PSYC 221
Introduction to General Psychology

Session 1 – Definitions, perspectives and research methods in psychology

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Session Overview

- Psychology is the scientific study of behavior and mental processes (Myers, 2008). It is a distinct field that aims to understand the reasons behind human behaviors. Although there are other fields that may have similar goals as psychology, several features make psychology unique. The aim of this session is to define psychology, differentiate psychology from other related fields, briefly describe the main focus of different subfields of psychology, introduce the different perspectives in psychology as well as describe the scientific method and the various research methods used for psychological research.
Session Outline

The key topics to be covered in the session are as follows:

• Define psychology
• Psychology and other related fields
• Subfields of psychology
• Perspectives in psychology
• The scientific method
• Research methods and designs in psychology
• Students are referred to the following texts:
• Chapter 1 of Contemporary psychology: Readings from Ghana, Akotia and Mate-Kole (2014)
• Chapter 1 of Essentials of Understanding Psychology, Feldman (2007)
• Chapter 1 of Exploring Psychology, Myers (2008)
DEFINING PSYCHOLOGY

Topic One
What is Psychology

• Psychology is the **scientific** study of **behaviour** and **mental processes** and how they are affected by an organism’s physical state, mental state and environment (Feldman, 2007; Wolfe, nd.)

• Psychology is a science because it follows the scientific process in studying behaviour and mental processes

• Behaviour include both overt and covert ones

• The focus is on individual, whether alone or when interacting with others and the environment

• Mental processes include thought, emotions, perceptions, reasoning processes, memories and biological activities
What is psychology

- The aims of psychology is to:
  - Describe
  - Explain
  - Predict
  - Help to improve human lives
Topic Two

PSYCHOLOGY AND OTHER FIELDS
Psychology and other fields

• Psychology share similar focus with other fields such as psychiatry and clinical social work.

• **Similarities:**

  • All study mental illnesses or psychopathology
  • All do assessments, diagnosis and psychotherapy to individuals, couples, families and groups
  • All work in clinics and communities
Psychology and other fields

- Differences:

<table>
<thead>
<tr>
<th>Profession</th>
<th>Degree</th>
<th>Training</th>
<th>Can prescribe medications</th>
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<tbody>
<tr>
<td>Psychologist</td>
<td>M.A., Ph.D., Psy.D., Ed.D.</td>
<td>Graduate courses in human behavior, development, personality, research, statistics, psychotherapy, assessment, ethics. 2 years for Master’s degree, 4-6 years for doctoral degree, followed by 1-2 years of full-time internship.</td>
<td>In certain states with additional training</td>
</tr>
<tr>
<td>Psychiatrist</td>
<td>M.D., D.O.</td>
<td>Medical school with broad focus on biological functioning (4 years) followed by specialized residency about mental illness and its treatment, with a focus on medications (3-4 years).</td>
<td>Yes</td>
</tr>
<tr>
<td>Social Worker</td>
<td>MSW, LCSW</td>
<td>Graduate courses on human behavior, psychotherapy, community resources. 2 years of graduate training, followed by 2-3 years of supervised clinical work.</td>
<td>No</td>
</tr>
</tbody>
</table>

- Adopted from APA, nd.
Topic Three

SUBFIELDS IN PSYCHOLOGY
As the field of psychology expands, several subfields have emerged. The various subfields are related and share a common goal, i.e., understanding human behaviour and mental processes. They can be viewed as the extended family members of the same clan.

Subfields can be differentiate by the key basic questions about human behaviour they address (Feldman, 2007).

Examples of major subfields: biological, experimental, developmental, clinical, cognitive, neuropsychology, counseling, cross-cultural, educational, forensic, health, industrial/organizational, personality, school, social, sport, etc.

We cannot exhaust all the subfields, so we will focus on a few in this course.

Subfields will be discussed in line with the key questions they address.

You will also notice that this is organized around some of these subfields.
1. **Behavioural neuroscience** addresses the question: What are the biological foundations of behaviours?

This sub-field focuses on explaining how the brain and nervous system as well as other biological processes determine behaviour.

Simply, they determine how human bodies influence behaviour.

E.g., they study how specific sites in the brain (hippocampus, amygdala, cerebral cortex) affect behaviour.
Subfields in psychology: experimental psychology

2. **Experimental** psychology focuses on addressing the question: how do people sense, perceive, learn and think?

- This sub-field studies the processes of sensing, perceiving, learning and thinking about the world.

- Experimental psychology also has sub-field, such as cognitive psychology.

- Cognitive psychology studies higher mental processes such as thinking, memories, reasoning, problem solving, judging, decision making and language.

- Eg. A cognitive psychologist might be interested in understanding what victims of the June 3rd flood remember about their experience.
Subfields in psychology: developmental & personality psychology

• Developmental and personality psychology focus on addressing the question: what are the sources of change and stability in behaviour across the life span?

• **Developmental** psychology studies how humans grow and change from conception through to death

• **Personality** psychology focuses on the stability in people’s behaviour over time and the traits that differentiate one person from another
Subfields in psychology: health, clinical and counseling psychology

• Health, clinical and counseling psychology focus on addressing the question: how do psychological factors affect physical and mental health?

• **Health** psychologists are interested in exploring the relationship between psychological factors and physical illnesses.

• **Clinical** psychologists are interested in studying, diagnosing and treating psychological disorders as well as research on mental illnesses.

• **Counseling** psychologists focuses primarily on educational, social and career adjustment problems.
Subfields in psychology: social and cross-cultural psychology

• Social and cross-cultural psychology focus on addressing the question: How do our social networks affect behaviour?
• Social psychologists study how people’s thought, feelings and actions are affected by others
• Cross-cultural psychologists investigate similarities and differences in behaviour across different cultures.
Professions in psychology

- Two broad areas of profession in psychology
- Basic psychology
- Applied psychology
Topic Four

PERSPECTIVES IN PSYCHOLOGY
Perspectives in psychology

• Biological Perspective – emphasizes the role of biology (physiology, genetics) on behavior and mental processes
  – How damage to different parts of the brain affects personality, behavior, learning ability, language
  – How our genes predispose us to develop certain personality traits, mental illness

• Learning Perspective – emphasizes the role of the environment and our experience on behavior and mental processes
  – How children adopt certain behaviours by imitating their parents (social-learning) or by parents directly rewarding those behaviors (behavioral)
Perspectives in psychology

• Cognitive Perspective – emphasizes the role of cognitive processes on behavior and mental processes
  – If we believe we will fail, we may not even try
  – It is easier for us to remember/recall information that is consistent with our beliefs than information that is inconsistent with our beliefs

• Sociocultural Perspective – emphasizes the role of society/culture on behavior and mental processes
  – Technological advances in our culture (internet, gaming, cell phones) have affected our attention processes
  – Societal pressure for thinness has been contributed to increased rate of eating disorders

• Psychodynamic Perspective: emphasizes the role of unconscious conflicts on behavior and mental processes

• Humanistic: emphasizes free will, personal growth, and resilience
Perspectives in psychology: An example

- **Depression:**
  - Biological: abnormalities in neurotransmitters in the brain
  - Learning: depressive symptoms are reinforced (rewarded) by the environment (e.g., getting to stay home from school because of feeling depressed)
  - Cognitive: negative, pessimistic thinking style
  - Socio-cultural: societal stress and role demands; modern culture has made us increasingly isolated
  - Psychodynamic: depression is due to unconscious displacement of anger towards a parent or onto oneself
  - Humanistic: depression is due to being inauthentic or by being otherwise blocked or prevented from fulfilling one’s potential
Topic Five

THE SCIENTIFIC METHOD
The scientific method

• The scientific method is a set of principles and procedures that are used by researchers to systematically acquire knowledge and understand behaviour.

• It involves three steps: developing questions of interest, formulating an explanation, and collecting data to support or refute the explanation and reaching conclusions.

• Careful Observation
  – Define variables in operational terms
  – Variable: anything that varies (weight, temperature, ratings on a stress survey)

• Measurement
  – Variables have to be measured so that statistical tests can be used

• Hypothesis Formation
  – Hypotheses are stated in such a way that they can be refuted (principle of falsifiability)

• Experimentation

• Evaluation
Topic Five

RESEARCH METHODS AND DESIGNS IN PSYCHOLOGY
Research methods and designs

• **Research methods**
• Research methods fall into two “design” categories in psychology.
• Research methods that are **experimental** in design, including the laboratory, field and quasi-experiment.
• **Non-experimental** methods that include the observational, survey, interview and case study methods.
• What are the differences?
• Experimental and non-experimental research are distinguished by the degree of control that the researcher has over the subjects and conditions in the study.
• In non-experimental research, there is often careful observation and measurement, but in experimental research there is also random assignment and manipulation of a variable.
• The increased control in experimental research allows you to infer causal relationships between variables.
Research methods and designs

• Methods for gathering information
• Case Studies
• Observational Studies
  – Naturalistic: observing behavior in their natural environment
    • Good for describing behaviour
  – Laboratory
• Psychological tests
• Surveys
Research methods and designs

• Correlation research
• Correlation for determining relationship between two variables
• Aim: determine the strength and direction of the relationship
  – Positive, Negative Correlations, No correlation = nature of relationship
  – Coefficient of Correlation = strength of relationship, range from _1.00 to + 1.00
  – CORRELATION DOES NOT EQUAL CAUSATION
Research methods and designs

• **Positive Correlations** Both variables increase or decrease at the same time. A correlation coefficient close to +1.00 indicates a strong positive correlation.

• **Negative Correlation**: Indicates that as the amount of one variable increases, the other decreases (and vice versa). A correlation coefficient close to -1.00 indicates a strong negative correlation.

• **No Correlation**: Indicates no relationship between the two variables.
Research methods and designs

Positive Correlation:
- Years of education vs. Annual income in thousands of dollars (a)

Negative Correlation:
- Dental problems requiring care vs. Annual income in thousands of dollars (b)

Zero Correlation:
- Height in inches vs. Aggressiveness scores (c)
Research methods and designs

• **Experimental research**
• In experimental research, the research can
  – manipulate one or more *(independent)* variables and
  – observe the effect of this manipulation on one or more other *(dependent)* variables,
  – while controlling for the influence of other *(extraneous)* variables.
• In this way, the researcher can conclude that it was the effect of the independent variable that CAUSED the observed change in the dependent variable.
Research methods and designs

• Experimental and control conditions:

• **The control group:** comprise individuals who are randomly assigned to a group but do not receive the treatment.
  
  – The measures taken from the control group are then compared to those in the experimental group to determine if the treatment had an effect.

• **The experimental group:** comprise individuals who are randomly assigned to the group and then receive the treatment.

  – The scores of these participants are compared to those in the control group to determine if the treatment had an effect.

  – Control for experimenter effects (double-blind)

• “Quasi-Experimental” Research
Research methods and designs

• Evaluating the study
• Descriptive Statistics
  – Measures of central tendency (mean, median, mode)
  – Measures of variability (standard deviation, variance)
• Inferential Statistics: t-test, ANOVA
• Meta-analysis
Observation:

• Advantages
  – high degree of realism because are in natural environments
  – data on large number of variables can be collected at the same time
  – researcher doesn't have as great an impact on the study as he/she may in other strategies

• Disadvantages
  – variables not manipulated by the researcher
  – unable to infer causality
  – measurement of variables less precise than in laboratory
Correlational studies

- Advantages
  - shows if two or more variables are related
  - allows general predictions
  - used both in natural and laboratory settings

- Disadvantages
  - Does not permit identification of cause and effect
Research methods and designs

Experimental studies

- **Advantages**
  - allows researcher to control the research
  - Permits researcher to identify cause and effect

- **Disadvantages**
  - situation is artificial and can not be always generalised to the real world
  - sometimes difficult to avoid experimenter effects
Ethics in research

- The research process can violate the rights of participants
- Psychologists are therefore advised to adhere to strict sets of ethical guidelines
- Guideline include:
  - Informed consent
  - Protection from harm
  - Participants’ right to privacy
  - Assurance of complete voluntary participation
  - Avoidance of deception
  - Anonymity of participants responses
Sample Question

• How can we study the impact of distance education on knowledge acquisition in the Ghanaian context?
References


