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Chapter One

Essence of Psychology

1.1. What Is Psychology?

- Psychology
  - *Psyche*: "Mind"
  - *Logos*: "Knowledge" or "study"
- Definition**: The scientific study of behavior and mental processes**
  - **Behavior**: Overt; i.e., can be directly observed (crying)
  - **Mental Processes**: Covert; i.e., cannot be directly observed (remembering); private, internal
- **Science**
  - **Empirical evidence**: Information gathered from direct observation

Characteristics of science

- Skeptic: doubtful
- Rational: logical
  - Deductive: general to specific
  - Inductive: from specific to general (data → theory)
- Empirical
- Self-correcting:
- Parsimony: using limited words for explanation

1.2. Goals of Psychology

- **Description**: Naming and classifying various observable, measurable behaviors
- **Explanation**: The causes of behavior(s)
- **Prediction**: Forecasting behavior accurately
- **Control**: Altering conditions that influence behaviors
  - Positive Use: To control unwanted behaviors, (e.g., smoking, tantrums, etc.)
  - Negative Use: To control peoples' behaviors without their knowledge

Early schools of psychology

a) Structuralism

- *Aka* mental chemistry
- Deals with the basic structures of the mind
- Uses introspection as a method

b) Functionalism

- Introduced by William James
- Bases on Darwinian evolutionary theory
- Emphasizes on the **use of the mind**

c) Gestalt psychology

- Introduced by Wolfgang Kohler and Max Wertheimer
- Focus on the whole rather than studying the parts

A	13	C	D
12	13	14	15

d) Behaviorism

- J.B. Watson
- B=f(E)
- Environment determines human behavior
- Environmental determinism
  - Determinism: everything is caused

Modern Schools of Thought

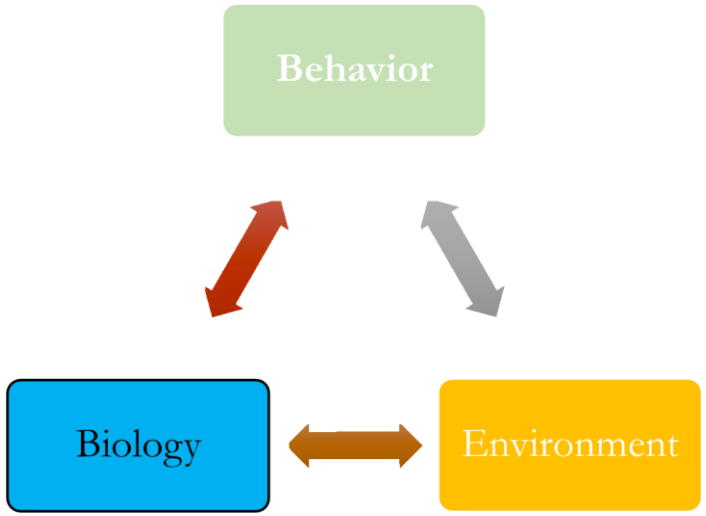
a) Psychoanalysis

- Sigmund Freud
- Behavior is a function of:
  - Early childhood experience
  - Unconscious mental processes

b) Biological perspective

- Behavior is determined by biological processes
  - Hormones
  - Genes
  - Neurotransmitters
  - Etc

  - The environment and biology interacts



c) Humanistic perspective

- Carl R. Rogers & Abraham Maslow
- Humans are born with natural capacities
- Humans are conscious
- Free will

d) Cognitive perspective

- Cognitive styles ➔ Behavior

e) Socio-cultural

- Many thoughts and behaviors are influenced by our culture.
- Psychologists need to be aware of the impact cultural diversity may have on our behaviors.
- What is acceptable in one culture might be unacceptable in another.

Psychology Today

- Biopsychology: Our behavior can be explained through physiological processes
  - Uses brain scans to gather data (CT, MRI, PET)
  - Looks at neurotransmitters
  - Treats psychological problems with medications
- Positive Psychology: Study of human strengths, virtues, and optimal behavior

Branches of psychology

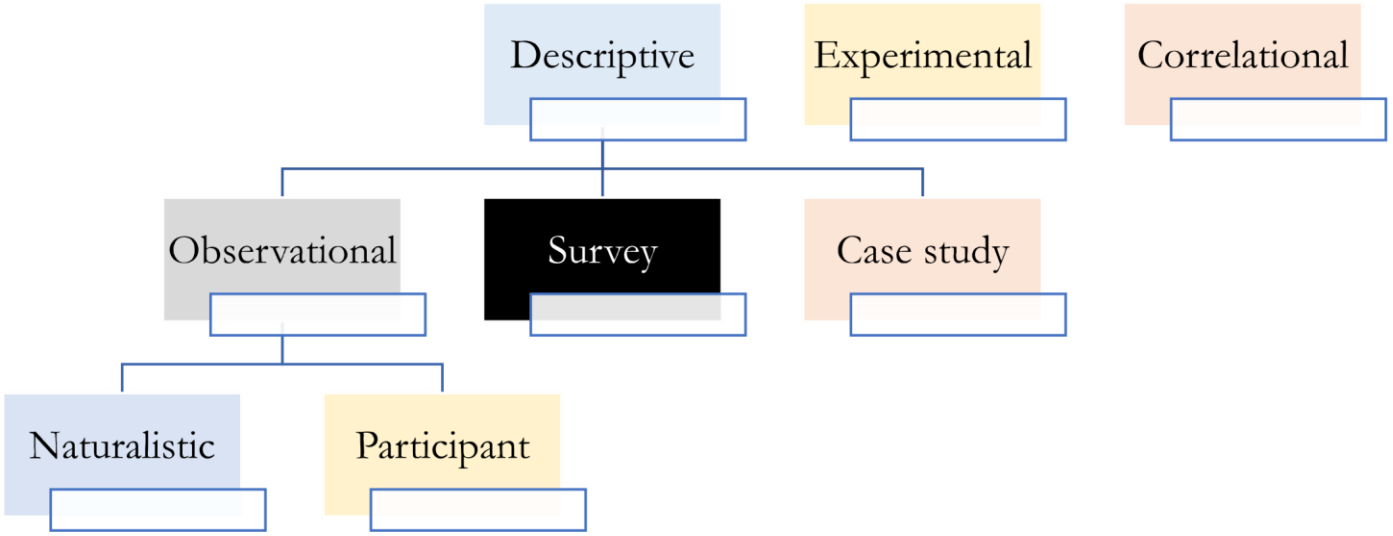
- Developmental
- Personality
- Social
- Counseling
- Clinical
- Educational
- Forensic
- Health
- Cross-cultural
- Industrial/organizational

1.2. Research in Psychology

Definition

- ***Scientific method*** - a process of testing ideas through systematic observations, experimentations, and statistical analysis
- ***Theory*** - is an integrated set of principles about observed facts that is intended to describe and explain some aspects of experience
- ***Hypotheses*** - is a tentative proposition about the relationship between two or more variables or phenomena

Types of Research



a. Naturalistic Observation

- Observing a person or an animal in the environment in which they live
- Problems
  - ❖**Observer effect**: changes in a subject's behavior caused by an awareness of being observed
  - ❖**Observer bias**: occurs when observers see what they expect to see or record only selected details
  - ❖**Anthropomorphic error**: attributing human thoughts, feelings, or motives to animals

b. Participant observation

- Becoming part of the subjects to be studied

c. Case study (aka *Clinical Method*)

- Case study involves an in-depth investigation of a single subject (case)
- It provides tremendous amount of data
- However, it is not generalizable

d. The Survey Method

- Survey method involves data collection from a very large group of people
- Using public polling techniques to know attitudes, interests, opinions of people
- The problem
  - The sample may not be representative enough
  - Social desirability effect: Problem in research; a tendency to give "polite" or socially desirable answers

Instruments of survey

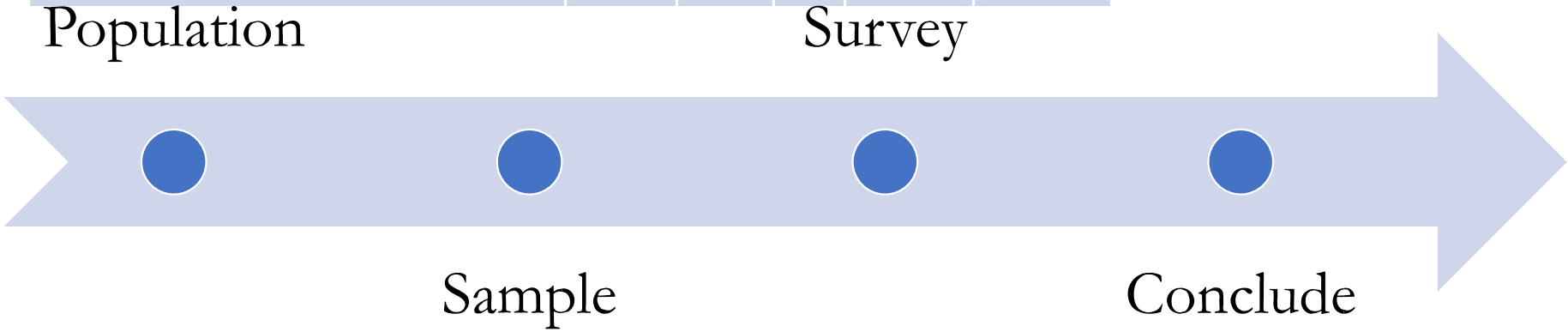
- Questionnaire (Self-constructed/ standardized scale)
- Interview
- Focus group discussions

Self-control scale

Gender: Male ☐ Female ☐
Religion: Christian ☐ Muslim ☐
Occupation: Teacher ☐ Merchant ☐ Farmer ☐
Religion: Muslim☐ Orthodox ☐ Catholic ☐ Protestant ☐

1=Not at all……5 Very much

Items	1	2	3	4	5
I have a hard time breaking bad habits					
I get distracted easily					
I say inappropriate things					
I refuse things that are bad for me					
I'm good at resisting temptations					

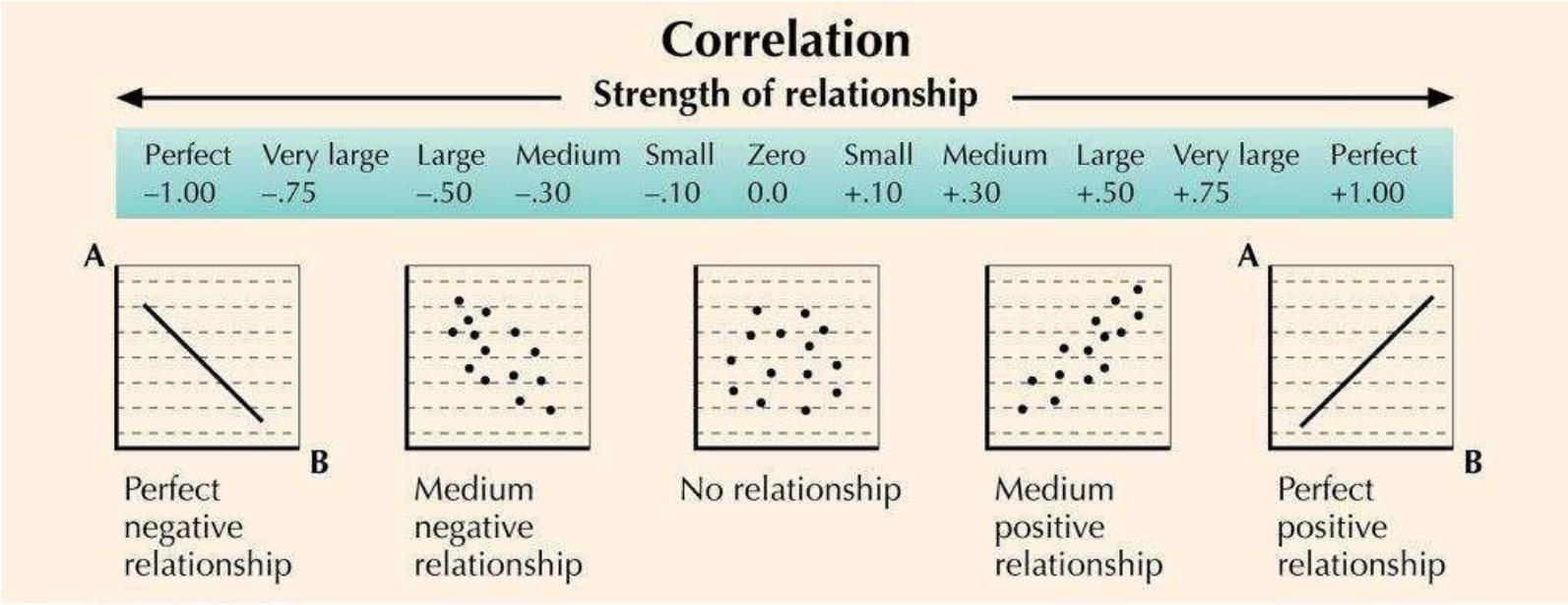


d. Correlational research

- Definition: Existence of a consistent, systematic relationship between two events, measures, or variables.
- Coefficient of Correlation: Statistic ranging from –1.00 to +1.00; the sign indicates the **direction** of the relationship.
  - Closer the statistic is to –1.00 or to +1.00, the stronger the relationship.
  - Correlation of 0.00 demonstrates no relationship between the variables.

Correlations and Relationships (cont'd)

- **Positive Correlation**: Increases in one variable are matched by increases in the other variable.
- **Negative Correlation**: Increases in one variable are matched by decreases in the other variable.
- **Correlation does not demonstrate causation**: Just because two variables are related does NOT mean that one variable causes the other to occur.



d. Experiments

- To identify cause-and-effect relationships, we conduct experiments.
- A formal trial to confirm/disconfirm a hypothesis
  - ❖ Directly vary a condition you might think affects behavior
  - ❖ Create two or more groups of subjects, alike in all ways except the condition you are varying
  - ❖ Record whether varying the condition has any effect on behavior

Variables

- Definition: Any condition that can change and that might affect the outcome of an experiment
  - ❖**Independent Variable**: Condition(s) altered by the experimenter; experimenter sets their size, amount, or value. These are suspected causes for behavioral differences.
  - ❖**Dependent Variable**: Demonstrates results of the experiment. Condition is affected by independent variable.
  - ❖**Extraneous Variables**: Conditions that a researcher wants to prevent from affecting the outcomes of the experiment (e.g., number of hours slept before the experiment).

Figure 1.8

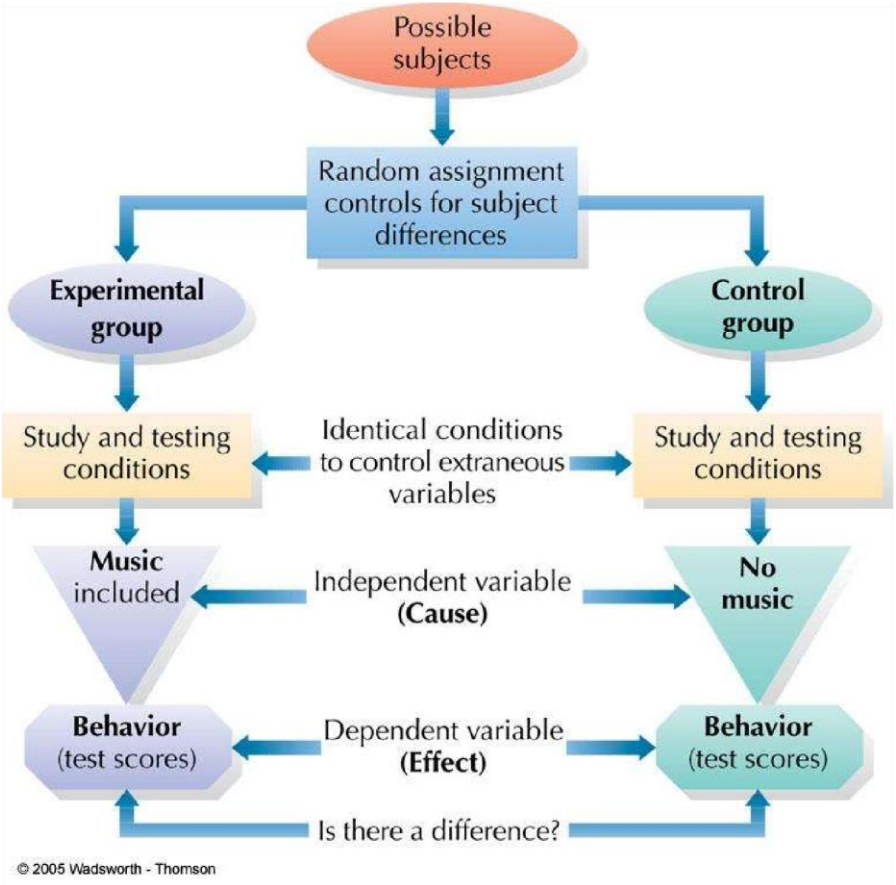


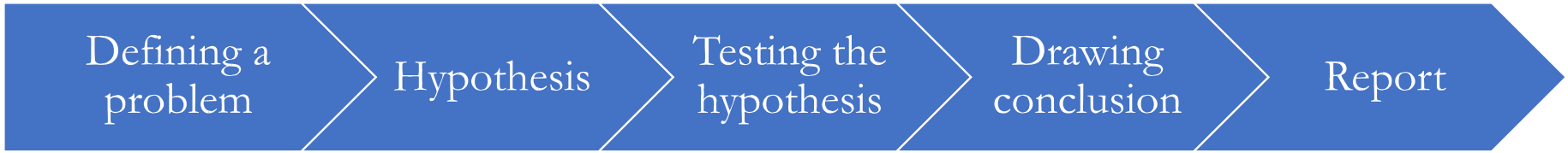
FIGURE 1.8 Elements of a simple psychological experiment to assess the effects of music during study on test scores.

Groups

- **Experimental Group**: The group of subjects that gets the independent variable.
- **Control Group**: The group of subjects that does NOT get the independent variable.
- Random Assignment: Subject has an equal chance of being in either the experimental or control group.
- **Steps in experiment**
  1. Define problem (e.g. *the effect of stress on memory among AAU students*)
  2. Define the population
  3. Create experimental and control conditions
  4. Randomization: assign half of the subjects the expt'l and the other half to the control group
  5. Intervention: give IV to the EG
  6. Measurement: measure the DV
  7. Comparison

- Suppose Mr. Ahmed conducted an experiment to know the effect of coffee on sleeping. He gave 2 cups of coffee for "Group A" and 0 cup for "Group B". Based on this case, what is the:
  - Control group
  - Experimental group
  - IV
  - DV
  - EV

The Scientific Method



Activity 1

1. Who is the father of psychology?
2. A school of psychology that believes the environment as a determinant factor to affect behavior _____
3. A researcher stated that positive social interaction has helped him to reduce the symptoms of depression. This goal is ____
4. A school of thought that focuses on the use of the mind _____
5. A branch of psychology that deals with the treatment of severe psychological problems _____
6. A branch of psychology that applies psychology to the legal context ____

Activity 2

1. Suppose a researcher gave you to fill a questionnaire on JJU's quality of education. This method is _____
2. The correlation of -0.82 is ___ (A. Weak B. Moderate C. Very strong)
3. A process by which study small group in detail _____
4. A researcher went to a school and acted as if he is one of the teachers in order to study them. This method is _____
5. Aresearcher wanted to study the effect of eating breakfast on students' memory. Group A students ate breakfast and gave no breakfast to group B. Then, what is:
    1. IV _____
    2. DV
    3. Extraneous variable (s) _____ _____
    4. Control group _____ 5. Experimental group _____

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