Might these characteristics make a difference for your topic?
 - Are there other cultural variables that would make a difference?

28

Discussion Questions



- **What research topics and theories are currently popular among psychologists?**
- **What psychology research topics are investigated at your school?**

29

Discussion Questions



- **How might our current social and cultural context be related to the prominence of certain research topics?**
- **To what extent does ethnocentric bias play a role in the prominence of current research topics?**

30
