

Explaining behaviour

Research methods

Outline

- **Methods of Inquiry**
- **Scientific Method**
- **Basic vs. Applied Research**
- **Laboratory vs. Field Research**
- **Qualitative vs. Quantitative Research**
- **Research Process**

Methods of Inquiry

- **Tenacity**
- **Authority**
- **Intuition**
- **Rational Method**

Scientific Method

- Does not require a particular type of experiment
- Best approach for eliminating bias and opinion

Scientific Method

- Key elements:
 - Empirical
 - Objective measurement
 - Evidence is gathered systematically
 - Confirmation of findings
 - Self-correcting
 - Progressive
 - Tentative

Attitudes of Scientists

- Uncertain
- Open-minded
- Skeptical
- Cautious
- Ethical

Goals of Scientific Method

- Researchers use the scientific method to meet four research goals:
 1. Description
 2. Prediction
 3. Understanding/explaining
 4. Application

Basic vs. Applied Research

- | | |
|---|--|
| <p>Basic Research</p> <ul style="list-style-type: none">■ Answer fundamental questions about behaviour and mental processes■ Little emphasis on application to real-world | <p>Applied Research</p> <ul style="list-style-type: none">■ Conducted to address issues in which there are practical problems and potential solutions |
|---|--|

Laboratory vs. Field Research

- | | |
|--|---|
| <p>Laboratory Research</p> <ul style="list-style-type: none">▪ Located in the lab▪ Tighter experimental control▪ More privacy for participant▪ Easier to obtain consent▪ Artificial | <p>Field Research</p> <ul style="list-style-type: none">▪ Better fit to “real-life” situations▪ Real-life situations may not always be able to be duplicated in the laboratory▪ Immediate difference |
|--|---|

Quantitative vs. Qualitative Research

Qualitative Research

- Descriptive research
- Data are in the original 'rich' form (e.g., narratives, audio/video recordings)

Quantitative Research

- Data are collected and expressed in terms of numbers
- Most research in psychology tends to be quantitative

Research Process

- **Step 1: Find an idea**
- **Step 2: Create a research hypothesis – statement or expectation based on observations or a theory**

Ideas Become Hypotheses

Research Interest or Ideas	Research Problem or Questions	Research Hypothesis
Open Classroom and Academic Success	What is the effect of open versus traditional classrooms on reading level?	Children who are taught reading in open classroom settings will read at a higher grade level than children who are taught reading in a traditional setting.
Television and Consumer Behavior	How does watching television commercials affect the buying behavior of adolescents?	Adolescent boys buy more of the products advertised on television than do adolescent girls.
Drug Abuse and Child Abuse	Is drug abuse related to child abuse?	There is a positive relationship between drug abuse among adults and the physical and psychological abuse they experienced as children.

Research Process

- **Step 3: Deciding exactly how you will define and measure your variables (Operational definitions)**
- **Step 4: Identify participants/subjects**
- **Step 5: Select a research strategy/design**
- **Step 6: Conduct study**
- **Step 7: Evaluate the data – findings are analyzed and critically evaluated**
- **Step 8: Publish/present results**
- **Step 9: Start process again**

Pseudoscience

- **Associates themselves with legitimate science**
- **Based on inadequate, unscientific methods**
- **Yields results that are generally false**
- **Anecdotal evidence**
- **Hurts society**

The Case of Facilitated Communication (FC) and Autism

- **FC is an alternative means of expression for people who cannot speak, or whose speech is highly limited**
- **Partner provides physical and emotional support as person with a communication disorder tries to point in order to communicate**
- **Quickly became a popular treatment for people with autism**

Video: Opening the door : An introduction to facilitated communication

- What do you think about his treatment?
- How impressive and convincing are the results?
- If your child were autistic, would you be eager to try this treatment?
- If FC doesn't work, is there any harm in believing in it?
- Why are the involved parents and professionals so convinced? Is their enthusiasm warranted?
