

PSY 1101 - G

Textbook: Psychology by Myers (11th Ed.)

Check out: time management pp. XiVi

Evaluation & Exam Dates:

- **5 Components**
 - Midterms (26% each)
 - Midterm 1 → Oct 16 2018
 - Ch. 1,2,6 (pg. 229-255)
 - Midterm 2 → Nov 20 2018
 - Ch. 3,6 (pg. 256 - 274), 7
 - **Online Quizzes (6%)**
 - **Final exam (45%)**
 - Cumulative
 - Equally weighted parts
 - All 8 chapters + the prologue
 - Final is based on the book
 - **ISPR (4%)**
 - Studies conducted on students

Office HRs (by appointment) → vanier 2020

Ch. 1 → Thinking Critically w/ Psychological Science

Introduction

Definition of Psychology: scientific study of how we feel, think and behave.

Scope of Psychology: extremely broad

- Every aspect of human life is covered by psychology

I. The need for psychological science:

A. → C.

A. → Why?

1. Limits of Intuition

- a. Can be seriously misleading
- b. Can cause serious errors in our judgement

2. Limits of Common Sense

- a. CS doesn't generate new information
- b. CS develops as a result of experience & having learned something
 - i. Hindsight Bias = I-Knew-It-All-Along Phenomenon
 1. Error in our thinking → everyone does it
 - ii. We have a tendency to believe that we could have predicted an outcome/result
 - iii. Scientific research shows that if we don't know the conclusion, it won't be as obvious as we believe it to be.

3. Overconfidence

- a. We tend to overestimate our abilities to predict & control
- b. We tend to overestimate how accurate our knowledge is
- c. We tend to underestimate risks
- d. We make more mistakes, we have less control.

4. Illusory Correlation

- a. Definition: our tendency to see a relationship between 2 variables when there is no relationship.
- b. Effects: illusory correlation influences how we think, feel, & behave.
 - i. EX: we will remember more/pay more attention to information that supports our illusory correlation
 - ii. EX: we will forget details that counterattack our i.c.

5. Perceiving Order in Random Events

- a. We are uncomfortable w/ uncertainty and randomness
- b. So we look for patterns and explanations to make the world appear more orderly

B → The Scientific Attitude

1. Curiosity and passion

- a. Scientists are hungry for answers and knowledge

2. Open-Mindedness (must be balanced by #3)

3. Skepticism (must be balanced by #2)

- a. Think critically!

4. Awareness of own biases + hidden agendas + assumptions + beliefs

- a. We see the world through our own perceptions, but it's important that we are aware of what those perceptions are so that we can see past them.

5. Humility

- a. Science ≠ ego
- b. We will always make mistakes
- c. Although we may be smart, others are also smart. They have a contribution to make, and we have to respect this.

Chapter 1: Thinking Critically with Psychological Science

Introduction: I to IV

→ Psychology- The scientific study of how humans think, feel and behave

→ Super broad scope, includes all aspects of human life

◆ I. The Need for Psychological Science: A to C

● A. Why?: A1 to A5

○ A1: Limits of Intuition

- ◆ Intuition can be seriously misleading and have misjudgements in our decisions

○ A2: Limits of Common Sense

- ◆ Doesn't generate new info
- ◆ Inapplicable to novel situations
- ◆ Develops as a result of experiences

→ Hindsight Bias (I knew it all along phenomenon):

- ◆ An error in thinking made by everyone
- ◆ Once all facts & conclusions are known, we assume we could have predicted the outcome

- ◆ Science proves it's not obvious if we don't know the conclusion beforehand
 - A3: Overconfidence
 - ◆ Tending to overestimate the accuracy of our knowledge
 - ◆ More confident than accurate
 - ◆ Underestimate risks and overestimate our ability to predict and control
 - ◆ Results in more mistakes and less control and the risk is higher than we think
 - A4: Illusory Correlation
 - ◆ Tendency to perceive a relationship between two variables when there is none
 - ◆ Influences how we think, feel & behave
 - ◆ Makes us pay more attention to info that supports out illusory correlation, and disregard any info that doesn't support it
 - A5: Perceiving Order in Random Events
 - ◆ We are uncomfortable with uncertainty & randomness as humans
 - ◆ We look for patterns & explanations to make world seem more orderly
- B. The Scientific Attitude
 - Curiosity & Passion
 - ◆ Scientists are hungry for answers
 - Openmindedness
 - ◆ Open to different ideas/ perspectives. Especially ones opposite to your own
 - Skepticism
 - ◆ Questioning what is presented to us
 - Awareness of....
 - ◆ Personal biases/ agendas
 - ◆ We see the world through our personal biases
 - Humility
 - ◆ Get rid of ego

- ◆ No matter how smart you are, everyone makes mistakes
- ◆ No matter how smart you are, others are smart too, and have things to contribute

September 11, 2018

(C) The Scientific Method

1. Observation
2. Question
3. Research
4. Guess
5. Experiment
6. Analyze data
7. Conclusion

Any field of study that follows the scientific method is a science.

It isn't topic that determine whether something is a science, but methodology.

Observation:

- Everything starts as an observation
 - Start casual → becomes systematic
 - (observation) (observation)
- Theory:
 - Helps organize, summarize and integrate observations.
 - Helps provide an explanation about my observations.
 - Theories are not fact!
 - Theory = attempt @ explaining.
- Hypothesis Testing:
 - Extract hypothesis from theory
 - We use rigorous scientific methodology to test it
 - Hypothesis = a tentative statement/prediction about the relationship between 2 variables.
 - We must **operationally define** our variables.

- Researchers must state w/ clarity and precision, how s/he measured his/her variables.
- Replication:
 - Essential in science
 - Study must be repeated w/ different set of subjects
 - We want to make sure that our results are reliable
- Generate or refine
 - Based on our results, we either generate new questions or we refine existing questions.

II. Types of Research (3) A → C

A → Descriptive Research

A1 → A4.

A1. Purpose

w/ descriptive, the goal is to observe and describe

A2. Case Studies

- Study 1 person OR a very small group of people
- Conduct in-depth research

ADVANTAGES

- This is the most in depth type of research that we can do
 - Great step when we know nothing about something (beginner/rookie)
- Allows us to keep records of rare cases that would otherwise be lost

DISADVANTAGES

- Researcher bias
- He'll hear what he wants to hear and see what he wants to see
- The he'll interpret the information through his own assumptions
 - We should thus use video cameras / tapes to record our observations
- Sample is tiny → cant generalize to the rest of the population

A3. Survey

- Ask questions a large # of people questions
- These should be people you're interested in

- And they're your "representative sample" → characters of my sample must closely reflect the character of its population
- In order for a survey to be scientific, the sample that is used must be representative of the population.

Random Sampling:

- This is the method in which we get a representative sample.
 - Every person in my population has an equal chance of becoming included in my research
 - Chance, and *only* chance, will determine who gets to participate

ADVANTAGES

- Surveys are cheap + easy to administer
- They reach people we don't usually reach in research
- Sometimes, the only way to know something is to ask a question.

DISADVANTAGES

- Subjects may lie
 - Just because you're asking questions, it doesn't mean I'm going to get honesty (the truth)
- The words we use could significantly affect our sample's answers
- The person asking the question also plays a significant role in the answer outcome
 - I.e. asker's age, race, ethnicity, gender, etc.

A.4 → Naturalistic Observation

- **Definition:** researcher goes into the real world and conducts research
 - s/he must not interfere in any way, shape, or form.
- **ADVANTAGES:**
 - "Doesn't get more real than this"
 - Watch real behaviour in real time in the real world
 - No artificial manipulation or interference
 - Allows us to discover information that we may not have discovered otherwise
- **DISADVANTAGES**
 - Researcher bias
 - The solution: objective recording

- Sometimes, our very own presence as a researcher could interfere w/ the results
- When subjects realize they're being observed, they may change their behaviour.

B. Correlational Research

- B.1 - B.5
- B.1 → Purpose
 - Observe
 - Describe
 - Predict (see later)
- B.2 → Do they covary?
 - If one changes, does the other change too?
- B.3 → In what direction do they change?
 - Do they change in the same OR opposite direction?
- 2 types:
 - (+) correlation
 - 2 variables change in the same direction (↑ ↑ ↓ ↓)
 - (-) correlation
 - 2 variables change in opposite directions (↑ ↓ ↓ ↑)
- B.4 → to what extent?
 - How strong is the relationship between these 2 variables?
 - Correlational coefficient (**r**)
 - (-1 0 1)
 - (r) allows us to know if a) there is a relationship and b) how strong that relationship is and c) if the correlation is negative (-) or positive (+)
 - Close to 0 → weaker
 - Closer to 1 → stronger
 - (+) → positive correlation
 - (-) → negative correlation
- B.5 → Advantages:
 - Excellent 1st step
 - Before we do an expensive and time consuming experiment, let's first find out whether there is a correlation at all!
 - This is a great option when there are no other options
 - Correlational research can describe and predict

- Once I know that there is a correlation between 2 variables, then knowing information about just one of them will allow me to make a prediction about the other one.
- Disadvantages:
 - Can NOT infer causality
 - Can't conclude cause and effect from correlational research