Psychology, Technology, & Society

Semester – 2018-19 Odd Semester (July-December)

Days – Tuesday and Thursday

Time – 1:00 PM to 2:30 PM

Venue – L 10

Overview

One of the objectives of the course is for students to understand basic psychological concepts and how such concepts could be applied to understand different aspects of human behavior. In addition, it also aim to address the complex relationship between human psychology, technology and society. The course encourages students to use critical thinking to evaluate human behavior and related aspects using a scientific approach.

Course Outcomes

Outcome 1	Students will develop an objective understanding of the field of psychology and basic human cognitive processes and their applications.
Outcome 1	Students will be able to understand the concept and processes of social cognition and social influence.
Outcome 1	Students will be able to understand the complex relationship between technology, health and well-being
Outcome 1	Students will be able to understand social aspects of technology and vice versa.

Course Outline

UNIT – I Human Cognition

Introduction, Basic cognitive processes of Learning, Memory, Perception, Motivation, Emotion, Problem Solving, Decision Making and their Application in different domains of Life.

UNIT – II Social Cognition and Social Influence

Cognitive processes underlying human thought and its impact on human interaction. Role of Schemas, Prototypes and Heuristics in understanding the society and social information. Potential sources of error in Social Cognition. Basic principles and applications of societal influence. Group Dynamics and Teamwork. Power, Politics and Leadership.

UNIT – III Technology, Health and Wellbeing

Technology and health: Pros and cons, Technology and wellbeing: Adjustment, Stress, Coping with Stress.

UNIT – IV Technology and Society

Technology and Human evolution; The social shaping of technology. Technology and society in information age, Technology and Self presentation, Technology and social relationship, Technology and Social Justice, Technology and Social Problems.

References

Text Book:

- Smith, E.E., Nolen-Hoeksema, S., Fredrickson, B., Loftus, G.R. (2003): Atkinson and Hilgard's Introduction to Psychology (14th ed.). India: Wadsworth Publishing ***(Available in the library)***
- Rosen, L.D., Cheever, N.A. & Carrier, M. (2015). The Wiley Handbook of Psychology, Technology and Society. John Willy & Sons
- Robbins, S.P. (2003): Organizational Behavior (10th ed.)

Reference Books:

- D. G. Johnson and J.M. Wetmore (2009). Technology and Society: Building Our Sociotechnical Future. MIT Press, 2009.
- Hamburger, Y.A. (2009). Technology and Psychological Well-being. Cambridge University Press
- Morgan, C.T., King, R.A., Weisz, J.R., & Schopler, J. (2004). *Introduction to Psychology.* New York: McGraw Hill Book Co. ***(Available in the library)***

Relevant research articles.

Evaluation

Item	Weightage
Midterm	30 %
Final Examination	45 %
Term Paper & Presentation	15%
Quizzes	10%
Attendance	5% (Bonus)

Human Cognition

Introduction

UNIT 1

What is Psychology?

Psyche—soul; logos =science

- **Psychology -** *The scientific study of behavior and the mental process that is tested through scientific research* (should be systematic in approach).

What is Psychology?

Psychology is the scientific study of behavior and mental processes.

Psychology is concerned with the **experience and behavior of the individual**. Behavior is the **expression of experience**, which belongs to a subject, and which is due to the **interaction of subject and object**. It implies the **duality of subject and object.** If there were no subject and object, there would be no experience.

Psychology can be approached from several perspectives – biological, behavioural, cognitive, psychoanalytic, and subjectivist

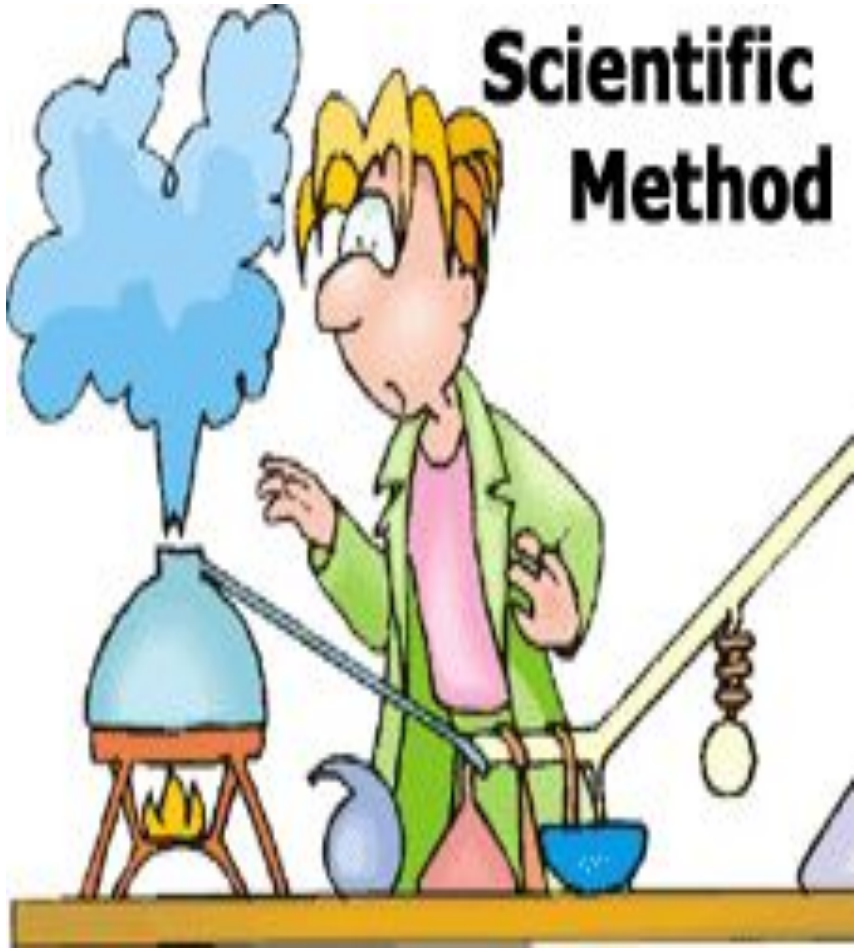
What is Psychology?

- Psychologists study such phenomena as **perception, cognition, emotion, personality, behavior, and interpersonal relationships.**
- Psychology also refers to the **application of such knowledge** to various spheres of human activity, including issues related to daily life—e.g. family, education, and work—and the treatment of mental health problems.
- Psychology is one of the **behavioral sciences** — a broad field that spans the social and natural sciences.
- Psychology attempts to understand the role **human behavior plays in social dynamics** while incorporating physiological and neurological processes into its conceptions of mental functioning.

What is Psychology?

- Psychology includes **many sub-fields of study and application** concerned with such areas as human development, sports, health, industry, law, and spirituality.
- Psychology describes and attempts to explain **consciousness, behavior, and social interaction.**
- Empirical psychology is primarily devoted to describing **human experience and behavior** as it actually occurs.
- Since the 1980s, psychology has begun to examine the relationship **between consciousness and the brain or nervous system.**

The Scientific Method



Steps of Scientific Method

1. Question
2. Hypothesis
3. Experiment
4. Results
5. Conclusions (create additional hypothesis OR reject and revise hypothesis)
6. Theory (others react and test their theories)

Characteristics of Science

- Objectivity
- Verifiability
- Ethical Neutrality
- Systematic Exploration
- Reliability
- Precision
- Accuracy
- Predictability

http://www.yourarticlelibrary.com/science/top-9-main-characteristics-of-science-explained/35060

Goals of Psychology

Psychologists seek to do the following things when studying behaviors:

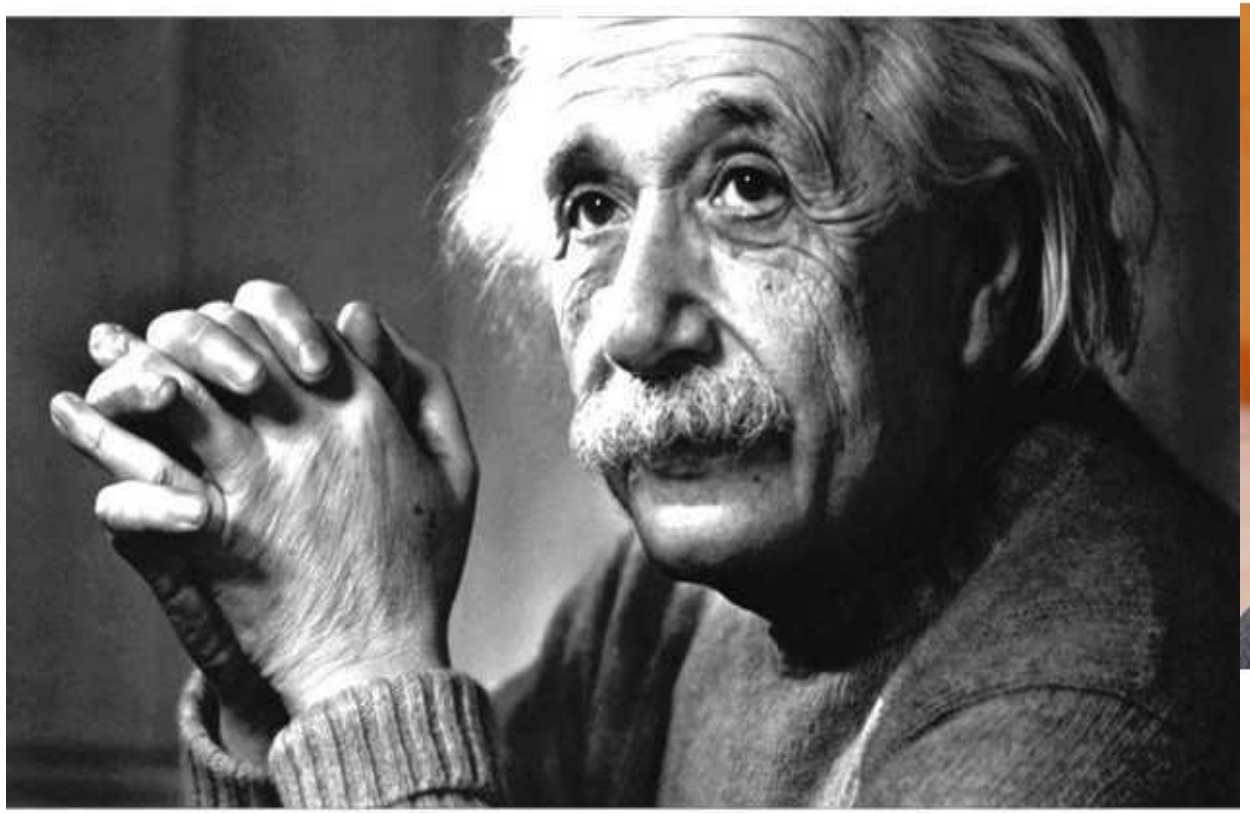
- ***Describe*** – Gather information on studied behavior and present what is known.

- ***Explain***- Creating a **hypothesis** to understand why a behavior is practiced. A **theory** is produced from large amounts of experimental study.

Goals of Psychology

- ***Predict*** – By studying past behaviors, future behaviors can be predicted based upon theory
- ***Influence*** – Using what is known to influence future behavior.
- **Basic science –** Research for its own sake.
- **Applied science –** Using principles to solve more immediate problems.

PSYCHOLOGY SAYS,
MOST OF THE GENIUS PERSONS



ARE BORN IN JUNE, JULY , OCTOBER
AND NOVEMBER.

Psychology Says

Most of the handsome
boys are single or
love failure

Psychology as a Science

- Psychology uses **Scientific Method**
- Psychology is **Factual**
- Laws of Psychology are **Universal**
- Laws of Psychology are **Veridical**
- **Cause and Effect** relationship in Human Behavior
- **Prediction** of Human Behavior
- **Ethical Issues** in Psychological Research

Battling Bad Science

https://www.youtube.com/watch?v=e26948i3hKI

- Science in the news
- Correlation does not mean causation
- Sample size/appropriateness
- Research Funding
- Experimenter-expectancy effect
- Carl Sagan “The demon-haunted world – science as a candle in the dark”
- Robert Park “Voodoo Science: the road from foolishness to fraud”

You're an independent thinker and very intuitive. You've got a sharp sense of humour and at the same time you are good judge of character. You pride yourself as an independent thinker and do not accept others statements without satisfactory proof. However, you have a tendency to be critical of yourself. The major issue with you is that you're not living up to your full potential. At times you have serious doubts as to whether you have made the right decision or done the right thing. You are disciplined and self-controlled outside, you tend to be worrisome and insecure inside.

Barnum Effect

- It is the tendency for people to accept very general or vague characterizations of themselves and take them to be accurate.

- “A little something for everybody.“

Cognition

Knowing

- Mental activities associated with thinking, knowing and remembering

- Cognition also involve thinking, problem solving, decision making, judgement, attention, perception, imagination, meta-cognition

- Cognitive Psychology vs. Cognitive Science

Piaget's theory of Cognitive Development

- Child constructs a mental model of the world.
- He disagreed with the idea that intelligence was a fixed trait.
- Regarded cognitive development as a process which occurs due to biological maturation and interaction with the environment.
- **Assumption -** children are born with a very basic mental structure (genetically inherited and evolved) on which all subsequent learning and knowledge are based.

https://www.simplypsychology.org/piaget.html

Components of Piaget's Theory

Schema – Building blocks of Knowledge

Adaptation Process - transition from one stage to another

Stages of Development

1. sensorimotor,
2. preoperational,
3. concrete operational,
4. formal operational

Schema – Well organized structures of cognition about some social entity's or its relationship with other entities.

Schematic Processing/ Adaptation Processes

- Assimilation – Using an existing schema and adding information to deal with a new object or situation. The process is somewhat subjective, because we tend to modify experience or information somewhat to fit in with our preexisting beliefs.

- Accommodation – Another part of adaptation involves changing or altering our existing schemas in light of new information, a process known as accommodation. Accommodation involves altering existing schemas, or ideas, as a result of new information or new experiences

- Equilibration – Piaget believed that all children try to strike a balance between assimilation and accommodation, which is achieved through a mechanism called equilibration

https://www.youtube.com/watch?v=3-A9SgbAK5I

Stages of Development

Sensorimotor	Birth - 2 years	-Identifies object permanence: the object still exists when out of sight -Recognition of ability to control objects and acts intentionally
Preoperational	2 - 7 years	-Begins to use language -Egocentric thinking: difficulty seeing things from other viewpoints -Classifies objects by single feature: example- color
Concrete Operational	7 - 11 years	-Logical thinking -Recognizes conservation of numbers, mass and weight -Classifies objects by several features and can place them in order
Formal Operational	11 years and up	-Logical thinking about abstract propositions -Concerned with the hypothetical and the future -Create hypotheses and test

Formation of Schemas

- Schemata **influence attention and the absorption of new knowledge**: people are more likely to notice things that fit into their schema, while re-interpreting contradictions to the schema as exceptions or distorting them to fit.

- **Organized pattern of thought or behavior** that organizes categories of information and the relationships among them.

- People use schemata to **organize current knowledge** and provide a framework for future understanding.

- Person Schema – personalities of others
- Self-Schema – conception of our own characteristic
- Group Schema (Stereotypes) – social groups and social categories
- Role Schema – attributes and behavior of person in specific roles
- Events Schema (Script) – important and recurring event

Need of Schematic Inferences

1. Supply missing knowledge
2. Well developed schemas can help us infer new facts
3. Predict behaviour
4. Easier to remember information
5. Process information faster
6. Guide inferences/judgments about people and objects
7. Interpret ambiguous elements in the situation

Drawbacks of Schematic Processing

- People are overly accepting of the behavior that fits consistently with schema
- When faced with missing information, people fills in gaps by adding elements that are consistent with their schema
- People are often reluctant to discard or revise their schema

Cognition

Knowing

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Bottom-up Processes

- Bottom-up (or data driven) essentially means that the perceiver starts with small bit of information from the environment and combines them in various ways to form percept.

- Bottom-up refers to the way it is built up from the smallest pieces of sensory information.

Top-down Processes

- Effect of context and expectations

- Top-down processing is when we form our perceptions starting with a larger object, concept, or idea before working our way toward more detailed information.

- In other words, top-down processing happens when we work from the general to the specific—the big picture to the tiny details.

- In top-down processing, your abstract impressions can influence the information that you gather.


THE CAT