

What is Empirical Reasoning?

- Empirical = “based on observation”
- Why empirical reasoning is necessary?
 - Sometimes, settling disputes with other approaches is impossible.

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What is Empirical Reasoning?

- Empirical = “based on observation”
- The “key” to empirical reasoning
 - Careful logic
 - Organized observation
 - Measurement
 - Open to scrutiny of others

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Empirical Reasoning in Psychological Science

- William Wundt
- Founder of psychology
- *Principles of Physiological Psychology*
- Laboratory at the University of Leipzig
- First scientific journal in psychology
- Trained many important psychologists

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The Scientific Approach

- What makes something a science?
- Although the content is different, biology, chemistry, physics, and psychology are sciences because they all use a **scientific approach (empirical reasoning)**.

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Empirical Reasoning in Psychological Science

- Galton and the “power of prayer”
- In England health and longevity of the royal family were prayed for weekly.
- Do individuals of royal family live longer than ordinary individuals?

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Empirical Reasoning in Psychological Science

- 1872, Statistical inquiries into the efficacy of prayer

Type of Person	Life Expectancy (approx.)
Royal Family	64
Clergy	69
Doctors/Lawyers	67
Military	67

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Empirical Reasoning in Psychological Science

- Applications of empirical reasoning to psychology has advanced
- "Each method has its limitations"

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Empirical Reasoning in Psychological Science

- Ex: Asch (1952): Conforming to a consensus
- Would you change your opinion because everybody think otherwise?
 - Participant arrived to a psychology lab with several other participants
 - Other participants were confederates
 - They would be asked to make judgments about some lines

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Empirical Reasoning in Psychological Science

- Which of three lines was closest to a standard line
- Sometimes all Confederates sometimes gave an obviously wrong answer
- 30% of participants gave the same opinion with confederates
- WHY? Unaware of being incorrect?
- Uneasy about their own perception
- Wanted to appear the same as the majority



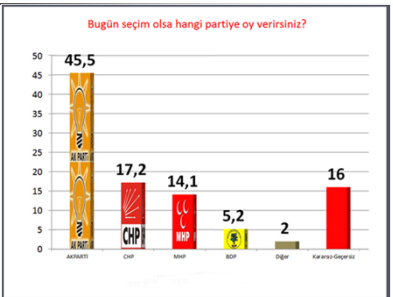
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Empirical Reasoning in Psychological Science

- Would you change your opinion because everybody think otherwise?
 - About 30% of participants did

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Science and technology in modern life (Opinion Pools)



Parti	Oran (%)
AK PARTİ	45,5
CHP	17,2
MHP	14,1
İP	5,2
Diğer	2
Kararsız/Çok soru	16

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What Does Behavioral Science Encompass?

- Behavior = what you do and how you act
- Behavioral science
 - Cognitive and emotional functioning
 - Social behavior
 - Behavioral economics
- Goal = describe and explain how and why humans think, feel, and behave

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Two Types of Research

- **Basic research** – conducted to understand psychological processes without regard for whether or not the knowledge is immediately applicable
- **Applied research** – conducted to find solutions for problems rather than to enhance general knowledge about psychological processes

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Goals of Behavioral Research

- 1. Describing Behavior
 - What type of cereal certain people buy
 - Voting preferences
 - Changes in behavior across the lifespan
 - Patterns of aggression among chimpanzees

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Goals of Behavioral Research

- 2. Predicting Behavior
 - Who will do well in a particular job
 - What personalities put people at risk for criminal behavior
 - Factors that predict happiness

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Goals of Behavioral Research

- 3. Explaining Behavior
 - Research goes beyond *what* happened to see *why* it happened.
 - **Most behavioral researchers view explanation as the primary goal of science.**

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Publishing in Peer-reviewed Journals

- Articles reviewed by experts
- APA style (Appendix A)
 - Abstract (summary)
 - Introduction
 - Method
 - Results
 - Discussion
 - References

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