

Chapter 1

What is Psychology?

Scientific study of the mind, brain, and behaviours

3 Levels of Analysis

Biological, Psychological, Social cultural influences

What do the 3 levels do?

Provides views and information of 'psychological phenomenon'

Biological = ?

Molecule, brain structures

Psychological = ?

thoughts, feelings

Social culture influences = ?

relating to others, personal relationships

Must focus on all 3, lack of understanding

5 Major Challenges in Psychology

multiply determined, psychological influences, individual differences, reciprocal determinism, cultural differences

Multiply Determined = ?

Caused by many factors

Psychological influences

rarely independent of one another

Individual differences

2 people, same issue, give different responses and expressions

Reciprocal determinism

ones actions can influence those around them (*Albert Bandura*)

Cultural differences

limit generalizations, different cultures = express emotions differently

What is Science?

An approach: observation, testing/examination, and decision to accept/discard

Science never tries to prove any ideas

Chapter 1 (cont)

What is a Scientific Theory?

Accounts existing data, generates testable predictions

It is not just a simple guess

Hypothesis

Specific prediction in relation to solving their study

Chapter 1

2 Things a Good Scientist Does?

Engage in bias-free practice, attempts to avoid/prevent bias

Confirmations Bias

Ability to recollect information when it boosts what we already have

Belief Perseverance

Believing what you already believe even if evidence proves wrong

Scientists recognize when they're wrong

Scientists never claim to prove their theories

Scientific claims

They **can** be tested

Metaphysical claims

Can't be physically tested using methods or science

Pseudoscience

An imposter of science (astrology, self-help books)

they **CAN** be tested but they never are. (relying on it can be dangerous)

Why is it important to distinguish scientific claims from pseudo-science claims?

Provides with misinformation, convinced when there is lack of evidence

Chapter 1 (cont)

What are the three Warning Signs?

Over reliance on anecdotes, Meaningless psychobabble, Talk of proof instead of evidence

When a warning sign is shown - not good quality evidence/fake science

Over Reliance on Anecdotes

Not considered scientific evidence, based off one person, hard to verify

Meaningless Psycho-babble

Uses scientific-sounding words that don't mean anything

Talk of proof instead of evidence

Science provides evidence that supports or contradicts ideas (using words like prove, proven)

Emotional Reasoning Fallacy

allowing emotions to cloud judgments (which is wrong)

Bandwagon Fallacy

believe something is true because others think it is true

Not me Fallacy

thinking you're immune from what others struggle with

Bias Blind Spot

unaware of own biases but highly aware of others

Patternicity

tendency to see meaningful patterns in random stimuli

It gives comfort by having a sense of control over uncontrollable and unpredictable



Chapter 1 (cont)

3 Dangers of Pseudo-science Opportunity cost, Direct harm, and Inability to think scientifically as citizens

Opportunity Cost using alternate methods instead of the most helpful/useful one

Direct Harm someone doing pseudoscientific activities and get hurt physically/psychologically

An inability to think scientifically as citizens affect broader decisions about society

Scientific thinking = ? aware of all biases that could happen - protects against error

Scientific Skepticism = ? evaluating all claims with an open mind - needs persuasive evidence beforehand

Variable = ? something that is not constant or cannot vary

A correlation between two variables does not mean that there is a relationship between them

Correlation is not causation

Third Variable Problem when a correlation between 2 variables can be explained by a third

Chapter 1

Scientific claims are falsifiable

What factors may explain why a study's findings are not replicated by others who attempt to regulate it? Findings could be wrong, samples are not representative of one another

More participants = better results

Extraordinary Claims Is the evidence strong enough to support? They require supportive evidence

Parsimony (Occam's Razor) Starting with an explanation and then creating a complicated one

The 6 Scientific Thinking Principles:

1) Ruling out alternative explanations Having alternative explanations for findings

2) Correlation vs. Causation Error of assuming that because one thing is related to another, it must cause the other

3) Falsifiability Capable of being disproven

4) Replicability A study's findings are able to be duplicated

5) Extraordinary Claims The more unlikely a claim is, the better the evidence

6) Parsimony (Occam's Razor) If two findings are equally as good, pick the simpler one

