

How Psychology Became a Science

Lecture 1, Part 1 of 2

Textbook: Prologue (p. 1-21)

What is Psychology?

- Critically examining the mind, brain, and behaviour.
- Spans many levels of explanation.
- Attempts to answer many exceptionally difficult questions.

VERY Brief Summary of the History of Psychology

- Fascinating and ever-evolving story.
- For centuries (1649-1879),
 - Psychology = Philosophy

Historical Perspectives

- 1800s
 - American public obsessed with paranormal.
 - Psychology = ‘spiritualism’.
 - “Psychologists”
 - No scientific evidence.
 - *Parapsychology* remains a tiny branch.

Historical Perspectives

- Spiritualistic claims are unfalsifiable!
 - They are (currently?) ‘untestable’!
 - Thus, can not be proven to be false.
 - Thus, we can’t assume it’s true.
- They are also:
 - Extraordinary claims.
 - Unable to be replicated.
 - Have rival hypotheses.

Historical Perspectives

- Wilhelm Wundt -- William James
- 1879 -- 1883
- Germany -- US (Harvard)

- 'Mental events' could be quantified, via introspection.
- Designed to emulate methods of traditional scientific disciplines.

Historical Perspectives

- Five Theoretical Frameworks of Psychological Theory:
 - Structuralism:
 - Functionalism:
 - Behaviourism:
 - Cognitivism:
 - Psychoanalysis:

Theoretical Frameworks

1) Structuralism

- What are the basic elements of psychological experience?
- Generate a 'map' of the conscious mind.
 - Introspection on sensations, images, feelings.
- Two major problems:
 - Findings lacked reliability!
 - Imageless (*automatic*) thought?
- Underscored importance of systematic observations.

Theoretical Frameworks

2) Functionalism

- Why and how do psychological factors allow us to function and adapt?
 - Feelings, memory, behaviour, etc.
 - Mind = stream of consciousness

Theoretical Frameworks

3) Behaviourism

- Founded by John B. Watson (then B.F. Skinner).
- Focused shifted to the objective.
- Behaviour understood by uncovering the general laws of learning.
 - Focused on rewards and punishments.
- Mind = Black Box.

Theoretical Frameworks

4) Cognitivism

- What is within that black box!
 - Processes involved with thinking.
 - How they affect behaviour.
- Rewards and punishments don't fully explain behaviour.

Theoretical Frameworks

5) Psychoanalysis

- Focuses on internal psychological processes.
 - We are unaware (implicit).
 - Impulses, thoughts, memories.
- Emphasis on influence of early experiences.
- Everyday symbols that psychoanalysts decode.

Modern Psychology

- Many types of psychologists!
 - Different approaches.
 - Most rely on scientific methods.
- Critical Multiplism!
- Basic and applied research!
 - Translating research findings into real-world applications.
 - Controversy: scientist-practitioner gap.

Types of Modern Psychology

Clinical and Counselling

- Therapists (e.g., Psy.D., Ph.D., Ed.D.)
- Assessment, diagnosis, causes, and treatment of mental disorders.
- Work with people experiencing temporary or self-contained problems, but are otherwise psychologically healthy.

Types of Modern Psychology

Educational and School

- Learning, educational settings, psychology of teaching, social aspects of schools.
- = Educational + Clinical
 - Behavioral and learning problems
 - Diagnosis and treatment
- Both develop intervention programs.

Types of Modern Psychology

Developmental

- Why and how people change over time.
- Many different domains!

Types of Modern Psychology

Experimental

- Not a subject, but an approach.
- Sophisticated research methods.
- Study different things!

Types of Modern Psychology

Biopsychology

- Neurological or physiological basis of behaviour and psychological states.

Types of Modern Psychology

Forensic

- Applied to offenders and to legal issues arising within civil, criminal, correctional or legislative contexts.
- Assess, diagnose, and assist with rehabilitation and treatment of prison inmates.

Types of Modern Psychology

Industrial-Organizational

- Research on/with/for/in businesses.

Psychological Science and Pseudoscience

Lecture 1, Part 2 of 2

Textbook: Chapter 1

What is “Popular Psychology”?

- Commonly assumed ‘knowledge’ about human behaviour.
 - Sometimes our common sense is right!
 - Guides us to ask appropriate questions.
- BUT... many common assumptions about psychological processes have been refuted!

Why “Popular Psychology”?

- ‘Naïve Realism’
 - Belief that we see the world precisely as it is.
- ‘Confirmation Bias’
 - Seek out info that support our beliefs.
 - Ignore/reject information that contradicts our beliefs.
- ‘Belief Perseverance’
 - Keep our initial beliefs, despite contradicting evidence.

Psychology as a Science

- An approach used to find answers.
 - Method, set of tools and skills.
 - Prevent us from fooling ourselves!
 - Not simply a collection of facts/knowledge.
- *Objectivity:*
 - Attempts to explain or reduce bias when designing research and evaluating evidence.
- *Communalism:*
 - Willingness to share findings with others.

Scientific Thinking in Psychology

Evaluating claims with a careful, open-mind!

1. Extraordinary Claims
 - The more counterintuitive a claim, the greater the evidence must be to support it.
2. Falsifiability
 - All claims should be capable of being disproved.
3. Occam's Razor (parsimony)
 - Simplest explanation is the best one.

Scientific Thinking in Psychology

Evaluating claims with a careful, open-mind!

4. Replicability

- Findings must be duplicated.
- Ideally by multiple, independent researchers.

5. Rival Hypotheses

- Need to consider, and rule out, alternative hypotheses.

6. Correlation Is Not Causation

- Explaining correlations with confounding variables.