Course Code	D	P	S	Y	5	4	9	Course Title	THEORIES AND SYSTEMS OF PSYCHOLOGY

Weightages	
CA	ETE (TH)
30	70

Course Content

Sr. No.	Content
Unit 1	**The Emergence of Psychology**: Introduction to psychology, Philosophical roots ofPsychology, Beginning in physiological and natural sciences, History of psychology.
Unit 2	**Experimental Psychology-I**: Beginning of experimental Psychology, Methods of experimental Psychology
Unit 3	**Experimental Psychology-II**: Psychophysics, Development of neuropsychology, Theory of evolution.
Unit 4	**Schools of thought – I:** Structuralism, Functionalism and Behaviorism
Unit 5	**Schools of thought – II:** Gestalt psychology, Humanism and Existentialism
Unit 6	**Schools of thought – III:** Psychoanalysis
Unit 7	**Neo-Freudian:** Alfred Adler , Carl Jung, Karen Horney, & Erik Erikson
Unit 8	**Sensation & Perception:** Sensation, Definition and concept of perception, Biological factors in perception, Subliminal perception, Perceptual organization
Unit 9	**Attention: Nature, Roles, Types, Theories of Selective attention**
Unit 10	**Learning:**Introduction of learning**, Characteristics,Methods,** theories of learning, Classical conditioning, Operant learning and Observational learning
Unit 11	**Memory:** Introduction, Types, mnemonic techniques to improve memory, forgetting.
Unit 12	**Thinking, intelligence and creativity:C**haracteristics andmeasurement of intelligence, thinking, and creativity, Concept of intelligence quotient, Types of creativity, Aspects of creativity.
Unit 13	**Emotion and Motivation:** Psychological and physiological basis of motivation, perspectives on motivation, types of motivations, motivational conflicts, theories of emotion, physiological aspects of emotions, psychological aspects of emotions
Unit 14	**Indian perspective:** Introduction, concept of consciousness, Mind & Body relation

Readings

1. PSYCHOLOGY EXPRESS: CONCEPTUAL AND HISTORICAL ISSUES IN PSYCHOLOGY by BRIAN M HUGHES, 1st Edition, 2013 PEARSON EDUCATION INDIA

Additional Readings

1. GENERAL PSYCHOLOGY by NAIMA KHATOON, 1st Edition, 2011, PEARSON EDUCATION INDIA
2. ESSENTIALS OF PSYCHOLOGY FOR BEGINNERS BY DR. MOHAMMAD AMIN WANI, 1st Edition, 2020 NOVEL NUGGETS PUBLISHERS, INDIA

Unit1: Emergence of Psychology

Contents

Objectives

- After studying this course students will be able to-
- Understand the meaning and conceptuality of Psychology
- Historical roots of Psychology
- Role of different schools of thoughts in Psychology.
- Role of various Psychologists in establishing the discipline of Psychology
- Basic understanding of Psychodynamics, Gestalt and structuralism

1.1 Introduction to Psychology

The history of Psychology can be dated back to the times unknown. Psychology has the vast past but a shortest passage of history. Though Psychology presently is scientific in nature but it has its roots from philosophy.Psychology in earlier times was known as science of soul, was derived from Psyche and Logos. Since soul was an abstract entity and it lacked scientific validation, soon after

Psychology field's name derives from the roots psyche, meaning soul, and - logy, meaning scientific study. Therefore, the field of psychology is the scientific study of mind and behavior. Students of psychology develop critical thinking skills, become familiar with the scientific method, and learn to recognize the complexity of behavior. Think about your own definitions of psychology and mental health.

The works of major researchers and theorists in the development of the field of psychology, including William James, Wilhelm Wundt, Sigmund Freud, Max Wertheimer, Kurt Koffka, Wolfgang Köhler, Ivan Pavlov, John B. Watson, B.F. Skinner, Abraham Maslow, Carl Rogers, Jean Piaget, Lawrence Kohlberg, Noam Chomsky, and Erik Erickson were the subject matter of this discipline.

Psychology is not the science of Soul

1.2 PHILOSOPHICAL ROOTS OF PSYCHOLOGY

1.2.1 Associationism

This is not a particular school of thought of psychology but has many important inputs in development of modern psychology. The works of Alexander Bain, James Mill, James Stuart Mill, and David Hartley, etc. contributed to the thoughts of associationism. Greek philosophical influences developed the pre-scientific psychology. In cosmological period during associationism philosophers were interested to study the nature of universe. Thales, Pythagorus and Heraclitus studied the natural elements. Socrates studies various types of human behaviors. He discussed in his works Psyche which means soul. Plato described his theory of ideas in which he explained the characteristics of idea. Plato also described about psyche which is identified as soul comprising of moral aspects, thinking aspects, and behavioral aspects of human behavior. Aristotle also worked with significant inputs in psychology which become foundation of modern psychology. He described metaphysical position which defined matter and form for the build of things. Psyche in the form of soul is inseparable from organism. Organs and tissues in the body are described as matter which becomes the basis of functions. People have sensing and perceiving functions in daily lives. First time, Aristotle discussed association in relation to sensation. Furthermore, he described similarity, contiguity and contrast as the related laws to association. Rene Descartes considered the body as a machine without psyche. He described animals as automata because they are considered without soul and complete their behavior on the basis of reflexes, instincts and involuntary actions. Soul was taken as mind and relation between mind and body was defined as interaction. There are many other works and developments for consideration of mind and body and relation between two which prepared the foundation of modern psychology.

James Mill described permanence, certainty and facility criteria for assessment of association. John Stuart Mill detailed out doctrine of association, mental chemistry and theory of perception. The works of Alexander Bain detail out human behavior under descriptions of psychophysical parallelism, physiological psychology, doctrine of associationism and doctrine of will.

Especially, philosophy and physiology works contributed in understanding the mind and body problem, associations and empiricism, etc. On the basis of earlier descriptions of associationism theories of learning by Pavlov and Thorndike came into existence.

1.2.2 Structuralism

Wilhelm Wundt, a teacher in Leipzig University, Germany established a psychological laboratory for experimentation in 1879 and used demonstration in among the students as a study method. Wundt could measure reaction time to one-thousandth of a second (Nicolas &Ferrand, 1999).

"While psychology did not emerge as a separate discipline until the late 1800s, its earliest history can be traced back to the time of the early Greeks. During the 17th-century, the French philosopher Rene Descartes introduced the idea of dualism, which asserted that the mind and body were two entities that interact to form the human experience."

Principles of Physiological Psychology a prominent book was published by Wundt in 1873. Wundt described psychology as a scientific study of conscious experience. His thoughts were that goal of psychology is to identify components of consciousness. Further, his interest was that in which manner human conscious experience is produced by combining these components. He explained that by internal perception (introspection) individual examines the conscious experience. On the

basis of above thoughts and study process Wundt was able to describe the structure of mind and therefore his school of thoughts was known as structuralism.

1.2.3 Functionalism

American psychologist, William James (1842–1910) was introduced to Darwin's theory of evolution by natural selection and accepted it as an explanation of an organism's characteristics. James described psychology's purpose as to study the function of behavior in the world and therefore his school of thoughts was known as functionalism. Functionalism focused on how mental activities helped an organism fit into its environment. Functionalism was interested in the operation of the whole mind rather than of its separate parts (as in structuralism). James used more objective measures including recording devices, concrete products of mental activities and of anatomy and physiology (Gordon, 1995).

1.2.3 Psychoanalysis

Most influential and well-known person in psychology's history is Sigmund Freud. Freud (1856–1939) was an Austrian neurologist who was treating the patients suffering from hysteria and neurosis. Hysteria is an ancient diagnosis of disorders. Freud theorized the concept of unconscious mind. Unconscious mind is a repository of feelings and impulses which are not in awareness. To resolve the disorders it is essential gaining the access to unconscious. Unconscious mind may be accessed with some steps including dream analysis, first words which came to people's minds, seemingly innocent slips of the tongue. In this way Freud developed Psychoanalytic theory which focused on role of unconscious and early childhood experiences. Psychoanalytic theory dominated for several decades, especially clinical psychology (Thorne & Henley, 2005).

Freud's school of thoughts considered whole life span dividing it into five stages (Oral, anal, phallic, latency, genital) and developed personality topology comprising three components id, ego, and super ego working on separate principles. However, all his concepts are not verifiable and cannot be tested in the laboratory or with empirical data. Therefore, others school of thoughts also came into existence.

1.2.4 Gestalt psychology

Three German psychologists, Max Wertheimer (1880–1943), Kurt Koffka (1886–1941), and Wolfgang Köhler (1887–1967) were with the thoughts of Gestalt psychology. Gestalt word means 'whole'. Gestalt psychology defines that a sensory experience can be broken down into individual parts. But how these parts relate to each other as a whole is often decides the nature of perception. For example, a song is made up of separate notes played by different instruments, but actual nature of the song and its melody is perceived as a result of combinations notes.

Gestalt psychology propounded some basic principles of perceptual organization. Considering individual as a whole rather than as a sum of individually measured parts became an important foundation in humanistic theory late on. Structuralism, Psychoanalysis, and Gestalt were concerned with describing and understanding inner experience.

1.2.5 Behaviorism

Russian physiologist Ivan Pavlov (1849–1936) began his exploratory works and added to the field of brain research. Pavlov contemplated learning conduct known as molded reflex, in which a creature delivered a reflex (oblivious) reaction to an upgrade and, after some time, was adapted to create the reaction to an alternate boost that the experimenter related with the first improvement. The reflex Pavlov worked with was salivation in light of the presence of food. The salivation reflex could be inspired utilizing a subsequent boost, for example, a particular sound, that was introduced in relationship with the underlying food upgrade a few times. When the reaction to the subsequent upgrade was "took in," the food improvement could be excluded. Pavlov's "old style molding" is just one type of learning conduct concentrated by behaviorists.

John B. Watson (1878–1958) was a compelling American clinician whose most popular work happened during the mid twentieth century at Johns Hopkins University. While Wundt and James were worried about understanding cognizant experience, Watson imagined that the investigation of awareness was defective. Since he accepted that target investigation of the brain was unimaginable, Watson liked to zero in straightforwardly on discernible conduct and attempt to manage that conduct. Watson was a significant defender of moving the focal point of brain science from the psyche to conduct, and this methodology of noticing and controlling conduct came to be known as behaviorism. A significant object of study by behaviorists was learned conduct and its cooperation with inherent characteristics of the organic entity. Behaviorism regularly utilized

creatures in tests under the supposition that what was realized utilizing creature models could, somewhat, be applied to human conduct. In reality, Tolman (1938) expressed, "I accept that everything significant in brain research (aside from … such matters as include society and words) can be explored basically through the proceeded with exploratory and hypothetical examination of the determiners of rodent conduct at a decision point in a labyrinth.

Behaviorism ruled exploratory brain research for a very long while, and its impact can in any case be felt today (Thorne and Henley, 2005). Behaviorism is to a great extent liable for setting up brain research as a logical control through its target strategies and particularly experimentation. Furthermore, it is utilized in conduct and intellectual social treatment. Conduct alteration is ordinarily utilized in homeroom settings. Behaviorism has additionally prompted research on ecological impacts on human conduct.

B. F. Skinner (1904–1990) was an American analyst. Like Watson, Skinner was a behaviorist, and he focused on how conduct was influenced by its results. In this manner, Skinner talked about support and discipline as central point in driving conduct. As a piece of his examination, Skinner built up a chamber that permitted the cautious investigation of the standards of changing conduct through support and discipline. This gadget, known as an operant molding chamber (or all the more naturally, a Skinner box), has stayed a critical asset for specialists contemplating conduct (Thorne and Henley, 2005).

Skinner proposed, make people into good citizens: "We can achieve a sort of control under which the controlled, though they are following a code much more scrupulously than was ever the case under the old system, nevertheless feel free. They are doing what they want to do, not what they are forced to do. That's the source of the tremendous power of positive reinforcement – there's no restraint and no revolt. By careful cultural design, we control not the final behavior, but the inclination to behave – the motives, desires, the wishes."

The Skinner box is a chamber that detaches the subject from the outside climate and has a conduct marker like a switch or a catch. At the point when the creature presses the catch or switch, the crate can convey an uplifting feedback of the conduct (like food) or a discipline (like a clamor) or a symbolic conditioner (like a light) that is connected with either the uplifting feedback or discipline. Skinner's emphasis on certain and negative support of learned practices had an enduring impact in brain science that has melted away to some degree since the development of examination in psychological brain science.

In spite of this, adapted learning is as yet utilized in human social alteration. Skinner's two generally read and disputable well known science books about the worth of operant molding for making more joyful lives stay as intriguing contentions for his methodology (Greengrass, 2004).

1.2.6 Humanism

During the mid twentieth century, American brain research was overwhelmed by behaviorism and analysis. In any case, a few clinicians were awkward with what they saw as restricted viewpoints being so powerful to the field. They had a problem with the cynicism and determinism (all activities driven by the oblivious to) Freud. They likewise loathed the reductionism, or working on nature, of behaviorism. Behaviorism is likewise deterministic at its center, since it considers human to be as completely dictated by a blend of hereditary qualities and climate. A few therapists started to frame their own thoughts that underlined individual control, deliberateness, and a genuine inclination for "great" as significant for our self-idea and our conduct. Consequently, humanism arose. Humanism is a point of view inside brain research that stresses the potential for great that is intrinsic to all people. Two of the most notable defenders of humanistic brain science are Abraham Maslow and Carl Rogers (O'Hara, n.d.).

Abraham Maslow (1908–1970) was an American clinician who is most popular for proposing a progression of human necessities in rousing conduct. Maslow attested that insofar as fundamental requirements vital for endurance were met (e.g., food, water, cover), more elevated level necessities (e.g., social necessities) would start to spur conduct. As indicated by Maslow, the most significant level necessities identify with self-realization, an interaction by which we accomplish our maximum capacity. Clearly, the attention on the positive parts of human instinct that are normal for the humanistic viewpoint is obvious (Thorne and Henley, 2005). Humanistic analysts dismissed, on rule, the exploration approach dependent on reductionist experimentation in the custom of the physical and natural sciences, since it missed the "entire" person. Starting with Maslow and Rogers, there was an emphasis on a humanistic examination program. This program has been to a great

extent subjective (not estimation based), but rather there exist various quantitative exploration strains inside humanistic brain science, remembering research for satisfaction, self-concept, contemplation, and the results of humanistic psychotherapy (Friedman, 2008).

In 1951, Maslow took a position as chairman of the psychology department at the recently established Brandeis University in Waltham, Massachusetts.

Carl Rogers (1902–1987) was also an American psychologist who, like Maslow, emphasized the potential for good that exists within all people. Rogers used a therapeutic technique known as "client-centered therapy in helping his clients deal with problematic issues that resulted in their seeking psychotherapy. Unlike a psychoanalytic approach in which the therapist plays an important role in interpreting what conscious behavior reveals about the unconscious mind, client-centered therapy involves the patient taking a lead role in the therapy session. Rogers believed that a therapist needed to display three features to maximize the effectiveness of this particular approach: unconditional positive regard, genuineness, and empathy. Unconditional positive regard refers to the fact that the therapist accepts their client for who they are, no matter what he or she might say. Provided these factors, Rogers believed that people were more than capable of dealing with and working through their own issues (Thorne & Henley, 2005)."

1.2.7 Cognitive Psychology

Behaviorism's emphasis on objectivity and focus on external behavior had pulled psychologists' attention away from the mind for a prolonged period of time. The early work of the humanistic psychologists redirected attention to the individual human as a whole, and as a conscious and self-aware being. By the 1950s, new disciplinary perspectives in linguistics, neuroscience, and computer science were emerging, and these areas revived interest in the mind as a focus of scientific inquiry. This particular perspective has come to be known as the cognitive revolution (Miller, 2003). By 1967, Ulric Neisser published the first textbook entitled Cognitive Psychology, which served as a core text in cognitive psychology courses around the country (Thorne & Henley, 2005).

Cognitive Psychology is far advanced than other areas of Psychology

Although no one person is entirely responsible for starting the cognitive revolution, Noam Chomsky was exceptionally powerful in the beginning of this development. Chomsky (1928–), an American etymologist, was disappointed with the impact that behaviorism had on brain research. He accepted that brain science's attention on conduct was limited and that the field needed to re-join mental working into its domain if it somehow happened to offer any significant commitments to getting conduct (Miller, 2003).

European brain research had never truly been as impacted by behaviorism as had American p sychology; and consequently, the intellectual upset restored lines of correspondence between European analysts and their American partners. Moreover, analysts started to help out researchers in different fields, similar to humanities, etymology, software engineering, and neuroscience, among others. This interdisciplinary methodology frequently was alluded to as the intellectual sciences, and the impact and unmistakable quality of this specific point of view resounds in advanced brain research (Miller, 2003).

1.3 History of Psychology

Field of Psychology emerged from philosophical thoughts in ancient times. Thus, it is a relatively young science having experimental roots in recent 19th century. Body and mind have been discussed in multiple contexts by philosophers prior to the emergence of psychology. Work of Wilhelm Wundt and William James provided different thoughts for the occurrence of human behavior. Psychology is interested in the nature of humans and how human beings function. While the "Psychology of today reflects the disciplines rich and varied history; the origins of Psychology differ significantly from, contemporary conceptions of the field".

While talking about the history of Psychology, Ebbinghaus said that "Psychology has along past but a short history", it is true also because if we see Psychology is too young in compare to other sciences but its journey is not too short, it starts with legendary the era like Aristotle, St Augustine and Democrats, even hundreds of years before the Christ, it emerged through contribution of Wundt, Titchner, Kohler, Koffka and Maslow and many more.

The roots of Psychology can be traced to the ancient philosophers based on their records to understand Psychology. The earlier roots of modern Psychology can be traced to two different approaches to human behaviour Philosophy and Physiology.

Philosophy explores and attempts to explain human nature through introspection or self examination of one's own experiences and Physiology is the study of the human body and through observation early Greek scholars attempted to understand the working of the human body. The origins of Psychology can be founded some 24 centuries ago in the work of the Greek philosopher Socrates (470-399 BC) and his successors, Aristotle (384-323 BC) and Plato (427-347 BC) some other philosophers are Ibn-Sina (980-1037) Rena Descartes (1596-1650), John Locke (1632-1704), and Immanuel Kant (1724-1804).

Aristotle (384-323 BC) was an empiricist who believed that knowledge is gained by experience, observation and experimentation. He wrote extensively on the subject of human behaviour and formulates number of laws and also discusses various topics such as sensation, perception, learning, memory, motivation, and personality. His view formed the foundation for the methods of empirical psychological research.

Plato (427-347BC) believed that "mind and body interact with one another but they are essentially different. The mind is superior to body. Truth is found in our thoughts (via observation) his view formed the foundation for arising about psychological processes an activity that may or may not lead to subsequent empirical investigation". He contributed to the philosophical beginnings of Psychology.

Ibn–Sina (1980-1037 BC) was the first person who recognized "physiological Psychology for the treatment of illness involving emotions". He was a pioneer in psychophysiology and psychosomatic medicine developing a system for associating changes in the pulse rate with inner feelings. He was pioneer on neuropsychiatry as he first described "numerous, neuropsychiatric conditions including insomnia, stroke, nightmare, dementia, epilepsy, paralysis, vertigo, hallucination, melancholia and tremors."

Rene Descartes (1596-1650) The French philosopher during 17th century known as the father of modern philosophy , who had the greatest impact in relatively modern times. Descartes focused on the relationship between mind and body. His approach is known ad dualism. According to him the mind and the body are the two distinct entities that function independently. The body obeys the laws of the physical universe, while the mind operates in the world ideas.

John Locke (1632-1704) believed that the interaction between mind and body is an equal relationship between two aspects of the same unified phenomenon. He contended that the psyche relies upon the body through the faculties for its data while the body tactile encounters for sometime in the future. He likewise accepted that individual is brought into the world without information which is in this way obtained through encounters and experimental perception. He proposed the term Tabula Rasa (Blank Slate) to depict this condition.

Immanuel Kant (1724-1804) proposed that humans have asset of facilities or mental powers senses understanding and reasoning. These offices cooperating control and give a connection among psyche and body coordinating the two. He likewise accepted that while understanding the psychological facilities we should utilize both rationalistic just as observational methodologies.

The work of Aristotle, Plato, Descartes and other philosophers dominated thinking about psychological matters for nearly 2000 years, but philosophy alone was not enough. Philosophy begins with a basic assumption that seems eminently a logical, and then uses reason to arrive at a conclusion. But to achieve a full understanding of behaviour, observation and the application of the scientific method are necessary. It was the discipline of philosophy which studies the operation of body organs and system that provided the missing link. It was found necessary that Psychology should study biological basis for the functioning of organisms; to study the biological basis of different new psychologists came forward like Hermann, Von Helmholtz (1821-1894) Johannes Muller (1801-1858) and physicist Gustav Fechner (1801-1870).

Hermann Von Helmholtz (1821-1894) became a surgeon at age 21, but soon lost interest and retrained in physics and physiology. He then turned his attention to the study of perception and the processing's of sensation by the nervous system. He also gives theories of vision, idea on the visual perception of space, color and version research.

Johannes Muller (1801-1858) provided an initial understanding of how impulses are conducted along nerves in the body information crucial to the eventual investigation of behaviour. Gustav Fechner (1801-1878) studied the translation of physical stimulation into psychological experience.

The years between 18758 and 1900 saw the birth and early development of Psychology as a separate discipline. It arose of the increasing need to apply scientific principles to the study of behaviour.

The scientists who developed Psychology in those early years included William James, Ivan Pavlov and Sigmund Freud. Wilhelm Wundt (1832-1920), Wilhelm Wundt the father of Psychology formally opened the first psychological laboratory in Leipzig Germany in 1879 for the study of psychological phenomena. He then uses Introspection for looking inward to probe his reactions to various stimuli. He was trained in philosophy and Psychology. He became interested in the study of consciousness and this study became the subject matter of the new discipline of Psychology. It was possible, Wundt held to apply the scientific methods of physics to the study of consciousness, thus using the methods of science to study the functioning of mind. His method was to train study to introspect. The 1880s and 1990s saw the opening of 24 new laboratories for psychological research in United States and Canada, most of them modeled after Wundt's contribution in Psychology and establishment of first psychological laboratory make him the founder of experimental Psychology and father of Psychology. Actually though Alexander Bain, a philosopher founded the influential Journal ''Mind in 1876'' and also wrote several books about Psychology. He trained a large number of graduate students who went on to do significant work in the field of Psychology. So in a sense, he too is a candidate for this title- although less directly than Wundt. Wundt applied the scientific methods of physics to the study of consciousness.

One of the students of Wundt namely G. Stanley Hall (1844-1924) was influential in bringing Psychology to the United States. He founded the first psychological laboratory at Johns Hopkins in 1883. A few years later in 1887 he founded American journal of Psychology. The first Psychology journal published in the United States. And in 1892 Hall organized the American psychological association (APA) and became its first president. Only 31 psychologists attended the initial meeting. By APA has grown to o0ver members. By 1893 24 universities in United States has established psychological laboratories.

Another great psychologist during (1842-1916) was William James. He lead a group of American psychologists who became interested in the in the practical applications of psychological research and in combining the direct observation of behaviour by introspection. To study underlying mental processes 1890 William James published first major text book in Psychology (The Principles of Psychology). From time till now many psychologists came and lead the important milestone in the field of Psychology. In modern times Psychology is growing rapidly in every corner of the world. Every year thousands of researches are conducted by researchers in different areas of Psychology globally.

Broadly there are some systems or school of thoughts in the field of psychology defining mind and human behavior differently so as to understand it effectively. In fact these are the prime school of thoughts in which psychologists have different set of explanations for the occurrence of human behaviors. In the early phase of field development philosophical roots provided significant inputs in psychology.

A. Associationism

B. Structuralism

C. Functionalism

D. Behaviorism

E. Psychoanalysis

F. Gestalt Psychology

G. Cognitive psychology

 A History of Psychology ,A Global Perspective SECOND EDITION Eric Shiraev - George Mason University, USA

1.4 Summary

The field of psychology is with long past but short history. Philosophical works contributed much of the concepts in psychology. Aristotle, Plato, Socrates and others have their thoughts on body and mind. In early phase both were assumed to be working independently but later on mind and body were discussed working in collaboration. Structuralism through the method of introspection

discussed about elements in mind and attempted to define the mind as a structure by the combination of these elements or blocks. Functionalism has discussed the mind on the basis of its functioning process. Sigmund Freud talked about unconscious, subconscious and conscious- three parts of human mind. He also talked for Id, Ego and Super-ego as components of personality. He studied the human life across five stages. Gestalt considered the importance of whole than the elements of a sensation in development of the perception in human mind. Behaviorism discussed the role of learning as a result of consequences or association. Stimulus and response were studied for their different kinds of relationships. Humanism considered individual as best and capable to live a good life. They discussed the behaviour on the basis of needs hierarchy theory or kinds of self. More recently, information processing model support the development of cognitive psychology which defined human behaviour due to processing of sensory data in human brain and the quality of processing becomes the basis of kind of behaviour a person will do. Finally, discipline of psychology is the result of different developments over a period of time which are still in progress at present to strengthen the academic field of psychology.

1.5 Keywords:

Psychology, History, psychoanalysis, Structuralism, Functionalism Behaviorism

1.6 Self-Assessment

1. The word "psychology' comes from:
   a. Latin
   b. English
   c. Greek
   d. Italian

2. Psychology is defined as the scientific study of:
   a. people
   b. emotions
   c. perception
   d. mind and behaviour

3. The scientific approach is more useful at answering questions about _____ than questions about _____.
   a. facts, values
   b. ideas, love
   c. values, ideas
   d. emotions, ideas

4. Principles of Physiological Psychology was written by
   a. Wilhelm Wundt
   b. Carl Jung
   c. Sigmund Freud
   d. G.W Allport

5. Who among following is related to Functionalism

   a. Wilhelm Wundt
   b. Carl Jung
   c. Sigmund Freud
   d. none of the above

6- Wundt viewed psychology as a scientific study of ----------experience

7- Freud was an Austrian neurologist who was fascinated by patients suffering from "hysteria" and neurosis (True/ False)

8- William James was the founder of Psychoanalysis (True/ False)

9- First psychology laboratory was established in

   a. China
   b. India
   c. Japan
   d. Germany

10- Ernst Weber and Gustav Fechner are known for their work in psychophysics. (True/ False)

11- Wundt helped to establish the field of experimental psychology. (True/ False)

12- Titchener and his followers adhered to a structural psychology (True/ False)

13- The Gestalt movement began in Germany with the work of Max Wertheimer (True/ False)

14- The saying "the whole is greater than the sum of its parts" is ----------perspective

15- Behaviorism rejected any reference to mind and viewed ----------as the proper subject matter of psychology

Answers

1 c 2 d 3 a 4 a 5 d 6 (Conscious) 7 True 8 False 9 d 10 True 11 True 12 True 13 True 14 Gestalt 15 Behaviorism

1.7 Review Questions

1. Psychology has short history but long past. Discuss
2. What is Sigmund Freud's Psychoanalysis?
3. Describe in brief historical background of psychology field.
4. Discuss some major historical milestone of progress of psychological science.
5. Write in brief about behaviorism school of thoughts.
6. Detail out major points of humanism thoughts of school in psychology.

1.8 Further Readings

Wertheime, M. (2012). A Brief History of Psychology, 5th ed. Psychology Press, New York.

Singh, A.K. (1991). The Comprehensive History of Psychology. MotilalBanarasiDass publishers Pvt. Ltd. Delhi.

www.simplypsychology.com

www.psychologytoday.com

www.Study.com

Unit: 2 Experimental Psychology 1

Contents

Objectives

After studying this unit, you will be able to:

- Describe the beginning of experimental psychology
- Understand about experimental psychology methods
- Know major historical milestone in experimental psychology
- Learn the famous experimentation or studies in experimental psychology

Introduction

Experimental psychology is a branch of psychology to study variables or stimuli of this universe for the resulting psychological phenomena. Goals of Psychology and Psychological research are to make you think like a scientist about behavior **and** enable you to better understand how to conduct research by using hypotheses testing and solving the practical problems. Experimental psychology uses scientific methods in to study the behavior of organism (including humans) and the functional aspects of mental processes by manipulating variables. Thus, experimental psychology primarily concerned with discovering laws and principles that describe manipulable relationships. The term generally connotes all areas of psychology that use the experimental method. Experimental psychology examines relationships between human behavior and the mind. Experimental psychology is centered on fact-based, scientific research and experimentation. Therefore, experimental psychologists manipulate research variables in order to discover relationships between cognition and behavior.

Experimental psychology today is a far cry from what it was years and centuries ago. We didn't have the technology or facilities that we have today back then. Many influential thinkers debated the relationship between mind and body. When

the mind-body problem is first mentioned, names like Plato and Aristotle come to mind. The controversies and disputes about free will and determinism, as well as nature vs. nurture, date back decades. These controversies continue to rage today. They grow into multi-year research projects in experimental psychology and neuroscience.

2.1 Beginning of Experimental psychology

The first references to experimental psychology were made by famous thinkers such as Plato, Aristotle, and René Descartes. Both Plato and Aristotle pondered the controversial nature vs. nurture debate. They couldn't agree on the basic question of where our humanity comes from. Plato argued from a genetic perspective, claiming that such aspects are inherent in our biological makeup. He assumed that all was predetermined from the start. Aristotle, on the other hand, emphasised the importance of nurture in the debate. Humans are sponges, he preached, soaking up knowledge with and new experience and learning opportunity.

 Did you know Experimental Psychology brought scientific validation in the Psychology

Descartes considered a different topic that today perplexes scientists and researchers. He concluded that people's actions and behaviours are predetermined, and that free will does not exist in and of itself. The pineal gland, according to Descartes, is in charge of all brain activity. His viewpoint gave rise to a widely held theory known as mind-body dualism. The pineal gland is the master gland for all other glands. The idea that the pineal gland is the master gland for all behaviour was later disproved. The controversy about free will vs. determinism, on the other hand, continues to rage in the twenty-first century.

Decision-making research is currently one of the hottest subjects in neuroscience. Various research studies have now shown that neuronal spiking activity occurs before a decision is made. This sparked a firestorm of support for determinism. Many people began proclaiming that if there is neural activity before an action, it means that the behaviour is irrational. Many people began proclaiming that if neuronal activity occurs before a behaviour, then all acts are predetermined. All of the philosophical questions are still relevant today, and experimental psychology uses a variety of approaches to try to address them. It accomplishes this by examining the problem from different angles.

Leipzig, Germany, was the birthplace of psychology as a discipline. Wilhelm Wundt founded his first experimental laboratory on the grounds of Leipzig University in 1879. Wundt was the one who coined the word "introspection." Wundt thought he could create a guideline for the consciousness elements by asking participants to speak in depth about their experiences during an assigned mission.

 Wilhelm Wundt, known as the "Father of Experimental Psychology," founded the first psychological research and teaching laboratory in Leipzig's Philosophy Department around 1876.

Measuring reaction times during various mental tasks is a common occurrence in cognitive psychology. Scientists are attempting to determine which events in the brain occur first and which occur later. Researchers are attempting to find an answer to the question of how consciousness came to be. They want to figure out where and when the first series of neuronal spikes in the brain occur when a new stimulus is introduced. It all comes back to the same question of free will vs. determinism, according to researchers. They are still attempting to determine which comes first: the behaviour or action itself, or a specific event in the brain. Scientists now have a lot more advanced technology to work with.

The functionalists attempted to comprehend why humans and nonhuman animals act the way they do. The functionalism research then progressed to what is known as evolutionary psychology. It is based on Darwin's natural selection principles to a large extent. The idea that the strongest genetic components survived and the less valuable ones vanished over time has been debunked. Both of our acts are designed to transfer our genes on to our descendants in order to keep our species alive.

After the death of Wundt's laboratory and the waves of functionalism, a new branch of psychology emerged. It is the branch of psychology that the majority of people now identify with psychology. Despite the fact that few practitioners use it these days, it remains influential. The psychodynamic approach, established by Sigmund Freud, places a strong emphasis on the unconscious. Psychodynamic therapists are interested in the id (the unconscious), impulses, emotions, memories, and dreams. As compared to other fields of psychology, this one has a poor track record of proving its hypotheses. Despite this, it was developed as a result of Freud's observations of his many patients' habits. To this day, the general population associates it with clinical psychology and recovery strategies for different psychiatric conditions.

One of the most well-known examples of experimental psychology is behaviourism. Behaviorists agree that the only way to research the mind is through its attitudes and habits, and they make every effort to do so objectively and clearly. The major names in behaviourism are Ivan Pavlov and B.F. Skinner

The cognitive method gained popularity after behaviourism. It did so because scientists at the time were becoming increasingly interested in the brain and how it affects our behaviour. Computer production was a significant advancement.

Experimental psychology is a broad subject that includes several different sub-disciplines and areas. It has progressed significantly from Wundt's first laboratory to the hundreds of thousands of experimental laboratories that exist today around the world. These laboratories are equipped with modern state-of-the-art equipment and popular technology methods in an effort to help objectively research the mind and body, as well as their relationship.

To study the human mind and behaviour, experimental psychology employs a variety of techniques. Since the human mind is so complex, it's a difficult task to investigate the factors that influence how we process knowledge, think, feel, and act. To study the human mind and behaviour, experimental psychology employs a variety of techniques. Since the human mind is so complex, it's a difficult task to investigate the factors that influence how we process knowledge, think, feel, and act.

2.2 Methods of experimental Psychology

2.2.1 Experiments

In some cases psychologists conduct experiments to establish a relationship between independent and dependent variables under the controlled condition.

Case Studies

Case study allows a researcher to carry out research on a focus group or on an individual.


Create an experimental design incorporating manipulation of variables

These experiments are often carried out in situations where experimentation is not feasible. When an individual of interest has had an unusual or rare experience that cannot be repeated in a lab, a scientist might perform a case study.

2.2.2 Correlational Research

Researchers may use correlational studies to look at correlations between various variables. A psychologist might notice, for example, that when one variable rises, another tends to fall. Although such studies may examine relationships, they cannot be used to infer causality.

2.2.3 Naturalistic Observation

Researchers may study people in their natural settings using naturalistic observation. This technique is especially useful when the researchers suspect that the lab environment is having an undue effect on participant behaviour.

2.2.4 Experimental Psychologists work

Experimental psychologists operate in a number of environments, including schools, hospitals, research institutes, government agencies, and private companies. Some of these experts teach students how to perform experiments, while others conduct research on cognitive processes, animal behaviour, neuroscience, personality, and a variety of other topics.


https://home.uni-leipzig.de/biocog/content/en/history-of-psychology/


Myers, C. S. (1909). A text-book of experimental psychology. Longmans, Green and Co. https://doi.org/10.1037/13628-000

There are continuous numerous studies conducted in many areas of psychology some of the important experiments are listed below which added new knowledge to psychological literature.

Dr. Solomon Asch conducted the Asch Conformity study at Swarthmore College in 1951 to assess a person's probability of conforming to a pattern under duress. A group of participants were shown pictures with different lengths of lines and then asked a simple question: It revealed that people care more about being like others than being right.

Dr. Albert Bandura conducted the Bobo Doll Experiment at Stanford University from 1961 to 1963. An experiment was carried out to show that social imitation, rather than hereditary genetic influences, plays a major role in human behavior.

 Discuss Dr. Albert Bandura conducted Bobo Doll Experiment

In 1957, at Stanford University, Leon Festinger and James Carlsmith conducted the Cognitive Dissonance Experiment. Conflicting perceptions, beliefs, or actions are referred to as cognitive dissonance. This tension causes an underlying sense of unease, prompting a shift in one of the participants' attitudes, values, or behaviours in order to alleviate or remove the discomfort and restore equilibrium.

The Learned Helplessness Experiment was performed by Martin Seligman at the University of Pennsylvania in 1967. Martin Seligman and his colleagues were studying how people learn to be powerless. The disorder is known as learned helplessness, in which a person or animal does not try to get out of a bad situation because they have been told that they are helpless in the past.

 Noise can affect concentration and noise can be labelled as independent variable and concentration is dependent variable

At Princeton University in 1956, George A. Miller performed the Magical Number Seven Experiment. The Magical Number Seven experiment, also known as "Miller's Law," claims that an average person can keep 7 +_ 2 items in working memory.

 What if I told you that Many of the students and scientists who helped Wundt with his studies went on to become well-known scientists in their own right, including James McKeen Cattell (1860-1944), Emil Kraepelin (1856-1926), G. Stanley Hall (1844-1924), Friedrich Kiesow (1858-1940), August Kirschmann (1860-1932), James Mark Baldwin (1861-1934), Oswald Külpe (1862-1915), Ernst Meumann (1862-1915), Charles Spearman (1863-1945),

Pavlov's Dog Experiment was performed in the 1890s at the Military Medical Academy in St. Petersburg, Russia, by Ivan Pavlov. Pavlov's work with dogs turned out to be one of psychology's most pivotal experiments. His observations on conditioning spawned an entirely new field of psychology. Classic conditioning is a principle that entails learning to equate an unconditioned stimulus with a positive outcome.

 Test the level of concentration while solving a puzzle and listening two different music simultaneously and solving a puzzle

There are many more experiments to study the cause and effect or the association among a variety of variables in psychology. Different branches of psychology improved on the basis of findings of these experimentations or studies. Experimental psychology facilitates a continuous and scientific study of variables and psychological concepts for in-depth understanding and for better prediction and control on the output.

2.3 Summary

Psychology by today has emerged as a scientific academic discipline and primarily it is because of contribution of experimental psychology which studied the psychological constructs in systematic experimental or controlled studies. Experimental categorized the construct into independent and dependent variables and attempted to study the possible changes in dependent variable as a function of independent variable under study. Today experimental psychology is

completely different from its starting phase of development. Beginning of experimental psychology started with establishment of Laboratory in Leipzig, Germany. Distributing the participants into experimental and control group many studies were conducted and psychological principles and laws and theories came into existence. From 1874 to till date many experimental findings have been recorded in psychological literature which helped to understand the human behaviour.

2.4: Keywords

Psychology, Behaviorism, Cognitivism, Methods, Experimentation, Variable

2.5 Self-assessment questions

1- Psychophysics is branch of Psychology (True / False)

2- Neuropsychology involves the study of ----------in relation to behavioral changes

3- ----------is basic structure of nervous system (True / False)

4- ----------is known as father of evolution

5- In psychophysics the physical properties of stimulus is studied (True / False)

6- ----------started the area of Psychophysics

7- Sensation is to _____ as perception is to _____.

8- Vision is a sensory modality (True / False)

9- Most behavior has a single cause. True/ false

10- A potential extraneous variable in an experiment is:

a. the experimenter

b. the participant

c. both of the above

d. neither of the above

11- Receiving an electric shock would be an example of a _____ whereas being frightened would be an example of a _____.

a. stimulus, response

b. punishment, reward

c. reaction, emotion

d. reinforcement, stimulus

12- Nature is to _____ as nurture is to _____.

a. environment/genes

b. conscious/unconscious

c. genes/environment

d. unconscious/conscious

13- Another term for reinforcement is:

a. stimulus

b. reward

c. response

d. condition

14 -What are the two types of research data?

A Primary and secondary.

B Qualitative and Quantitative.

C Qualitative and predictive.

D Predictive and quantitative.

15 - In a _____ experiment neither the researcher nor the participants know which condition participants are in.

a - blind

b- double-blind

c- random

d- confounded

Answers

1 T 2 Nervous System 3 Neuron 4 Darwin 5 True 6 Gustav Theodor Fechner 7 awareness, interpretation 8 True 9 False 10 C 11 a 12 c 13 b 14 a 15 b

2.6 Review Questions

Describe historical background of experimental Psychology.

Discuss the major mile stone of experimental psychology development.

Discuss at least two famous experiment of experimental psychology with their major findings.

2.3 Further Readings

Books

Woodworth (2008). Experimental Psychology. Oxford & Ibh Publishing Co. Pvt Ltd.

Parameswaran, E.G. & Ravichandra, K. (2016). Experimental psychology. Neelkamal.

Shergill H.K. (2012). Experimental Psychology. Publisher: Prentice Hall India Learning Private Limited.

Online links

https://online.csp.edu/blog/psychology/experimental-psychology

https://www.verywellmind.com/what-is-experimental-psychology-2795784

https://www.onlinepsychologydegree.info/influential-psychological-experiments/

www.simply psychology.com

www.psychologytoday.com

www.study.com

www.apa.or

Unit 3: Experimental Psychology II

Contents

Objectives

After studying this unit, you will be able to:

- Understand Psychophysics meaning
- Comprehend psychophysical laws
- Explain the neuropsychology
- Learn the theory of evolution

Introduction

Psychophysics is a merged field of Psychology and Physics. It entails the study of relationship of physical properties of stimulus and sensation they evoke. As a discipline it deals with the research in sensation and perception. Psychophysics was defined by Fechner in 1860 as "an exact science of the functional relations or relations of dependency between body and mind, or more generally between the bodily and mental, the physical and psychical world"; and Wundt, in 1902, declares in the same spirit that psychophysics is to be understood as "an investigation of the relations that may be shown empirically to obtain between the psychical and the physical aspects of vital processes. The field of psychophysics is much advanced in the present times that it has it role military, forensic and psychobiology

3.1 Psychophysics

With the works of Gustav Fechner's publication of Elemente der Psychophysik in 1860 experimental research trends within psychology started. In 1879, with Wilhelm Wundt's psychological laboratory in Leipzig experimental brought a revolutionary changes in psychological researches. Soon after the establishment of first psychological lab, psychology was labelled to be as science. It brought reverification, replication in most of the psychological experiments, which in turn witnessed a path breaking researches in psychophysics. Psychophysics actually opened up the horizons of research in the physical properties of stimulus and the threshold of sensation they evoke.

Gustav Theodor Fechner, a physicist and philosopher, is still celebrated as the founding figure of this path breaking area of research called psychophysics. Most of laws in psychophysics deals with the physical energy of the sensory stimulus in relation to the quantum of threshold they evoke.

Psychophysics is a scientific discipline of studying mental processes. After Fechner, J.P. Guilford (1956) in his book "psychometric methods" mentioned that psychophysics is regarded as the science that investigates the quantitative relationship between physical events and corresponding psychological events. Eysenck (1992) psychophysics concerns the manner in which living organisms respond to the energetic configuration of the environment. According to Stevens Psychophysics is an exact science of functional relationship between body and mind. The classical psychophysics of Fechner, Muller and Wundt was concerned mainly with the determination of sensory threshold or limens.

Three psychophysical problems have been stated out in psychology literature:

- What is the weakest stimulus that can be detected (stimulus threshold or Absolute threshold)?
- What is the smallest difference between stimuli that can be detected (difference threshold)?
- What is the relationship between intensity of stimulus and intensity of sensation?

The problems of psychophysics are related to the selective capacity of the organism his ability to respond in different ways to different stimuli. Some of the problems of psychophysics are:

Threshold

In day-to-day language threshold refers to boundary separating two specified regions or areas. In psychophysics too it refers to a boundary wall on the stimulus continuum separating the stimuli that elicit one response from the stimuli that elicit other response. Threshold varies from subject to subject and even within same subject at different occasions.

Any energy to which organism is sensitive, must exist in a certain amount before it is capable to arouse a response. It is statistically defined amount of stimulation. It varies from person to person, moment to moment and stimulus to stimulus. Three kinds of threshold: Stimulus threshold or absolute limen or reiz limen (AL), Difference threshold (DL or JND), Terminal threshold (TL), are described as below.

Absolute threshold

German word reiz limen (RL) is used to denote absolute threshold. It is the value of the stimulus above zero at which a sensation takes place and below there is no experiences of sensation. It is the value of a quantitative variable at which a stimulus is just detectable (Eysenck, 1973). Hence, reiz limen is therefore defined as the value of a stimulus that is noticeable in 50% observations. Lower the threshold more sensitive is the subject and vice versa. The minimum intensity of stimulation (brightness of a light; loudness of a tone, etc.) required to produce a detectable sensory experience.

Detection

In sensation and perception detection plays an important role. Conceptually detection can be referred as, whether a stimulus can be detected on the basis on psychophysical properties of stimulus. Detection is usually determined by the organismic state of an individual and psychophysical properties of stimulus

Difference threshold

Difference threshold is a concept related to psychophysics. It simply means for identifying a point of time where we can easily infer that there is the just noticeable difference between two stimulus thresholds

Terminal threshold

The upper limit of stimulation beyond which sensation is not possible**.** The terminal threshold is the level beyond which a stimulus is no longer detected. This is the point where the sensory stimulus is so strong the sensory receptors no longer detect the stimulus.

Experimental findings of Psychophysics-

- Just noticeable increment to any stimulus bears a constant ratio to that stimulus
- Important psychological law quantifying the perception of change in a given stimulus.
- **Differential Threshold/ Standard Stimulus = Constant**
- If we change the amount of standard stimulus, the ratio of the change in standard (STD) and DL will remain almost constant.

- The stronger or larger the STD, the greater increment is needed to perceive the change.
- The difference threshold in other words can be said as Weber's Law and is also related JND

Weber's law can be explained using Fechner's law. Fechner's interpretation is divided into two sections. The first section states that two stimuli would be distinguishable if they both produce a visual response that is greater than a certain threshold. The visual response R to intensity I is given by the equation R = log I

Stevens' Law –

Although Fechner's Law seemed to operate in certain cases, there seemed to be several that the law could not properly clarify. Consider our reactions to painful stimuli: it appears that pain increases rapidly rather than gradually, as predicted by Fechner's Law.

Psychophysical methods are used to study the stimulus-response relationship in the situation in which stimuli are varied along a physical dimension. By these methods experimenter may quantify the relationship between stimulus and response. There are stimulus situation in which variation is possible through physical dimension.

- Method of Limits
- Method of average error
- Method of constant stimuli

Method of Limits –

Method of serial discovery, Method of minimal shift, Method of only noticeable difference, and Met hod of least noticeable difference are some of the other names for this method. Any sensory system 's most basic function is to sense energy or changes in energy in the environment. Chemical (as in t aste or smell), electromagnetic (as in vision), or mechanical (as in auditory) energy can all be used t o create this energy.

The method of limits entails altering the intensity of a single stimulus in discrete measures, such as a single light, and recording the observer's response to each stimulus presentation. As in the previous phase, the stimulus may be too small to be identified at first, causing the answer to be "not seen"; the amplitude is then progressively increased until the stimulus is visible (ascending series),

- The method of limits is also having potential disadvantages. – Habituation and Expectation
- Observer anticipation in both the ascending and descending series.
- In case of ascending series this may lower the overall threshold.
- In case of descending series this may raise the overall threshold.

Method of Constant Stimuli

In the constant stimuli process, the experimenter selects a set of stimulus values (usually five to nine) that are likely to encompass the threshold value based on previous exploration (e.g., using the Method of Adjustment). This fixed set of stimuli is introduced several times in a quasi-random order to ensure that each appears equally frequently. Following the introduction of each stimulus, The observer notes whether the stimulus was observed (for the absolute threshold) or whether it was stronger or weaker than a regular stimulus after each presentation (for computing a difference threshold). The proportion of "detected" and "not detected" (or, "strong") responses is calculated after each stimulus intensity has been presented multiple times (usually not less than 20).

Method of Adjustment

The easiest and fastest way to assess absolute and difference thresholds is to have a subject change the stimulus amplitude until it is just detected or unnoticed (in the case of absolute threshold measurements) or appears to be just slightly different from, or to match, any other normal stimulus (to measure a difference threshold).

3.2 Development of Neuropsychology

Neuropsychology is the study of how the brain functions to produce the behavior and thought processes. Neuropsychology subject matter is that what is it about the patient's brain damage that makes them behave in the way they do? Neuropsychology is the study of how the brain operates

to produce the higher mental functions that broadly that broadly come under the heading of cognition (mental processes), emotion and movement. The models used by neuropsychologists may be in terms of broad concepts that prompt pioneering research or they may be more specific in terms of describing interactions between brain areas within networks. At yet another level, neuropsychological research may be in terms of the roles of different neurotransmitters, being the different types of electrochemical messages that pass between the basic units of the brain, the neuron.

History of Neuropsychology

In 1913 Sir William Osler used the term

In 1936 neuropsychology entered into the realms of Psychology

In 1949 D.O Hebb in his book, the organization of Behavior; A neuropsychological theory used the term

1957: When Heinrich Kluver (Behavior Mechanisms in Monkeys) indicated the book would be of interest to neuropsychologists, the concept became a known classification for a subfield in neuroscience.

When it first appeared in Karl Lashley's writings in 1960, the term received a lot of attention (The Neuropsychology of Lashley). The definition had yet to be specified

Definition

Neuropsychology is the study of the relationship between brain function and behaviour is known as neuropsychology. The field draws on data from a variety of fields, but its main goal is to establish a science of human behaviour centred on brain function. Two traditional foci for experimental and theoretical investigations in brain science have strongly influenced its contemporary definitions

Modern Neuropsychology

Neurologists persisted in rejecting the brain-behavior correlation positions of Broca, Wernicke, etc. Psychology directed its attention to behavior, psychophysics, and psychoanalysis

Advancements in the following become the basis of development in neuropsychology field:

- Neurosurgery: Horsley-Clarke (stereotaxic device), Scoville (H.M.),
- Milner (surgically treated epileptics), Sperry (split brain studies)
- Psychometrics: Objective measurement and statistical analysis
- Technology: CT, MRI, functional neuroimaging
- Experimental Psychology

3.3 Theory of Evolution

The theory of evolution incorporates the widely held scientific belief that biological life on our planet has evolved over long periods of time and continues to evolve through a mechanism known as natural selection. The theory is credited to Charles Darwin, a 19th-century naturalist, not because he was the first to say evolution exists, but because he suggested (in his seminal 1859 text on Origin Of species)

The evolution theory is divided into two sections, both of which are unnecessarily divisive. The first is the term "theory," which in everyday speech has a somewhat different meaning than it does in science. The second controversial term is "evolution," which some contend lacks adequate evidence to support the idea that organisms evolve over time. The supporters of the above point of view depend on

3.4 Summary

Gustav Theodor Fechner, a physicist and philosopher, coined the word "psychophysics" in his book "Elemente der Psychophysik" published in 1860. This term was coined to describe the relationship between physical stimulation and various aspects of consciousness, especially

sensation. Following Fechner, J.P. Guilford (1956) claimed in his book "psychometric methods" . Threshold is a boundary wall on the stimulus spectrum that separates stimuli that elicit one response from stimuli that elicit another. Threshold differs from subject to subject and even from time to time within the same subject. Stimulus threshold, also known as absolute limen or reiz limen (AL), Difference threshold (DL or JND), and Terminal threshold (TL) are three types of thresholds.

Neuropsychology is another branch of psychology that studies how the brain works to create actions and thinking processes. The role of different neurotransmitters and different types of electrochemical messages that pass between the basic units of the brain, the neuron, is investigated in neuropsychological research. The theory of evolution sought to describe a mechanism that would justify how transition occurs.

3.5 Keywords

Psychology, Psychophysics, stimulus, Absolute threshold, Just noticeable threshold, neuropsychology, neuron, evolution

3.6 Self-Assessment

1-The field of psychophysics was pioneered by _____.

A. Weber
B. Frued
C. Fechner
D. Descartes

2-The smallest amount of difference between two stimuli that can be detected is called the

A. absolute threshold
B. difference threshold
C. standard stimulus
D. Weber fraction

3- A study will be conducted by a researcher who is interested in the relationship between physical stimuli and our psychological experiences and it is called

A. esp.
B. proprioception
C. auditory realism
D. psychophysics

4- A 50 cent increase in the price of a candy bar is more likely to be seen than a 50 cent increase in the price of an iPad, illustrates

A. the absolute threshold
B. Weber's law
C. signal detection
D. opponent processes

5. The another name of difference threshold is

A. absolute threshold
B. difference adaptation
C. just noticeable difference
D. sensory differentiation

6. Psychophysics is a scientific approach to the measurement of mental processes (True/ False

7. Psychophysical methods are used to study the stimulus-response relationship in the situation in which stimuli are varied along a physical dimension (True/ False)

8. This minimal or liminal amount of energy is called the *absolute threshold* (True/ False

9. The term "psychophysics" was coined by Gustav Theodor Fechner (True/ False)

10. Psychophysics deals with the nature of the quantitative relationship between physical and mental qualities (True/ False)
11. The **terminal threshold** is the level beyond which a stimulus is no longer detected (True/ False)
12. ----------deals with the nature of the quantitative relationship between physical and mental qualities
13. The term ----------" was coined by Gustav Theodor Fechner
14. This minimal or liminal amount of energy is called the ----------
15. The method of limits have a disadvantages of ----------

1 c 2b 3d 4b 5c 6True 7 True 8 True 9 True 10 True 11 True 12 Psychophysics 13 Psychophysics 14 Absolute threshold 15 Habituation

3.7 Review Questions

Describe psychophysics and its basic laws.

Define threshold and its various types.

Detail out history of neuropsychology and its subject matter.

Describe various methods of psychophysics.

3.8 Further Readings

Books

Stevens, S.S. (1986). Psychophysics: Introduction to Its Perceptual, Neural and Social Prospects. Routledge.

Eysenck, M.W., & Keane, M.T. (2005). Cognitive Psychology: A Student's Handbook. Publisher: Psychology Press.

Ling (2013). Psychology Express: Cognitive Psychology. Publisher: Pearson Education India.

Online links

https://courses.lumenlearning.com/wmopen-psychology/chapter/outcome-sensation-and- perception/

https://courses.lumenlearning.com/boundless-psychology/chapter/introduction-to-sensation/

https://www.sciencedirect.com/science/article/pii/S1567423109702060

http://cms.gcg11.ac.in/attachments/article/188/Psychophysics%202.pdf

http://www.psy.lmu.de/exp/teaching/courses/w5-psychophysics.pdf www.simplypsychology.com

www.psychologytoday.com

www.study.com

Unit 4: Schools of Thought-I

CONTENTS

Objectives

After reading this unit, you will be able to:

- Understand about the development of structuralism thoughts.
- Explain the concept of structuralism.
- Identify the main concepts of the school of functionalism.
- Learn about the strength and weaknesses of structuralism and functionalism.
- Differentiate between 'structuralism' and 'functionalism'
- Learn the evolution of behaviourism
- Define behaviour and its components
- Identify the behaviouristic approach
- Understand the basic concepts of behaviourism
- Contribution of behaviourism to modern day psychology

Introduction

A school is a collection of scientists who have similar ideas and put them under one umbrella of thoughts. Also, these scientists also use similar methods of studying the concepts. If we look at the history of psychology, it has its own roots in philosophy which have been already discussed in the first unit. Psychology has been defined as the study of 'soul' to 'mind' to 'consciousness'. The definition of psychology that is used these days is more focussed on behaviour and cognitive processes. Thus, as Morgan et al. (1986) stated 'fundamental differences in viewpoints show up in every definition and ideas about what psychology should study and how. Such differences, and the arguments they spark makes psychology a lively field indeed.' It is therefore that there have been many schools of thought in the history of psychology. There always have been questions asked as to why there is a need to study all the methods and thoughts that are no longer used are obsolete?

The study of all the schools of thought is necessary to understand how the subject evolved. Where it began from and where are we standing in today's times. Also, the history is important so that we have an awareness of what are the things that we already know, what were the methods used in the studies so that we are able to move ahead and research in the correct direction.

In this unit, we will be studying about the three major schools of psychology which marked the evolution of the Psychology as a Science. These three schools are; Structuralism, Functionalism and Behaviorism. We will discuss each of these schools one by one.

Define Psychology as per you're your own understanding.

4.1 Structuralism

4.1.1 History of Structuralism

Psychologyitselfdidnotemergeasadisciplineseparatefrombiologyandphilosophyuntil thelate1800s.Itwasthefoundingoftheveryfirstexperimentalpsychology laboratory in Leipzig,Germany thatformallyestablishedpsychologyasaseparatescience.Itwasthescientist orWilhelmWundtwhowasresponsibleforestablishingthelab,whichiswhy heiswidely regardedasthefatherofpsychology.Wundtwasinterestedinstudying theinnerworkingsofthe mindinanobjectiveandscientific manner. He utilizeda methodknown asintrospectionwhich involvestraining observerstocarefully analyzethecontentsoftheirthoughts.Whilehis methods don'tstanduptotherigoroftoday scientificmethods,they didhelpmakepsychology amore scientificdiscipline.

Structuralism was the first school of psychology and it focused on breaking down our mental processes into various structural components. Structuralism basically focuses on the structure- Structure of brain, mind or body- and so the name Structuralism. Scientists and psychologists wanted to understand these basic elements of our mind or consciousness by using the method of Introspection.

Wilhelm Wundt, who was the founder of the very first lab of experimental psychology, is the main proponent of this school. Edward B. Titchner, who was a student of Wilhelm Wundt, coined the term structuralism. The main difference between the two was that the theories of Wundt were more inclined towards the holistic approach as compared to Titchener's ideas.

Wundt was the person responsible for giving the status of science to psychology and contributed a lot in experimental psychology and Titchener's work on structuralism led to the development of the very first 'school' of psychology but it didn't last for very long.

4.1.2 Wundt's Systematic Psychology

Definition and subject-matter

Wilhelm Wundt basically focused that psychology is the science of experience. He said that there are two types of experiences, namely, the immediate experience and the mediate experience. His study focused mainly on the immediate experience or you can say that the conscious experience. He also added that conscious experience can be analyzed in two elements: *sensations* and *feelings*. Sensations were regarded as the objective components and feelings were considered to be the subjective components of the conscious experience.

Sensation come through the working of our sense organs, seeing, hearing, smelling, touching etc. whereas the feelings have 3 dimensions- excitement-calm, tension-relaxation and pleasure-displeasure. This is popularly known as the *tridimensional theory of feeling*.

The Pleasure-Arousal-Dominance (PAD) emotional state questionnaire is also based a little on the tridimensional theory of feeling.

Wundt was of the opinion that the elements of consciousness were connected by association. Ideas, emotions, will etc. are all examples of elements of consciousness. To explain the combination of elements Wundt formulated the *principle of creative synthesis* by giving the analogy of a chemical

compound. This principle states that just like a chemical compound, when the elements of consciousness combine together they form a complex whose characteristics are different from the characteristics of the individual elements.

Method of Psychology

The methods of study used by Wilhelm Wundt were *experimentation* and *introspection.* Wundt used the German term *Selbstbeobachtung* (self-observation) for introspection. Introspection was a method through which an individual analyses the conscious process or conscious experience. As he was an experimental psychologist, he believed in controlled introspection and also set forth certain rules for that. Some of his rules were;

1. The individual who is introspecting must be able to point out where the process is beginning.
2. The individual must be able to maintain sustained attention.
3. The entire self-observation should be such that it is capable of repetition.
4. The possibility of variation in stimulus must be there.

So this meant that the process is not only simple self-observation, but it includes experimentation also as the experimenter will be producing variations and recording the changes as well. According to Wundt, introspection and experimentation could not be separated if we wanted to study the elements of the mind. This is why the introspection of Wundt is known as experimental introspection.

Work of Leipzig Laboratory

The very first laboratory of Psychology was established by Wilhelm Wundt in 1879 in Leipzig, Germany. All the work that was done in the Leipzig Laboratory was published in *PhilosophischeStudien* – a journal that was found by Wundt in 1881.

The major work that was done in Leipzig Laboratory was:

1. Sensation and Perception experiments
2. Reaction time experiments
3. Association experiments
4. Attention experiments
5. Feeling experiments

Thus we can say that Wundt and his students did a variety of experiments in the laboratory. Though the experiments done were heavily based on the works of Helmholtz, Weber and Fechner; still the fresh perspective the structuralists provided valuable inputs for the field of psychology.

4.1.3 Titchener's Structural Psychology

Subject matter of Psychology

Edward Titchner was a student of Wilhelm Wundt who has contributed to the school of Structuralism. He disagreed with Wundt on the experiences. Titchner believed that experiences are all immediate. It is just that in psychology we study experience with respect to the person who is experiencing it. So basically, according to Titchner the subject-matter of psychology is experience but the experience that is dependent on the on an experiencing person. And consciousness consists of the sum total of an individual's experiences at any given point of time.

The basic components of the mind can be studied by answering the questions "what", "why" and "how" about the experiences of an individual. The three basic elements of consciousness as described by Titchner are *sensations*, *images* and *affections*. And he went on to say that all these three elements of the consciousness have four basic elements, namely, quality, intensity, clarity and duration. Thus, Titchener made clear structure of the consciousness in terms of elements of consciousness and their basic attributes in continuation.

Methods of psychology

Edward Titchener also focussed on introspection as the method of study for studying consciousness. The difference between Wundt's introspection ndTitchener's introspection is that it became more formalized and had a different set of rules. The major ones are:

1. Introspection needs to be done under an observer who must be completely impartial and unprejudiced.
2. The observer should be able to concentrate well during the whole process.
3. Observer needs to have a positive attitude towards the process so that the process can include experimentation and reliability.

These rules made clear that a trained observer is needed for the introspection process to be a success. The most common error that was encountered during this process is the *stimuluserror*. This meant that during introspection the individual or the observer should not be attending to the stimulus at the time of introspecting. So when they did it was considered as error.

4.1.4 Strengths and criticism of Structuralism

The experimental methods that were being used in structuralism were considered to be too subjective because the use of introspection was said to produce non reliable results. Also, this school of thought received criticism because of its major focus being on the internal behaviour, which could not be observed directly.

But structuralism still has its own strengths and it is one of the major milestones in psychology as it was the first major school of thought. Also this particular school influenced the start of the experimental psychology and laid foundation for further research.

4.2 Functionalism

4.2.1 Origin of Functionalism

Functionalism is the school of thought that originated after the school of structuralism. William James (1842-1910) was the first American psychologist to talk about a different approach than the structure of the mind. He was influenced by Charles Darwin theory of evolution by natural selection. James used Darwin's theory and went on to say that the purpose of psychology is to study the function of behaviour and subsequently we will be able to know the functions of the mind. His perspective is known as Functionalism.

The major aim of functionalism was to "understand why animals and humans have developed the particular psychological aspects that they currently possess" (Hunt, 1993).

Functionalists did not focus on the components or the structure of the mind; rather they focused on the purpose of the mind and purpose of behaviour. This school also emphasized on the individual differences. The major people associated with this school of thought along with James are John Dewey, Harvey Carr and John Angell.

4.2.2 Subject-matter of Functionalism

Functionalism as a school of thought was of the opinion, that mind is something which makes us do certain functions. So if we study the functions that are being done due to mind, we can easily study the mind. According to Functionalism, psychology is the science of consciousness, both of its experience and the conditions. According to James, consciousness is a dynamic and continuous complex that should not be divided into discrete units. The adaptation to the constantly changing stimuli in the environment should be studied and that was the core idea or the subject-matter for Functionalism.

Methods of study

The functionalists accepted the many methods for the studying mental activity. They continued the method of introspection but also added observation to it. Experimentation was also used as a method to study the function of the mind. Functionalists agreed on a point that complete control in human studies is a highly difficult task to achieve, but still experimentation remained the most desirable method for data collection for the structuralists.

4.2.3 Contribution and weakness of Functionalism in Psychology

Functionalism as a school of thought was criticized mainly for being unscientific. William James was believed to not have performed any scientific experiment to reach the ideology of functionalism and also to study the functions of mind. Also, the theory is said to be very subjective and also unobservable and therefore not reliable.

But nonetheless, functionalism has a marked value in the history of psychology. The major contribution of this school of thought was the theory of the subconscious mind where he related subconscious to consciousness in various ways.

Functionalism has given way to the development of evolutionary psychology and applied psychology. Also, functionalism has contributed in the establishment of other schools of thought as well including behaviourism and cognitivism. The major idea of functionalism has been applied to cognitive neuroscience widely till date.

4.3 Behaviourism

In the early 20th century, the debate between structuralism and functionalism was on an all-time high and it sparked a variety of new ideas from the researchers and scholars worldwide. The theoretical discussions and the researches examining psychological processes gave way for the establishment of new schools of thoughts in the field of psychology which still continues to be of great influence.

4.3.1 Behaviourist Approach

The term 'behaviour' is most commonly used for the actions which can be easily observed from the outside. Behaviour consists of reactions and movements which are done by an organism in certain situations and the behaviourist learning approach focuses on the how most behaviours are acquired by organisms.

According to behaviourists, behaviour is something which can be learned and also can be objectively studied. They considered that the mind or consciousness is something which is abstract and cannot be seen or studied scientifically and also we do not even need to study it. Whatever goes on inside the mind comes out in the form of behaviour and we can study the behaviour scientifically and accurately.

The main proponents of this school of thought are Ivan Pavlov, John B. Watson, Edward L. Thorndike, E. R. Guthrie and B. F. Skinner.

4.3.2 Advent of Behaviourism

During the time when structuralism and functionalism were flourishing as well as being critiqued for a variety of reasons; physical sciences had also made quite a significant progress in those years. E. L. Thorndike and Ivan Pavlov had started doing some works with behavior and physical sciences. John B. Watson was a researcher and a psychologist who could read the developments in the field well and in a very well timely written article in 1913 (psychology through the eyes of behaviourist) he called out to the ideology as well as the methodology of structuralism and functionalism. He stated that it was unscientific for the psychologists to study about things which cannot be seen and observed like conscious or thoughts. The article rejected the subjectivity of both the earlier schools and thus the birth of new school of thought known as "Behaviourism" occurred.

The phase of behaviourism began by 1913 and has been lasting since 1960. There are said to be two types of behaviourists namely, methodological behaviourists and radical behaviourists (Schultz and Schultz, 2007). Radical behaviourists such as Watson and Skinner believed that psychology is the study of only observable behaviours and environmental processes, whereas, methodological behaviourists such as Bandura and Rotter believed that psychology can also study the cognitive processes with the methods of behaviourism.

When we talk about the status of behaviourism in today's time, it has been completely overpowered by the cognitive revolution. Most of the behaviourists define themselves as cognitive-behaviourists.

4.3.3 Basic Fundamentals of Behaviourist Approach

1. Behaviourism believes that learning occurs in the same pattern for both humans and other animals. This is the reason why the term 'organism' is used in definitions and theories given by behaviourism.
2. The behaviourists believe that human is like a blank sheet from birth and the environment which the individual rows in shapes it.
3. Learning can be studied by focussing on the physical subjects, which are measurable and observable.

4. As the qualities of humans such as feelings, ideas, motivation etc. cannot be measured directly, therefore cannot be handled scientifically. So, it is not included in the subject of psychology. All we can study is what is received (stimulus) and what is given out (reaction).
5. All the principles of learning are based on the connection between stimulus and reaction.
6. Psychology should be seen as a purely objective and experimental branch of natural sciences. The goal of behaviourism is prediction and control.
7. The theories proposed can be expressed in simple, short and brief manner. All learnings can be explained through the same simple rules.

4.3.4 Strengths and Weaknesses of Behaviourism

The most eminent strength of behaviourist approach is that it provides clear predictions which can be scientifically tested and supported with evidence. Behaviourism also has real life applications till date in gender role development, behavioural therapy, phobias, education, behaviour modification, psychopathology, depression, relationships, moral development, aggression, addiction etc. it emphasizes objective measurement and gave many experiments to support theories. Also, it identified comparisons between animals and humans.

The most criticised aspect of behaviourism is the fact that it does not consider moods, thoughts or feelings. It does not take into account the mediational processes and also ignore biological influences. Behaviourism is argued to be a little too deterministic and reductionist because of its one-dimensional approach to understand human behaviour.

4.4 Summary

Structuralism and functionalism both these schools do not exist today but they have lain the foundation stone for the development of the field of psychology what it is today. While structuralism help make psychology more experimental and scientific, meanwhile functionalism did the ground level work for behaviourism which is till date a major school of thought.

By understanding these both schools of thought, we can gain a greater appreciation of how psychology as a science developed into a discipline that we know of today.

Despite behaviourism not being the dominant force in the field of psychology but it still has a major influence on our understanding of human psychology. The greatest contribution of behaviourism is in its practical applications. The process of conditioning alone can explain a range of behaviours from how we learn to how language develops. The techniques of behaviour modification is a powerful method which is used in psychology as well as outside of psychology parents, teachers, animal trainers and many others to help teach new behaviours and discourage unwanted ones.

4.5 Keywords

Schools of Thought, Functionalism, Structuralism, Behaviourism, mind, consciousness, mental activity, introspection, observation, experimentation, application

4.6 Review Questions

1. Discuss the contributions of Wilhelm Wundt as a systematic psychologist.
2. "Psychology needed many more Wilhelm Wundt and not one."Comment
3. Make a comparative study of Titchner and Wundt.
4. Discuss the contributions of William James that elevated the status of scientific psychology
5. Discuss the major antecedent forces that led to the development of Behaviourism.

4.7 Self-Assessment Questions

1. Wundt was an important contributor to the Structuralism school ofPsychology.
2. Aristotle believed that behaviour was mostly the result of nurture.
3. Cognitive Psychology focuses on mental processes.
4. The Functionalism school of Psychology was founded by Freud.
5. The lower level of explanation focuses on interpersonal processes.

6. Hindsight bias refers to people's tendency to have positive memories of their childhood.
7. Over time, psychology changed from being a philosophical to a scientific discipline.
8. Introspection involves asking people to report on their own mentalprocesses as they happen.
9. Forensic psychology focuses on issues relevant to the criminal justice system.
10. Evolutionary psychology has its roots in _____.
11. 11. In terms of the nature-nurture debate, Aristotle argued for _____ while Plato argued for _____.
12. Free will is typically contrasted with _____.
13. _____ _____ are the ways of thinking, feeling or behaving that are shared by group members and perceived by them as appropriate.
14. Western cultures are primarily oriented toward _____ while East Asian culture is primarily oriented toward _____.
15. Freud, Jung, Adler and Erikson contributed to the _____ school of psychology.

4.8 Further readings

Theories and systems of Psychology by Robert W Lundin by Wadsworth Publishing

The Comprehensive History of Psychology by Arun Kumar Singh published by MotilalBanarasidass Publishers

Psychology by Robert Baron published by Pearson Education India

History and schools of Psychology by Ram Nath Sharma and Rachna Sharma published by Atlantic Publishers

Introduction to Psychology by Clifford T. Morgan and Richard King published by McGraw Hill Education

https://en.wikipedia.org/wiki/Systems_psychology#:~:text=Systems%20psychology%20is%20a%20branch,Bateson%2C%20Humberto%20Maturana%20and%20others.

https://courses.lumenlearning.com/waymaker-psychology/chapter/reading-structuralism-and-functionalism/

https://socialsci.libretexts.org/Bookshelves/Psychology/Book%3A_Cognitive_Psychology_(Andrade_and_Walker)/01%3A_History_of_Cognitive_Psychology/1.04%3A_Early_Psychology_-_Structuralism_and_Functionalism

https://www.verywellmind.com/behavioral-psychology-4157183

https://plato.stanford.edu/entries/behaviorism/

Unit 5 :Schools of Thought-II

CONTENTS

Objectives

After reading his unit, you will be able to:

- Know the basic postulates of Gestalt psychology
- Know the basic principles of Humanistic Approach
- Know the relevance of Gestalt psychology with respect to perception
- Know the basic principles of Existentialism
- Know the contribution of Carl Rogers in Humanistic School of Thought.

Introduction

The time period in which Behaviorists of United States were rebelling against the unscientific nature of Structuralism and Functionalism, in that same time period a young German Psychologist also rebelled against the idea of Wundt's Experimental program which said that there are distinct elements of mind. Behvaiorsts' attack focused on the theory of consciousness the method of introspection, whereas the German demonstrators attacked Wundt's elementism. They believed that consciousness can't be and should not be reduced into various components as doing this will distort the true meaning of the

conscious experience. They believed that the true essence of studying the mind is to not distort the whole experience.

They believed that if we isolate different fragments, we are not experiencing events but certain configurations. We should not see black, blue and red patches; instead we should be seeing people, vehicles, trees and clouds etc. So this seeing the whole thing has been named Gestalt psychology because the German word for 'whole' is Gestalt.

Also, while the Behaviorism and Psychoanalysis were on full swing and were gaining a lot of popularity; there were a few people who had a completely opposite viewpoint about human mind and behavior. This group of people believed that the human mind or human psyche is inherently good. This gave us an alternative perspective and is not a brain child of any single person. This wave was known as the third force psychology and named as the Humanistic School of thought.

Around the same time as Humanism, there were other people who disregarded the elemental view of Sigmund Freud and gave an alternative perspective to view human mind or consciousness. They put emphasis on the existence and meaning of the human life and man's search for meaning in life.

In this unit, we will talk about each one of these viewpoints one by one in detail and get to know about the origin and meaning of the alternate perspectives of psychology and how they shaped the field of psychology.

5.1 Gestalt Psychology

5.1.1 History

In 1910, MaxWertheimerwasonatrain, onhis wayfrom Viennatoa holidayintheRhineland,when hehad the idea ofstartingGestaltPsychology.

Theaimwastoorganize ourexperiencesinwaysthatsensory inputdoesn't.Thatis,ourexperiencesare isolatedfromtheirsensations.Tofurtherexplorethisnotion,Wertheimergotoffthetrainat Frankfurt, boughta toy stroboscope(a devicethatallowsstillimagestobe flashedinsuchaway thatthey seem tobe moving),and beganexperimentingina hotelroom.

Clearly,Wertheimerperceivedmotionwherethereallywasnone.HewenttotheUniversity of Frankfurtto investigatethis phenomenoninmore depth,where he hadatachistoscopemade availabletohim.(A tachistoscopewillflashlightsonandoffformeasuredfractions of asecond.)Flickeringtwolightsin succession,Wertheimerfoundthatif thetime betweentheflasheswaslong(200millisecondsorlonger),the observer observedtwolights flashing onandoffsuccessively—whichwas the case,infact.

Iftheintervalbetweenflasheswasvery short(30milliseconds orless),bothlightsatthesametimeappeared tobe on.Butifthetimebetweentheflasheswasabout 60milliseconds,onelightseemedtoshiftfrom one locationto another.

Wertheimernamedthisobviousmovementthephiphenomenon,andhis1912essay "ExperimentalTestsof thePerceptionofMotion"explainingthisphenomenonisusually takenastheformalbeginningofthe psychologicalschoolofGestalt.

TworecentBerlindoctoralstudentswereWertheimer'sresearchassistantsattheUniversityofFrankfurt: KurtKoffkaandWolfgangKöhler,bothof whom servedasthesubjects of Wertheimer'sperception experiments.KoffkaandKöhleraresoclosely linkedtothegrowthofGestaltpsychology thatthey are generallyconsideredco-foundersofthe schoolalongwithWertheimer.

5.1.2 Contributions

1.Isomorphismandthe LawofPragnanz

Onebasic questionWertheimerhadtoaddresswashowthe perceptionofmotioncould betriggeredby only twostimuli.

Wertheimerdidnotdiscoverapparentmotion;ithadbeenknownforyears.Inaddition,25yearsbefore Wertheimer discoveredthe phiphenomenon,the motionpicturehad beeninvented.

WhatwasdifferentwasWertheimer'sdescriptionof thephenomenon.Aswesaw,Mach,Ehrenfels,and J.S.Millallunderstoodthatthewholewassometimesdifferentfrom thesum ofitsparts,butallbelievedthat somehow thewhole(Gestalt)resultedfrom thecharacteristicsoftheparts.Thatis,afterthe parts(elements) were attendedto,theysomehowcombinedand gave rise tothe whole experience.

Nevertheless,Wertheimerprovedthroughaninnovativeexamplethatexplications dependent onexperience are notpossible.Usingatachistoscopeagainheshowedthatthephiphenomenoncould occursimultaneously intwodirections.Three lightswere arranged:the centerlightwas flashedonand the twootherlightswere immediatelyflashedonshortlyafterwards.Wertheimerrepeatedseveraltimesonthisseries.Themiddlesli t oflightseemedtoslipsimultaneouslytotheleftandright,andsincetheeyescouldnottravelintwo directions atthe same time,anexplanationbasedonsensations fromthemuscles ofthe eyeswas untenable.

ApplicationofFieldTheory

If sensorymechanisms,inferences,orfusionscouldnot describethe perceptionof psychologicalphenomena, howcouldthatbeexplained?TheresponseoftheGestaltistswasthatthe braincontainsorganizedfieldsof electrochemicalforceswhichexistbeforesensory stimulation.Afterenteringsuchanarea,thesensory data bothalterandchangethe fieldstructure.Whatweareactively feelingcomesfrom theinteractionofthe sensorydataandthebrainforcefields.Thesituationissimilartooneofputtingmetalparticlesintoa magneticfield.Fielddynamicswillhaveastronginfluenceonhow theparticlesaredistributed, butparticle characteristicswillalsoaffectthedistribution. For example,therewillbeadifferentdistribution of larger, more numerous particles inthe fieldthansmaller,less numerousparticles.The importantpointinthe case of cognitive experience is thatfields ofbrainactivityturnsensorydata andgive that data characteristics itwould otherwise notpossess.According tothistheory,beforetheparts(individualsensations)thewhole (electrochemicalforcefieldsinthebrain)remains,anditisthewholethatgivesthepartstheiridentity or significance.

PsychophysicalIsomorphism

Todescribemorefullytherelationshipbetweenthe fieldactivityofthebrainandconsciousexperience, theGestaltistsintroducedtheconceptofpsychophysical isomorphism,whichKöhlerdescribedas follows:"Experiencedorder inspaceisalwaysstructurally identicalwitha functionalorderinthedistribution ofunderlyingbrainprocesses"(1929/1970,p. 61).Elsewhere, Köhlersaid, "Psychologicalfactsandthe underlying eventsinthebrainresembleeachotherin alltheirstructuralcharacteristics"(1969,p.66). TheGestaltnotionofisomorphismstressesthe factsthattheforcefieldsinthebraintransformincoming sensorydataandthatitisthetransformed datathat weexperienceconsciously.The wordisomorphism is fromtheGreekiso("similar")andmorphic("shape").Thepatternsofbrainactivityandthe patternsofconsciousexperienceare structurally equivalent.TheGestaltistsdid notsaythatpatterns ofelectrochemicalbrainactivityarethe sameaspatterns ofperceptualactivity.Rathertheysaidthat perceptualfieldsarealwayscausedbyunderlyingpatterns ofbrainactivity.Itwasbelievedthat,although thepatternsofperceptualand brainactivitymight have somesimilarity,thetwo representtotallydifferent domainsandcertainlycannotbeidentical.The relationshipislikethatbetweenamapoftheUnited StatesandtheactualUnitedStates;althoughthe twoarerelatedinimportantways,theyare hardly identical.

2. TheLawofPragnanz

TheGestaltistsbelievedthatthe sameforces that create configurations suchas soapbubbles andmagnetic fields alsocreate configurations inthebrain. The configurations ofenergyoccurringinallphysical systems always resultfromthe totalfield ofinteracting forces,andthesephysicalforces always distribute themselves inthe most simple,symmetrical waypossible underthe circumstances.Therefore,according tothe principleofpsychophysicalisomorphism, mental experiences toomust be simple and symmetrical.TheGestaltists summarizedthis relationship betweenforce fields inthe brainandcognitive experiencewiththeirlawofPrägnanz,which was centraltoGestalt psychology.The Germanword Prägnanzhas no exactEnglishcounterpartbutanapproximation is"essence." Prägnanz refers tothe essence or ultimatemeaningofanexperience. Sensory informationmaybe fragmentedandincomplete, butwhenthatinformationinteracts withthe force fields inthebrain,the resultantcognitive experience is complete and organized.The lawofPrägnanz states that psychological organizationwillalways be as goodas conditionsallowbecausefields ofbrainactivity willalways distribute themselvesinthe simplest waypossible underthe prevailingconditions, just as otherphysicalforcefields do.The lawofPrägnanzasserts thatallcognitive experiences tendto be as organized,symmetrical,simple,andregular asthey can be,giventhepatternofbrain activityatany givenmoment.This is what"as good as conditions allow" means.

Itis temptingtocategorizeGestalt psychologyas nativistic,butthe Gestaltistsdisagreedwiththat. Köhler said, "Such concepts as genes,inherited,and innate shouldnever be mentionedwhenwe referto the basic ...dynamic ... processes inthe nervous system" (1969,p.89).AccordingtoKöhler,what governsbrainactivityis notgeneticallycontrolled programs butthe invariant dynamics thatgovernall physicalsystems.

3.PerceptualConstancy

Perceptualconstancy(notto be confusedwiththe constancyhypothesis) refers tothe waywe respond toobjects as iftheywere the same,eventhoughthe actualstimulationoursenses receivemay vary greatly. Themanwhoapproaches usonthestreet doesnot seemtogrowlargerasforsimpleopticalreasonshe should.The circle whichlies inanobliqueplane does notappearas anellipse;itseems toremaina circle eventhoughits retinalimage maybe a very flatellipse.Thewhite objectwiththe shadow acrossitremains white;the blackpaperinfulllight remains black,althoughthe formermayreflect muchless lightthanthe latter.Obviously,these three phenomena have somethingincommon.The physical objectas suchalways remains the same, while the stimulation ofoureyesvaries,as the distance, the orientation orthe illuminationofthat constantobjectare changed.Now,whatweseemto experience agreeswiththe actualinvariance ofthe physical objectmuch betterthanit does withthe varyingstimulations.Hence, the terms constancyof size,constancyofshape andconstancyofbrightness. (Köhler,1929/1970)

Principles oforganization

Gestalt psychologists enunciated certain principles orlaws thatgovernthe organizationofperceptualwholes. Wertheimerpointed outthattheselawsof organizationwere nativeandtherefore,natural.Hence,theywere alsocalledasprinciples of primitiveorganization.ThusthroughtheselawstheGestaltpsychologiststriedto deemphasizetherole oflearning in perception.Therewereseveralsuchprinciples ofwhichtheimportant ones are as under:

(a) Principleofsimilarity: Those objects which are similar in their structure tend to beperceived as organizedtogetherorintowhole.

(b) Principle ofproximity :Thoseobjectswhichareclosetogethereitherintimeorspacewouldtendtobe organizedtogether

(c) Principle ofcontinuity:Alsoknownasprincipleofgoodcontinuationorprinciple of direction,itstates thatobjectsthathavecontinuitywitheachothertendtobeperceivedasflowinginthesamedirection andtherefore,theyare perceivedas a figure.

(d) Principleofobjectiveset:Ifweseeataparticularpatternofobjectanddevelopamentalsetforit,it

mightbepossibletocontinuetoseethatpatterneventhoughthestimulusarrangementsmightbe slightedchanged.

(e) Principleof closure:Thisisaspecialcaseof principleof goodform.Thisprinciplestatesthatwhen certain partoftheperceptualobject is left out, we have a tendencyto fill the gap and perceive accordinglybymakingthe Gestaltcomplete.

Phi-phenomenonandIsomorphism

InBerlinin1912MaxWertheimerconductedaseriesofexperimentsontheperceptionofmovement.In theseexperimentsKohlerandKoffkahadassistedhim inseveralways.Intheseexperimentshe observedthat whenthetimeintervalbetweenthetwoexposuresofthesameverticalline (secondexposurea littleright or lefttothefirstexposure)wasone-fifteenthofasecond,thesubjectreportedthelinetobemovingtheright or left. This illusionof movement was named as phi- phenomenon. If thetime interval increased or decreased,theillusionofthe movementstoodabolished.Sincetheperceptualfieldofmovementwasnot identicaltowhat happenedactually, howcouldthis be explained? Inordertoexplainthis,the Gestalt psychologistsformulatedthe principle ofisomorphism.Accordingtothis principletheseexistsone-to-one relationshipbetweenwhatoneactually perceivedandwhathappenedinbrainalthoughthecorrespondence betweenthetwomay notexistinexactform.Therefore,therelationshipbetweenthetwoistopologicaland nottopographical.Explainingphi-phenomenonwiththehelpofthisprinciple,Gestaltistsassumedthatthere mustbeadynamicrelationbetweentwocentresinbrainstimulatedby twoflashesoflight.Thisdynamic relationmustbeinsuchamannerthatoneareaof braininfluencestheotherareainawaysimilartotheflow

ofelectricityacrossapoorlyinsulatedgap.Inordertoexplaintheprincipleofisomorphisminastillbroaderperspective,Woodworth(1948) usedananalogy showing-relationshipbetweenamapandthecountryit represents.Althoughthetwoarenotthesamebutthey bearthesimilarityinthesensethatonecanreadthe characteristics ofthecountry from the map. The perceptualfieldandthe physiological brainfielddemonstratesuchdirectrelationship.Toknowwhathappensinthe brainfield,Gestaltistsassumedthatthere weretwotypesof forcesinbrain— cohesiveforcesandrestrainingforces.Thecohesiveforcesrefertothe tendency totheexcitationsof nerve impulsesinthebrainthatattractedeachotherprovidedthereremains nothingtointerferewith.Retrainingforces refertothose excitations that preventedthe cohesive forces.

5.1.3 TheImpact ofGestaltPsychology

Like anyschoolinpsychology,Gestalt psychology has hadits share ofcriticism.Critics have saidthat manyofits centralterms andconcepts are vague and therefore hardto pindownexperimentally.Eventhe termGestalt,critics say, has never been definedprecisely. The same is true forthe lawofPrägnanzfor insightandforcognitive equilibriumand disequilibrium. Asmight be expected,the behaviouristsattacked the Gestaltists'concernwithconsciousness, claimingthatsucha concernis a regressiontothe oldmetaphysical positionthathadcaused psychology somanyproblems. Followinga discussionwith KöhleronGestalt psychology,the illustriousneuropsychologist KarlLashleysaid,"Excellentwork— butdon'tyouhave religionupyoursleeve?" (Henle,1971b,p.117).Despite these andothercriticisms, however,Gestalttheoryhas clearlyinfluencedalmost every aspect ofmodern psychology.Sokal (1984)saidthe following aboutthe influence of Gestalt psychology: [Gestalt psychology]enrichedAmerican psychology greatlyand didmuchtocounter the attractions ofextreme behaviorism.IfGestalt psychology has todaylost its identityas a schoolofthought—and veryfewofKoffka's,Köhler's, Wertheimer's, or Lewin's students callthemselvesGestalt psychologists— itis notbecausethe mainstreamofAmerican psychologyhas swampedtheirideas.Rather, theirworkhas done muchtoredirectthis mainstream, whichadoptedmanyoftheir points ofview.

Fewothermigratingscientific schools have beenas successful.(p.1263) Ina thoughtfulchapter entitled"Rediscovering GestaltPsychology," Henle (1985) discusses several importantrelationshipsthatexistbetweenGestalt psychologyandcontemporarycognitive psychology.

5.2 Humanism

5.2.1 Introduction to Humanism

The term Humanistic psychology was coined in 1962 by a group of psychologists under the leadership of Abraham Maslow who was mainly interested in providing an important theoretical alternative to two most influential forces or currents in psychology – psychoanalysis and behaviourism. Maslow called it as third force of psychology. It is a movement in psychology that is a collection of number of lines and thoughts of different schools. It is never a system of single person or a group of persons.

Since 1950s the opponents of the two forces – psychoanalysis and behaviourism, were criticising them. It was being said that behaviourism was too cold and lacking interest in real understanding of human beings. This movement considered man as a passive victim of the stimuli present in the environment. This movement considered man as a passive victim of the stimuli present in the environment. This movement also fails to recognize the person's growth, potentialities and self-actualization that distinguishes him from laboratory animals (Bugental, 1967).

Some psychologists also voiced against the basic tenets of psychoanalysis that considered man as the product of instincts and conflicts only. Criticising psychoanalysis, Maslow argued that by focussing upon abnormal people alone how can psychoanalysis explain the behaviour of a normal and mentally healthy person? It means a psychoanalyst can't explain the positive side of the person. Maslow (1954:234) has rightly commented that, "the study of crippled, strutted, immature and unhealthy specimens can yield only a cripple psychology and cripple philosophy"

The humanistic psychology has tried to present a radically different picture of human nature. According to Abraham Maslow, who is considered as spiritual father of humanism in America, human beings are considered basically good and worthy of respect and self-actualisation. If the environmental conditions are favourable, persons will readily move towards realization of their underlying potentialities and abilities. Thus humanistic psychology by opposing the pessimism, conflict and despair of psychoanalysis on the one hand and the 'robot' view of human beings on the

other hand, has tried to emphasize upon potential for healthy and creative growth of human beings.

5.2.2History

The humanistic psychology can be traced as far back as the Middle Ages when the philosophy of humanism was born. The basis of this philosophy says that every single individual has worth and right to achieve self-realization.

Humanism as a school of psychology began as a revolution against the two most famous ideas at that time which were behaviourism and psychoanalysis. Thus, the humanistic psychology is usually called the "third force" in psychology (Maslow, 1968).

Another reason for the development of humanism was the World War II. The war created a tremendous demand for therapies, rehabilitations, counselling due to the traumas encountered by the veterans.

Carl Rogers and Abraham Maslow are considered to be the founders or main proponents of this school of thought. They set out to construct a positive approach to the human and psychology in general.

Maslow in 1943 developed a hierarchical theory of human motivation and thus put forward his thoughts about self-actualization. Carl Rogers in 1946 developed his very own therapy which is known as client-centered therapy which worked as a revolution in the field of counselling and therapy.

During 1957 and 1958, various meetings were held among psychologists who believed in the meaningful and humanistic vision of human beings and thus in 1962, Association for Humanistic Psychology was formally launched and the first issue of Journal of Humanistic Psychology got published in the year of 1961.

Humanistic psychology expanded throughout the years of 1970s and 1980s. It has had a major impact on the field of psychology as it gave a new set of values to approach and understand a human. Also, it gave us different number of methods to study the human behaviour.

5.2.3Basic Tenets of Humanistic Psychology

Humanistic psychology is not a single organized theory or system. It is a movement which incorporates psychologists of different lines and thoughts. Therefore, all humanistic psychologists like all structuralists or functionalists, don't think exactly alike. However, there are some common threads that bind them together.

Buhler (1971) who is considered as one of the important humanistic psychologists has spelled out some of the basic tenets of humanistic psychology in her encouraging and clear style. Those tenets, with some modifications, are presented below:

Person as a whole: The person as an integrated, unique and organised whole is the main subject of humanistic psychology. The humanistic psychologists emphasize upon understanding rather than explaining human behaviour. Maslow has pointed out that psychologists, for a considerable period, have concentrated only upon minute analysis of behaviour neglecting the study of whole person which, in fact, can yield more valuable information.

Emphasis upon entire life history: The humanistic psychology is concerned with collecting knowledge of a person's entire life history. For understanding the person as an integrated whole, it is essential that the entire life history of the person is taken into account. Thus Buhler intended to include the study of entire life cycle for complete understanding of the person. In emphasising upon such cycle he gave considerable importance to human existence and interaction. By intention he meant the experiences of the person regarding his identity.

Self-actualization as life goals: Humanistic psychology is not only concerned with satisfaction of biological needs and instincts but is also concerned with self-realisation or self-actualisation as the basic life goal. Maslow emphasized upon such goals to be highly motivating to humans.

Person's inner nature: As we know, Freud had considered man's nature as necessarily of evil character which, if left uncontrolled, would lead to destruction of others as well as to self. Contrary to this view of Freud, humanistic psychologists have pointed out man's nature as basically good. The evil and destructive force in a person arises from a bad environment rather than from anything rotten within a person.

De-emphasis on animal researches: Humanistic psychology has put de-emphasis upon animal researches. They have considered these animal researches as irrelevant because they ignore the basic characteristics of human beings such as ideals, values, art, humour etc. Maslow and his supports have pointed out that behaviourism had emphasized upon such animal researches too much. They further emphasized that behaviourism had 'dehumanized' the humans to nothing but simply a machine that consisted of chains of conditioned and unconditioned reflexes. Humanistic psychologists made distinction between human behaviour and animal behaviour and concentrated upon the former. For them, the study of animal behaviour gives no clue to understanding about the basic nature of human beings.

Creative potentiality: Humanistic psychologists have considered creativity as a common characteristic to human nature. Maslow (1970) is of view that creativity is potentially present in all individuals at birth. It becomes a universal human function that leads to different forms of self-expression. Prior to Maslow, Adler had also stressed the idea of creative self but it was Maslow who emphasized on it in a more scientific way.

Emphasis upon psychological health: Humanistic psychology criticized the orthodox Freudian psychoanalysis by branding it to be one-sided because it simply concentrated upon the abnormal part of human behaviour. Maslow has strongly emphasized that even the mental illness can't be properly understood without understanding the mental health of the people. If one studied only crippled immature persons, it will produce only a 'crippled' psychology. Therefore, he has strongly stressed the study of the self-actualizing and psychologically healthy individuals.

It is therefore clear that the humanistic psychology gives overall emphasis upon "fully functional human beings", "modes of living" and "goals in life".

The key features of humanistic school of thought are:

- Authenticity
- Phenomenology
- Self-actualisation
- Self-concept
- Hierarchy of needs

5.2.4Strengths and weaknesses of Humanism

The major strength of humanistic school of thought was that it shifted the focus of behaviour to the whole of a person rather than the unconscious mind and simple machine like object. It has various real life applications in therapy such as person centered therapy, motivation, depression, education, self-worth and making the human realise the true potential. Humanistic psychology values personal ideals and self-fulfilment and also provides genuine insight and more holistic information about human behaviour.

The major criticism that humanistic school of thought received was that it is unscientific because of the complete subjective nature of its concepts and also it completely ignored the biological influences on human behaviour. Also, the concepts of humanistic psychology were considered not to be universal as they were more biased towards Western culture.

5.3 Existentialism

5.3.1 Introduction to Existentialism

Existential psychology has rejected the mechanistic view of the Freudian psychology and instead tries to view people as engaged in definite search for meaning. It appears to promise the restoration of meaning to life and tends to bring spiritual awakening and growth that may bring freedom from the conventional shackles of the society (Bugental, 1965). The major tenets of the existential psychology may be outlined as under:

Existential psychology deals with person as such an individual who exists as a being-in-the-world.

The basic aim of the existential psychology is to understand a person in his total existential reality. It takes special interest in those problems which are unique to each individual. Thus it recognizes that every person has a unique personal life with various types of perceptions. It further emphasizes that a man is unique not only from inner or personal life but he is also unique from all other species. He is a special creature with some endowments not found in other animals.

Existential psychology is basically concerned with a person's consciousness, his moods, emotions, feelings, thinking as well as his various experiences as they are related to the existence in the environment of other people. It always aims at understanding human nature as a whole.

There are some common elements that have been emphasized by different existential psychologists. They are: human values, meaning of life, man-to-man relationship, suffering, anxiety, conflict, and death.

Existential psychology states that since a person has freedom to choose, he is also responsible for his own existence. What he is and he will be, is the sole responsibility of the person himself. Thus the existential psychologists have rejected any kind of external determinism.

The major concerns of the existential psychologists have been areas like personality, psychotherapy and counselling.

5.3.2 Major Contributions

Existential psychology is not a clear-cut system. It is such a movement that incorporates the viewpoints of several persons of which popular names are Adrian van Kaam, Ludwig Bins-Wanger, Medard Boss, and Rollo May. Before we consider their viewpoints separately, it is essential that the common thread that has kept different existential psychologists tied together should be examined. The common thread is their viewpoints regarding the subject-matter and methods of psychology.

According to the existential psychologists, psychology is concerned with the study of nature of consciousness and the subjective reality. They are opposed to the traditional experimental psychology where independent variables are manipulated and the organism is studied under maximum control condition. They considered the technique of experimental psychologists as push and pull technique where the organism is not allowed to exercise his freedom and choice and is treated like a robot. For existential psychologists, the scientific method of analysis is not experimental rather phenomenological that gives emphasis upon description of the experienced state of consciousness. Spiegel- berg (1960) pointed out that the phenomenological technique makes distinction between intuiting, analyzing and describing. Intuiting refers to intensive concentration on the phenomenon of one's consciousness. Analyzing refers to seeing the relationship among the various parts of consciousness. Describing refers to giving an account of consciousness in such a language that can be understood by others.

The major contributions to the development of existential psychology are as under:

Ludwig Binswanger

Binswanger was a Swiss exponent of existential psychology. He had also important influence upon American psychology. He got his basic training in medicine but applied his existential ideas to psychology. His important publication is Being-in-the world, selected papers by Ludwig Binswanger (1963). He has also written three important chapters that appeared in Rollo May's edited book, Existence (1958). Being-in-the world (Daesin) was considered to be the most important concept for existential psychology. Daesin means to be there: It means that as human beings a person has no existence apart from the world. In other words, there is no line which separates human beings and the objects in the world. It means there is oneness between persons and the objects in the world. Binswanger pointed out many modes of being-in- the world— singular mode, dual mode and plural mode.

A singular mode is one in which a man lives only to himself as we find in case of a lover. A dual mode is one which two people have mutual interactions as we find in case of love. A. plural mode is one in which person makes interactions with several people as we find in case of struggle, strife and any competitive effort. Apart from all these modes, a person also develops a world design which is nothing but a highly subjective and unique mode of being-in-the world. There are several mentally ill-people who somehow develop inadequate world design.

Being-in-the world consists of a threefold reality — physical, human environment and the person himself. Physical reality includes surroundings of the person himself. Binswanger was also aware of the fact that the person was not concerned with his present surroundings but he also intended to go beyond- the-world. That way he was aware with the viewpoints of earlier existential philosophers who had made distinction between authentic existence and unauthentic existence. The former included realization of one's future possibilities and the latter included restriction on realization of such possibilities due to environment. A person has always freedom to choose between these two kinds of existence.

Binswanger had deemphasized upon determinism, material ism as well as upon positivism. The significant implication of rejecting determinism or cause-effect relationship was that it regarded a person as, not the product of heredity, nor of the Being-in-the world consists of a threefold reality— physical, human, environment and the person himself. Physical reality includes surroundings of the person himself. Binswanger was also aware of the fact that the person was not concerned with his present surroundings but he also intended to go beyond- the-world. That way he was aware with the viewpoints of earlier existential philosophers who had made distinction between authentic existence and unauthentic existence. The former included realization of one's future possibilities and the latter included restriction on realization of such possibilities due to environment. A person has always freedom to choose between these two kinds of existence. Binswanger had deemphasized upon determinism, material ism as well as upon positivism. The significant implication of rejecting determinism or cause-effect relationship was that he regarded a person as neither the product of heredity, nor of the environmental influences. For him, a person was left with a complete freedom of choice and therefore, he was solely responsible for what he would do or would not do. AlthoughBinswanger rejected the heredity and environmental explanation for a person's existence; he stressed the concept of becoming or growth. He pointed out that an infant's mode of existence was different from an adult's mode of existence. Likewise, a neurotic's mode of existence was different from normal person's mode of existence. Why? This is because of the role of becoming or growth in human development. It means that the existence changes and there is always possibility for becoming something better. Those who refuse to become, remain fixed and static. Neurotic persons have such fixed or static mode. Binswanger's idea of becoming was later praised and shared by many existential psychologists.

Mcdard Boss

Boss was also a Swiss psychologist who received his degree in medicine. His important publications included Psychoanalysis and Daesin analysis (1963) and Existential Foundations of Medicine and Psychology (1977). Rather than talking about different modes of existence and about being-in-the world he prefers to emphasize upon the different characteristics inherent in human existence. He has called these characteristics as essentials. Some of these characteristics are as under:

1. *Spatiality*: It refers to the psychological closeness or distance that a person develops towards others.

2. *Temporality*: This refers to having a time or not having a time for doing a certain thing.

3. *Bodyhood*: It refers to not only human physical body but also extends to our relations with objects, events and persons of the world.

4. *Sharing*: It refers to sharing the feelings with other people of the world.

5. *Mood*: It indicates that the way we perceive the world depends upon our moods at that moment. This is also known as attunement.

Like other existential psychologists, Boss emphasized upon becoming. He pointed out that human existence was a constant process of becoming something new. A man is free to choose an authentic or an inauthentic life. Since a man has such freedom, he is also considered capable of changing and growing. Of course, there are people who refused to become or grow. However, they can change the direction of their lives towards realization of their basic potentialities. Boss also stressed that a man was aware of his death. Since death is inevitable, a person is aware of the termination of his life. This has also been the major concern of the existential psychologists. Boss was also interested in making analysis of dream. He rejected the symbolic analysis of dreams as made by Sigmund Freud. His notion was that dreams could be fully understood only by questioning the dreamer properly. There could be more than one meaning of dreams and they should not be regarded as disguises rather they tended to give a different expression of modes of living. In his analysis of 823 dreams during psychotherapy, Boss pointed out that there was a parallel between changes in the contents of dreams as well as in improvement in the waking existence of the patients. In fact, during psychotherapy the patient moved from inauthentic existence to a more dependable authentic existence.

Rollo May

May was born in Ada, Ohio in 1909. He obtained his Ph. D. degree from Columbia University. He was one of the American supporters of the existential psychology whose chief exponents (Binswanger and Boss) were in Europe. His important publications were: Man’s search for Himself

(1953) , Love and Will (1969) and Existential Psychology (1969). He is very close to his other colleagues in explaining the basic principles of the existential psychology. For example, like Binswanger, he emphasized upon the principle of Daesin or being-in-the world. According to him there are three important modes of existence: the physical and psychological modes, the social environment of the persons and the particular relationship with the inner nature. The notion of being-in-the world requires that the person must develop responsibility to choose his own freedom and must be accountable for his various activities done for fulfilment of being-in-the-world. May has also pointed out that a person has the realization of termination of his existence and this realization causes anxiety. If a person remains unable to fulfil his basic potentials, it produces guilt. Thus May recognized two important emotions of a person-anxiety and guilt. Despite giving emphasis upon these emotions, he also stressed on the positive side by recognizing a person's capacity to will. This includes a person's active desire to select the best of different possibilities and to plan for actualization of his potentials. On the positive side, he also considered love of human beings which has four major components: sex, eros (to get associated with others whom one considers significant), philia (concern for others' welfare) and agape (to a deep concern for affectionate relations to all).

5.3.3 Existential Neurosis

Since the existential psychologists like Binswanger, Boss and May were also concerned with giving therapy to the mentally ill-persons; they designated a new kind of neurosis called the existential neurosis. This term was first explained by Maddi (1967). Such neurosis has several symptoms. The patient shows withdrawal tendency and loss of self-identity. He lacks interest in his day-to-day activities. He fails to put faith in the truth. On affective side, he is bored and this boredom is accompanied by the occasional feelings of depression. On the whole, an existential neurotic finds no meaning in his life and he considers his life as dull and colourless. In general, existential neurosis results mainly from continued stress in life particularly at the time of social change.

Thus we find that existential psychology, on the whole, deals with the different aspects of the whole person and how he relates to those around him. It is also concerned with anxiety and conflict that results from human awareness regarding the termination of human existence and inability to choose between authentic existence and inauthentic existence.

5.3.4 Criticisms

The major points of criticisms were:-

1. Some critics have said that the existential psychology has brought psychology back to philosophical speculations and theological conjectures. It lacks objective methods and principles. In absence of such objectivity, it is difficult to accept the basic tenets of the existential psychology especially in modern days of experimental science. Critics stress that with recognition of existentialism, psychology has completed its cycle— from the complete subjectivism of the Middle age through experimental and objective psychology back to the subjective psychology.

2. Behaviourists and related experimental psychologists have frequently pointed out that the existential psychology is characterized by subjectivism, dualism and lack of objective referents. Moreover, its methodology also resembles the classical method of introspection. As such, it is difficult to accept the existential psychology as representative of scientific psychology.

3 In a bid to explain human nature and inner states existential psychology has used obscure and vague language. It has used vague terminology that does not give a clear picture to the reader's mind. Despite those criticisms, the existential psychology has contributed a lot and its concepts after a new challenge to the present day experimental psychology.

5.4 Comparison Between Existential and Humanistic psychology

As we know, both the existential psychology and the humanistic psychology are together called third force in psychology. The two psychologies are very similar to each other because they basically aim at explaining human nature by considering the whole organism. Following are the major points of similarities between the existential psychology and the humanistic psychology.

1 Both the existential psychology and the humanistic psycho logy emphasize upon the study of a person's inner structure, his experiences, images, feelings, cognitive abilities. Hence both emphasize upon subjectivism in psychology.

2. Both psychologies emphasize upon the common method, that is, phenomenological method in studying and analyzing the inner structure of the person.

3. Both psychologies emphasize upon "free will" of the person and consider each person as having complete freedom to choose his own style of life. It is this freedom that brings a sense of responsibility to own life in a creative way.

4. Both emphasize upon man's uniqueness and individuality. They consider that each person is different from other in approaching the objects and events of the world in his own unique way.

5. Both psychologies are concerned with treatment of mentally ill-persons. They believe that the personality disorganization arises when the person develops incongruence in the perception of several objects. Such incongruence in the long run tends to disrupt human psychological growth.

6. Both are movements in psychology and not systems of psychology.

Despite these similarities, there are some points of distinction between the existential psychology and the humanistic psycho logy.

Those major points of distinctions are as under:

1. The humanistic psychology emphasizes more upon study of different types of needs including the need for self- actualization. The existential psychology, on the other hand, emphasizes more upon the study of being — in the world for studying human nature.

2. Humanistic psychology is more optimistic in explanation of human nature and his potentialities. It gives much emphasis upon the potentials for good in human beings. The existential psychology points a pessimistic picture in explaining human nature because in making such explanation it stresses upon fear, anxieties, sorrow, etc., which it considers a natural part of human existence. Thus the explanation of humanistic psychology is more similar to the explanation of Freudian explanation that was very pessimistic about human nature.

3. Two psychologies differ basically with respect to the interpretation of motivation. Humanistic psychology has emphasized more upon the process of self-actualization or self-fulfilment whereas existential psychology has emphasized more upon the spiritual motives or spiritual mission in our lives. It emphasizes that it is this spiritual mission that gives person his freedom, responsibility, dignity and superiority in his life.

Thus we find that the existential psychology, despite some similarities, is a slightly different movement from the humanistic movement.

5.5 Summary

Gestaltpsychology isaGermanschool foundedby Max Wertheimerandsubsequently expandedby hiscolleagues,namely,Wolfgang Kohlerand KurtKoffka.Theimportant developersofthisschoolwereKurtLewin,R.H.Wheeler,E.BrunswikandRoger Barker. Likeothersystem,theGestaltpsychology hadstrong antecedent forces thatwere instrumentalin itsemergence.Wertheimer'sstudy onthephi-phenomenonwashighly impressiveandimportantforthisschool. Among theimportantcontributions thathavebeenincludedare theemphasisofGestaltpsychology uponpart-whole psychology,principlesoforganization, field dynamics,phi-phenomenaandisomorphism. Apartfrom itscontribution inthefieldofperceptionGestaltpsychologyhasalsomade significant impact in the field of learning,thinking andmemory. Existential psychology, like humanistic psychology, has been included within third force in psychology. It developed in Europe but gradually spread to America. It mainly deals with the person as such an individual who exists as a being-in-the world. It basically aims at understanding of person in his total existential reality.Both the existential psychology and the humanistic psychology have some points of similarities and distinctions.

5.6 Keywords

Humanism, growth, self-actualisation, Consciousness, human experience, existence, meaning of life

5.7 Review Questions

1. Discuss the major contributions of Gestalt psychology in the field of perception.
2. "Gestalt psychologists were the forerunners for cognitive psychology." Discuss.
3. Discuss major antecedent forces that led to the growth of humanistic psychology.
4. Discuss the contributions of Ludwig Binswanger and Medard Boss as existential psychologists.

5. Present a comparative study of the existential psychology and the humanistic psychology.

5.8 Self-assessment Questions

1- Abraham Maslow is known for Humanistic Psychology (T/F)

2- Of the following, who is associated with the Gestalt school of psychology?

a) Ivan Pavlov
b) B. F. Skinner
c) J.B Watson
d) Max Wertheimer

3- Which of the following psychological theories is known as the one that emphasizes 'free will'?

a) psychodynamic psychology
b) behaviorism
c) humanistic psychology
d) Neo-Freudian psychology

4- Among the antecedents of Gestalt psychology were J.S. Mill, James, Dewey, and Ehrenfels. (T/ F)

5- The law of Pragnanzstates that figure is the focus of consciousness, andground is the field. (T/F)

6- Phi phenomenon is related to:

a) motion
b) Gestalt Psychology
c) Max Wertheimer
d) All of the above

7- According to Gestalt psychology, qualities of wholes determine the qualities of parts. (T/F)

8- According to the Gestalt theorists, the nature of things that are connected affects their connection.

9- Gestalt theorists argued that "and-connections"; are basically field processes.

10- Specialists and philosophers deals with existentialism (T/F)

11- The concept of free will, is largely discussed in

a) Gestalt Psychology
b) Humanistic psychology
c) Existential psychology
d) All of the above

12- Non directive counselling is given by humanistic psychology

13- _____focuses on more positivity among individuals than psychoanalysis

14- Client centred therapy is given by:

a) Abraham Maslow
b) Carl Rogers
c) Max Wertheimer
d) Kurt Koffka

15- McDard Boss introduced:

a) Daesin analysis
b) Existential neurosis
c) Being-in-the-world concept
d) None of the above

5.9 Suggested Readings

Theories and systems of Psychology by Robert W Lundin by Wadsworth Publishing

The Comprehensive History of Psychology by Arun Kumar Singh published by MotilalBanarasidass Publishers

Psychology by Robert Baron published by Pearson Education India

History and schools of Psychology by Ram Nath Sharma and Rachna Sharma published by Atlantic Publishers

Introduction to Psychology by Clifford T. Morgan and Richard King published by McGraw Hill Education

https://en.wikipedia.org/wiki/Systems_psychology#:~:text=Systems%20psychology%20is%20a%20branch,Bateson%2C%20Humberto%20Maturana%20and%20others.

https://courses.lumenlearning.com/waymaker-psychology/chapter/reading-structuralism-and-functionalism/

https://socialsci.libretexts.org/Bookshelves/Psychology/Book%3A_Cognitive_Psychology_(Andrade_and_Walker)/01%3A_History_of_Cognitive_Psychology/1.04%3A_Early_Psychology_-_Structuralism_and_Functionalism

https://www.verywellmind.com/behavioral-psychology-4157183

https://plato.stanford.edu/entries/behaviorism/

Unit 6: Schools of Thought-III

Contents

Objectives

After reading this unit, you will be able to:

- Understand the theoretical principles of psychoanalytic theory
- Learn about the origin of free association
- Explain the components of mind
- Apply the psychoanalytic principles to personality
- Explain the treatment principles and techniques

Introduction

Psychoanalysis comes from the Greek word meaning soul and analysis meaning investigate. Psychoanalysis is a set of theories and techniques given by Sigmund Freud which are used to study the unconscious mind. The field of psychoanalysis was established in the early 1890s by Austrian neurologist Sigmund Freud. Psychoanalysis is known for its controversial status and its validity as a science is always in question. The school of psychoanalysis was developed in very different circumstances than the other schools. This school was developed by Freud in non-academic settings and he has his personal interests in developing the theories. His theories not only impacted psychology but also other fields such as literature, sociology, art and drama, anthropology etc. despite of the controversial status, it still has a very significant influence in psychiatry and treatment of mental disorders. So much so that psychotherapy is synonymous to psychoanalysis because of the famous couch of Sigmund Freud.

6.1 Brief Life-Sketch of Sigmund Freud

Sigismund (later changed to Sigmund) was born on 6th May,1856 in Frieburg, Austria. Freud's father was a poor merchant and family shifted to Leipzig when Freud was very young and then later settled in Vienna where Freud got most of his education. Sigmund Freud was Jewish and because of the anti-Semitism, he could study either law or medicine, out of which he chose medicine.

He started studying medicine in the year 1873 and graduated in 1881 with neurology as his major interest. After his degree, he started working in the Vienna General Hospital and published numerous papers on anatomy and neurology. Then he collaborated with Josef Breuer and worked with him on Hysteria and its treatment using hypnosis. In 1895, Freud and Breuer published an a very famous paper *Studies in Hysteria*. This year marked the beginning of psychoanalysis.

The paper consisted of the very famous case of hysteria of a woman named Bertha Pappenheim who was referred to as Anna O in the paper. This case was the starting point for Sigmund Freud to get himself indulged in the development of therapy for patients with hysteria and this is how he developed Psychoanalysis. Although he used hypnosis as a treatment method but slowly he left that method for a new technique developed by him which he called free association. In the year 1885, Freud went to Paris and studied under neurologist Jean Charcot and then he returned to Vienna to set up a private practice. He also got married the same year to Martha Bernays and had six children with her.

He deeply analysed all his patients and gave a theory which said that humans have an unconscious which contains aggressive and sexual impulses. These impulses are in a constant conflict for supremacy leading to development of various defences. In the year 1900, he published his first book named "Interpretation of Dreams" in which his extensive analysis of dreams (from patients and his own) was given in terms of the unconscious and the aggressive and sexual impulses and experiences.

He held the position of Professor of Neuropathology in University of Vienna from 1902 to 1938. His theories about unconscious and sexual impulses were rejected by a lot of people but also he had a lot of followers. In the year 1910, Freud and Carl Jung (associate of Freud) founded the International Psychoanalytic Association and it had many members.

Due to the hate against the Jews, the Nazis annexed Austria and publicly burnt a lot of books of Sigmund Freud. Freud left Vienna and moved to London with his family. He was diagnosed with cancer of jaw and had over 30 surgeries. In the end, he died of cancer on 23rd September, 1939.

6.2 History of Psychoanalysis

Psychoanalysis term was used by Sigmund Freud first in year 1896 and formed his own school of thought. Sigmund Freud was a neurologist who wanted to find an effective treatment for patients with hysterical symptoms and while dealing with a lot of patients with aphasia or hysterical symptoms, he realised that there are a lot of things that did not have any organic cause.

Freud's presentation of 1895 on the 'Studies of Hysteria' co-authored by his mentor Josef Breuer is said to be the birth of psychoanalysis. Freud believed that the roots of all hysterical symptoms are repressed desires and repressed memories. He also believed that the symptoms always have direct or indirect sexual associations.

According to Freud, psychoanalysis is a psychological method that is meant to understand and cure mental illnesses; the illnesses which do not have any organic cause. He had a very clear idea how the human mind actually works. He had some major principles on which his work is based. He talked about unconscious mind, psychosexual stages of development, dreams, the energies that we have and gave various models of mind which will be described later in the chapter.

6.3 Basic tenets of Psychoanalysis

The basic assumptions or fundamentals of psychoanalysis include:

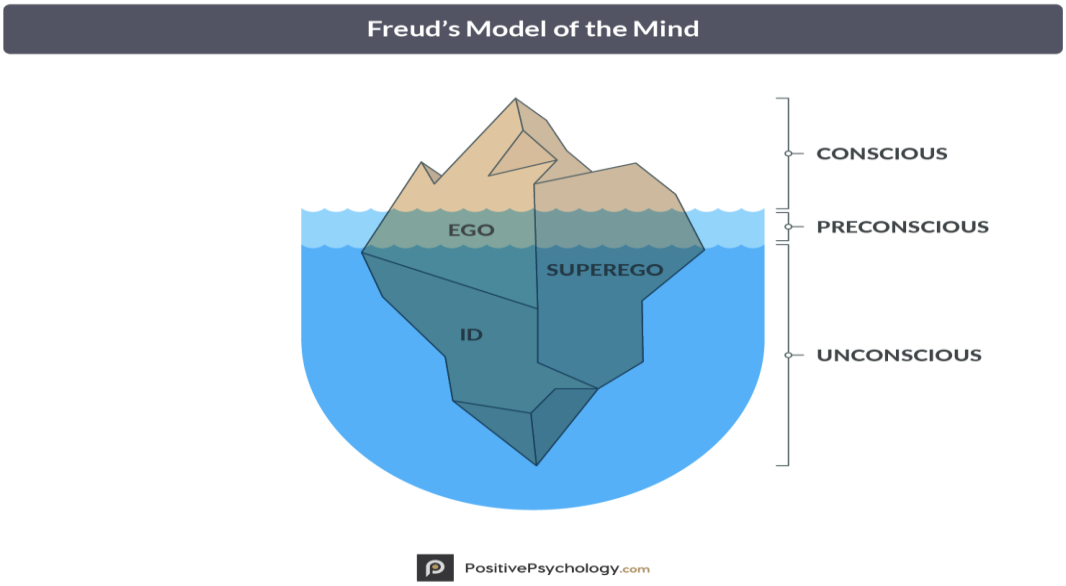
- The development of a human being is not determined by the inherited traits alone but also determined by the past experiences which are often forgotten events of early childhood.
- The behaviour and cognition are majorly influenced by the instincts and drives that are rooted in the unconscious mind.
- Due to the great influence of instinctual drives and childhood experiences, psychological problems are rooted in the unconscious mind.
- Unravelling the unconscious mind and bringing the memories/ drives to awareness leads to resistance and the person defends using defense mechanisms.
- Conflicts between unconscious and conscious mind results in the mental health problems.

Thus it is evident that the unconscious mind and the early childhood experiences are given a lot of importance in Psychoanalysis.

6.4 Contributions of Freud

The Iceberg Model of mind

In 1900s Freud gave the mind model and described it beautifully. He used an iceberg as a metaphor to depict mind. He was opinion that just like we are only able to see the tip of the iceberg which is a very small portion of the iceberg and rest of it is not readily seen, similarly consciousness is something which is on the surface and there is a lot more to mind which is not in our conscious awareness.



On the surface is the conscious mind and Freud described that conscious mind consists of all the mental processes which we are aware of and that is the tip of the iceberg.

Below the conscious mind, there is preconscious mind which contains the thoughts and feelings that a person is not currently aware of but can easily bring into our awareness with ease.

Unconscious mind comprises mental processes that are not accessible to our conscious mind but influences our decision making, feelings, judgements, behaviour and also shapes our personality. Freud believed that the unconscious mind is the primary source of human personality and human behaviour and the most important part of human mind is the part which you cannot see and which is the unconscious mind (Freud, 1915).

The feelings, motives and decisions are very powerfully influenced by our past experiences which are stored in the unconscious.

This model of mind was used by Freud to establish his structure of the psyche.

The Psyche

The most persistent theory of Sigmund Freud is probably his theory of human psyche (personality). He gave the idea that psyche has more than one aspect (Freud, 1923).

The Human psyche is divided into three parts: the id, the ego and the superego.

Id: this is the first and present at the birth as a part of the psyche. It contains all genetic mechanisms of personality at birth. Id always operates on pleasure principles. It means id always wants immediate gratification without having any concerned about the consequences.

Freud talked about 2 instincts- Life and death instinct on the basis of Darwin's theory and on the baisi of world war. First is life instinct or Eros; the life instinct drives us to engage in acts which helps in life sustaining, and other is death instinct or thanatos; the death instinct is our dark side of humans such as competition, aggression, violence etc.

Ego: the ego develops to mediate between the instinctive nature of the id and the external world that we live in. the ego works on the reality principle and tries to maintain balance between id and the acceptable way of fulfilling all the id's desires and demands. The ego works on the basis of reason and social realities, the norms and etiquettes. The ego uses secondary process thinking and oriented towards problem solving. If the ego is not able to use reality principles, an individual usually experiences anxiety and to ward off the unpleasant feelings of anxiety the ego uses unconscious defense mechanisms.

Superego: This is that portion of the mind which operates on moral principles. Like good and bad, right and wrong tough to a kid. The superego controls the id's impulses and also tries to direct the function of ego towards morality rather than simply reality. The superego strives for perfection and tries to make id and superego comply with the same. The superego has conscience and the ideal self and it encourages us to function in the society is moral ways.

The theory of instincts

Freud was of the opinion that human beings are energy systems. He talked majorly about two energies, namely, the *physiological energy* and the *psychic energy*. The physiological energy is derived from the food we eat and utilised in the major bodily functions like breathing, walking, talking etc. whereas the psychic energy is derived from the neurophysiological excitation and is utilised in mental processes like thinking. According to him, both these energies can be transformed into one another and id is the mediating point between these two energies. He said that the psychic energy is limited in human beings and it is increased when we try to reduce the bodily excitations that are produced due to various needs. And the mental representation of these needs induced bodily excitations is known as *instinct*. So basically, instinct is a wish (mental representation) for fulfilling the need of the body.

Thirst is an instinct produced by the water deficit in the body which is mentally represented to us as our wish of drinking water.

In short, instinct drives us constantly, is a part of id but comes to be under the ego control. After defining instinct, Freud went on to distinguish two categories of instincts- *the life instinct* and *the death instinct*.

The life instinct or eros as he named it deals with the basic survival of the human being, pleasure as well as procreation. Eros is essential to sustain life and continue the species. Thirst, hunger, avoiding pain, procreating all are life instincts which help us survive and also are known to be the constructive force for human life. Out of all the life instincts, Freud majorly focussed on *libido* (the sex instinct) which he said is the energy created by life instincts. His major theories of development are based on libido.

The death instinct or thanatos as he called it is known to be the destructive force of human life. He said that "the goal of all life is death" and believed that the death instincts are channelled outwards by the human beings. The human manifestations of murder, suicide, aggression, cruelty etc. are all underlined the thanatos.

According to him eros and thanatos are constantly at loggerheads with each other. As people hold an unconscious desire to die but the eros almost always overpowers the thanatos. Eros will make you look forward towards life seek quality relationships and maintain social support all of which are essential for emotional health. Thanatos leads us to engage in activities that are harmful like getting involved in life threatening sports or games, showing aggression etc. So a maintaining balance between eros and thanatos is what human psyche does.

Psychosexual stages of Development

One of the most debated work of Freud is his psychosexual stages of development plus his concept of libido (sexual energy). He believed that children are born with libido and there are stages in the child's development during which he tries to seek pleasure from different-different 'objects'.

Freud went on to say that the successful resolve of the conflict at each stage will result in the formation of a psychologically healthy individual; whereas if any of the issue is not resolved successfully, the person becomes "fixated' at that stage which can result in mental abnormality.

This theory reinforces the basic idea behind psychoanalysis that the individual's personality is shaped up by the early childhood experiences. The 5 stages are described as under:

1. Oral stage: The oral stage starts from birth and goes till 18 months. In this stage the main source or the main erogenous zone is the mouth. Rooting reflex, sucking reflex are important for child's development. The child derives pleasure through mouth (oral stimulation) by sucking, eating, biting etc. and placing everything they find into their mouth. This is the stage when the child is completely dependent on the caregivers for feeding etc. and the child also develops comfort through oral stimulation. The child's functioning is completely based out of pleasure principle which means that id dominates. The ego and superego are still not fully developed at this stage of life. The successful completion of this makes the child gradually become less dependent on the caregivers and also develop a sense of trust. A child who gets fixated at this stage has issues with dependency. They can be too dependent, pessimistic and argumentative and may indulge in drinking behavior, over-eating, chain smoking, nail-biting, biting on pencil, chewing gum excessively.
2. Anal stage: The anal stage ranges from 18 months to three years and main erogenous zone is bowel and bladder control so the anal region is the main part. The main focus of the libido in this stage is on controlling the bladder and bowel movements and the major part during this stage is to get toilet trained. in this stage there is a conflict between id (instant gratification) and ego (delayed gratification). The type of parenting style and the way the parents toilet train their children have an effect on the resolution of the id-ego conflict of this stage. The successful completion of this stage leads to competent, productive and creative adults. Whereas fixation in this stage again depends on parents. If the parents are too strict for the toilet training it leads to the development of anal-retentive personality and person becomes stringent, orderly, very rigid and obsessive too. And if the parent is too lenient for toilet training it leads to the development of anal-expulsive personality which means the individual will be messy, self-indulgent, weak sense of self, destructive and wasteful.
3. Phallic stage: The phallic stage ranges from 3-6 years of age and the main erogenous zone is the genital region. In this stage the child starts identifying their gender and discovers the differences of males and females body. Freud said that the little boys start feeling jealous of their father's for mother's affection known as Oedipus complex and a similar set of feeling is termed as Electra complex in females. Oedipus complex is the complex feeling in boys to possess the mother and replace the father along with having a fear that they will get punishment by their father for having such feelings. This kind of fear was named as castration anxiety. Similarly, Electra complex is a complex feeling in girls to possess the father and replace the mother. But unlike boys girls suffer from penis envy. Eventually by the end of this stage the child boy/girl starts to identify with the similar gender parent and learn the mannerisms of the gender from them.
4. Latent period: This period ranges from 6 years till puberty. The sexual desires are suppressed and in this period child learns interactions, value of relationships, develop social skills and values. The development of super ego occurs and the sexual energies are present but directed towards other intellectual areas such as development of social skills and other effective communication skills, self-concept, build self-confidence etc.
5. Genital stage: This stage starts at puberty and in this stage the sexual energies resurface. In this last stage of development, individuals start having strong sexual feelings towards the opposite gender. Apart from individual needs, interest in social welfare and other activities also grow in this stage. By this stage, the ego and super ego are well developed

and this stage is to maintain healthy balance in various areas of life. Teenagers in this stage are most likely able to control their urges and function according to the social norms and the demands of reality.

The Defence Mechanisms

Sigmund Freud gave a theory of defence mechanisms in which he says that in order to solve mental conflicts which arise due to id and super ego and also to prevent anxiety and maintain one's self-esteem in their own eyes; human beings make use of various mental processes known as defense mechanisms. These defense mechanisms are usually unconscious in nature and it usually conceals the hidden drives or urges from oneself. The major defense mechanisms are:

1. **Denial**: Denial is a concept we as humans are fairly familiar with. It's the act of rejecting a self-concept or notion that we in fact know is true, but that is not ideal and sometimes too unbearable to accept.


when there is death in family and members/member is denying to accept it.

2. **Displacement**: In this defense mechanism, person target the less threatening object/person but not the original source.


When rebuked by boos, husband start arguments with wife when comes back home or slapped kid for making noise at home/or kick the wall or pet.

3. **Projection**: This is to project your feelings or emotions to others.


If anyone is having a habit of cheating n exams will say that whole students in the class are cheaters. OR if husband is having an extra-marital affair will be suspicious that the wife is having an affair outside.

4. **Reaction Formation**: just doing or shoeing the opposite emotions


If we dislike someone, but one their face we become so happy to see that person but inside we hate it to be with them.

5. **Rationalization**: Rationalization is giving acceptable excuses for undesirable behavior.


When fail in exam we start rationalizing that exam was out of syllabus, health was not well, marking was very strict etc.

6. **Regression**: Going back to the early stage of development where there were no responsibilities but a very comfort zone.


When sometimes there is a responsibility to be taken and a person starts behaving or talking like a kid, that means this is regression

7. **Repression**: this is unconscious repressing emotions which are disturbing


For example, forgetting the foot injury it was on right or left foot after the full recovery.

8. **Sublimation**: presenting unacceptable desires and wishes in an acceptable way to society.

Person who is having high sexual desire will become a painter and start painting nude pictures. Because this is acceptable in society.

6.5 Criticism of the work of Sigmund Freud

1. He gave more emphasize to sexual desires.
2. He gave more importance to unconscious mind
3. His theory is not that assessable.
4. He focused only till adult age and negated the others life stages.
5. He focused more on past rather than present and future.

6.6 Summary

1. Sigmund Frued was a pioneer in the origin of healing and therapy for people with mental health disorders.
2. He gave us theories which are major breakthroughs in the field of psychotherapy.
3. The theories of id, ego and superego and components of mind are accepted and even taken forward by a lot of other psychologists.
4. The concept of psychosexual stages of development are equally criticised and accepted, but despite the criticism the stages of development give us a lot of insight into a child's personality development.
5. The defense mechanisms are majorly studied and carried forward by Anna Freud.
6. Sigmund Freud is someone whose theories are not completely scientific in nature, but still can't be ignored.

6.7 Self-Assessment Questions

1. As per psychoanalytic school main cause of behaviour is remained in

a. Conscious mind
b. Preconscious mind
c. Unconscious mind
d. Subconscious mind

2 . Facts which are not in conscious but are available for possible use in the future, stated to be in the

a. Subconscious mind
b. Conscious mind
c. Preconscious mind
d. Unconscious mind

3.Who is considered as the father of Psychoanalysis?

a) Jung

b) Adler

c) Freud

d) Wundt

4. After getting poor marks, the student is blaming teacher for his failure is the example of?

a) projection

b) sublimation

c) displacement

d) rationalization

5. Which of the following is the last stage of psychosexual of development by Freud??

a) oral

b) genital

c) anal

d) phallic

6.In which of the following stages the sexual desires become dormant?

a) oral

b) anal

c) latency

d) phallic

7. What is the another name of death instinct?

a) eros

b) aggression

c) thanatos

d) libido

8.Going back to early life stage is which of the following defense mechanisms?

a) displacement

b) projection

c) regression

d) sublimation

9. _____ metaphor was used to explain the levels of consciousness?

a) Iceberg

b) Greenland

c) Everest

d) Ocean

10. _____ operates on reality principles.

a) ego

b) super ego

c) id

d) consciousness

11.Freud divided conscious levels into how many parts?

a) 5

b) 4

c) 3

d) 2

12.We use _____ to minimize the anxiety level.

a) fixation

b) defense mechanisms

c) levels of consciousness

d) ego

13._____ According to Freud, tells us about what is good and what is bad.

a) ID

b) Ego

c) Superego

d) Libido

14. Infants are born with Id and live their lives on

a) Reality principle
b) Pleasure principle
c) Avoidance principle
d) Moral principle Lesion is?

15. Infants are born with Id and live their lives on

a) Reality principle
b) Pleasure principle
c) Avoidance principle
d) Moral principle

Answer Key

1C. 2A. 3C. 4D. 5B. 6C. 7C. 8C. 9A. 10A. 11C. 12B. 13C. 14B. 15D.

6.8 Review Questions

Discuss the fixation at each psychosexual stages of development.

What are defense mechanisms?

Explain the thyes of personality by Freud with an example.

Discuss the limitations of Freud's theory of Personality.

6.9 Further Readings

Singh, A. K. (1991). *The comprehensive history of psychology*. Motilal Banarsidass Publ..

Robert A. Baron (2008) Introduction to Psychology. Pearson Higher education.

Morgan, C. T., King, R. A., Weisz, J. R., & Schopler, J. (2006). Introduction to Psychology, 7th eds.

Unit 7: Neo-Freudians

Content

Objectives

After reading this unit, you will be able to:

1. Learn the proceeding in the field of psychology after Sigmund Freud.
2. Understand the reason for deviance of Freud's followers.
3. Know about the contribution of Jung and Adler.

Introduction

Psychoanalysis as developed by Sigmund Freud attracted many persons who became associated with him but later broke with him to establish their own thoughts and ideas. Alfred Adler, Carl Jung, Otto Rank, and SandorFerenczi were four such rebels. Apart from these rebels, there were psychologists who were not directly associated with Freud's psychoanalysis but tried to improve upon it by giving emphasis upon social and cultural factors. They are called Neo-Freudians. Karen Homey, Erich Fromm, Harry Stack Sullivan, and Erik Erikson are the popular neo-Freudians. Adler's contributions are associated with organ inferiority and compensation, striving for success or superiority, social interest, style of life, creative power, fictional finalism, and birth order. Difference between Adler and Freud has also been emphasized. Jung's analytical psychology mainly stresses upon conscious and unconcious attitudes and functions, psychic energy and personality development. Attempt has been made to distinguish between Freud and Jung.

Neo-Freudians like Homey, Fromm, Sullivan and Erikson have emphasized upon social and cultural forces that were outright rejected by Freud. Homey 's concepts like basic anxiety, neurotic needs and neurotic trends, defence mechanism, have been very popular ones. Fromm 's emphasis upon methods of escape, basic needs, personality types has also earned him much popularity. Sullivan has formulated developmental stages of personality and has also emphasized upon various modes of cognition like prototaxic, parataxic and syntaxic modes. Erikson is well-known for his developmental outlook to personality and his eight stages of development are definitely an improvement over Freudian five stages of psychosexual development. A comparative outlook between Freud and Erikson has also been presented. Finally, Erikson's system has also been criticized.

7.1 Alfred Adler

7.1.1 Life Sketch:

Alfred Adler (1870-1937) was the second of parents' six children. His father, Leopold, was a wealthy merchant. Adler was also a Jew and as a child he was weak and frail. He had also suffered rickets. At the age of five, he developed pneumonia and came very nearer to death. Adler's younger brother had died a year earlier. All these bitter childhood experiences specially related to health forced him to take a decision to be a doctor. Accordingly, he entered the University of Vienna from where he received his medical degree in 1895. He took his specialization in ophthalmology but later changed to medical practice and ultimately to psychiatry. In 1902 Freud invited Adler to join him in formation of organization that became popular as the Vienna Psychoanalytical Society. This was the starting point of association of Adler to Freud. Adler was not a disciple of Freud nor did he consider himself as a psychoanalyst (Feist, 1985). However, he was much influenced by Freud's work. For the next several years Adler remain the charter member of the Vienna Psychoanalytic Society and became its president in 1910. However, he was not ready to accept Freud's heavy emphasis on sex in explanation of neurosis. Gradually, theoretical and personal differences between the two Viennese physicians (Adler and Freud) grew and in 1911 he resigned from his post of presidentship and left Freudian circle along with six other followers to form Society for Free Psycho analysis. A year later its name was changed as Society for Individual Psychology (Ellenberger, 1970). The term individual here does not connotate individualism or self-centredness but it means that each person is unique and indivisible because of his unique style of life that gives unity (or indivisibility) to all behaviours. Gradually Adler became popular and started taking interest in child psychology and participated actively in child guidance clinic and the public schools. After several visits to United States, he finally decided to settle in this country in 1935. He settled in New York City where he became professor of medical psychology. He lectured widely in the United States and abroad. In 1937 he died pro bably of heart attack while on a lecture tour in Aberdeen, Scot land.

7.1.2 Adler'sPsychology

Adler's psychology had many distinguishing features. First, it was like a common sense psychology that could be easily applied or understood. Second, his psychology was more optimistic. He always took a realistic attitude in explaining human personality. The entire psychology of Adler can be presented under the following seven headings :

1. Organ Inferiority and Compensation

In 1907 Adler published one of his most important papers. The Study of Organ Inferiority and its Psychical Compensations. In this paper Adler tried to explain that people having some kind of organ inferiority such as poor vision, poor hearing, etc. try to compensate for it by developing excellence in other fields. However, the important thing is that what type of attitude the person has developed toward the self. He may try to compen sate the loss or he may keep himself satisfied by having only defensive measures. In 1910 he extended his concept of inferiority and reported that inferiority feelings are innate and therefore, universal in nature. Such feeling is created in children due to being helpless and having weak structures. It is this feeling of inferiority that gives birth to the striving for superiority and that gives us 'upward drive' from 'below to above'. Thus it is the feeling of inferiority and not the defective organ that motivates us for maturing proper compensation. Adler has cited several cases of such compensation from history. For example, Demos thenes who was a structure became a famous orator and Cunningham, with severely injured legs became a good runner. From Indian personalities example may be given of Surdas who was blind but became a good poet. Related to the concept of inferiority and compensations is the concept of masculine protest. By masculine protest he meant a striving to be strong and powerful as a compensation for feeling of being inferior and unmanly. To be masculine means to be superior and to be feminine means to be inferior. Later on, Adler replaced the concept of masculine protest by striving for superiority and the term masculine protest was kept reserved for only a restrictive use.

It now referred to the protest woman expressed against their feminine role (Ansbacher and Ansbacher, 1956). Women, being weaker than men, wish for qualities and privileges regarded in our society as important and dominant such as strength, courage, sexual freedom, etc. As a consequence, they prefer to be lawyers, business executives, car drivers — roles usually played by men. Sometimes such women don't marry or don't want to have any children. This use of masculine protest is similar to the Freudian concept of penis envy. Modern women's lib

movement in which women are striving for greater equality is nothing but the expression of masculine protest.

2. Striving for success or superiority

In 1908 Adler pointed out that aggression was the dynamic power behind all motivation. That way, he antedated Freud in postulating aggressive drive. Soon after, he changed the name of this drive and called it masculine protest. By 1912, he replaced the concept of masculine protest with the concept of striving for superiority because he thought that masculine pro test did not explain human motivation in a satisfactory way. Later in Adler's writings this term was modified as striving for success or perfection. It refers to the basic urge to move towards getting perfection. This has many features as under:

(i) The striving for success is innate and remains present at birth. Therefore, it precedes the feelings of inferiority rather than springs from them.

(ii) Although the striving for success is innate and remains present at birth, it must be developed because at birth it exists in form of potentialities and not in form of actuality. It, therefore, continues throughout life.

(iii) The striving for success is not a confluence of motives rather is a single motive that shapes the other drives.

(iv) The striving for superiority is an universal drive found in both normal as well as neurotic individuals. However, the path adopted by these two types of people in arriving at goal differs. The neurotic persons adopt the path of exaggerated personal superiority whereas the mentally healthy people adopt the path of social interest or perfection for everyone.

3. Social Interest

The notions of social interest and striving for success are closely related. According to Adler, it is the social interest that motivates the person to strive for success in healthy way. When this lacks person's functioning becomes maladaptive. What is, after all, meant by the concept of social interest? Adler's original term is a German word Gemeinshaftsgefuhl from which social interest is an approximate translation. Social interest may be defined as an attitude of caring and concern for humanity in general as well as showing empathy for others. It guides human behaviour throughout the life. Like striving for success, social interest is inborn no doubt but it also needs to be developed because at birth it remains present at potentiality in everyone. There are people who never develop social interest and among them, exaggerated personal superiority dominates. Neurotics drunkards, criminals, sex perverts, prostitutes are some of the examples who lack social interest.

4. Style of Life

Adler claimed that the social interest of a person develops in accord with the person's style of life. By style of life is meant a person's unique way of arriving at a particular goal as well as his self-concept, feelings towards others and attitude towards world. It is the product of several forces like heredity, environment, social interest, goal of success, etc. Adler considered style of life as one major governing force and in that sense; it is equivalent to Freudian concept of ego. However, style of life includes no forces like id and superego. It always refers to the whole personality plus the unique attitude that makes a person unique. Style of life is formed and established by the age of four or five and person's major actions revolve round that. Ordinarily, style of life does not change but it may change if the person clearly recognizes the errors or faults and deliberately change the direction (Ansbacher and Ansbacher, 1956). Adler proposed four general life style attitudes — the ruling type the getting type, the avoiding type and the socially useful type. The ruling type of people has dominating attitude towards others and has little social interest. The getting type of persons is interested in getting as many as possible from others. Such person is too much dependent upon others. Under extreme stressful situation, he may become neurotic. Such person has little social interest and contributes little to society. The avoiding type of person is characterized by having attitude of general avoidance and withdrawal that is accompanied by little social interest. The getting type of persons is interested in getting as many as possible from others. Such person is too much dependent upon others. Under extreme stressful situation, he may become neurotic. Such person has little social interest and contributes little to society. The avoiding type of person is characterized by having attitude of general avoidance and withdrawal that is accompanied by little social interest. The socially useful type of person is one that does behaviour which is useful to society. Such person is active and has high social interest. He rightly recognizes three basic social problems, namely, neighbourly love, sexual love and occupation behaviour easily comprehensible. In reaching the final goal, we make many preliminary goals. These subgoals are

often conscious but the connection between these goals and final goal remains in unconscious. Through fictional final goal, Adler has expressed his stand on teleology, that is, the fact that our future strivings tend to shape our present behaviour.

7. Birth Order

Adler is well-known for his viewpoints regarding impact of a child's birth order on the development of personality. He studied four types of birth order — the first-born, the second- born, the last-born and the lone child. The first-born child gets undivided attention and care from parents and then experiences a traumatic experiences of dethronement when a new baby is born. This creates a feeling of hostility and resentment in the first born child towards younger brother or sister. This child has also overprotective tendencies and high anxiety. The second- born child starts his life in a better situation. Such child is highly competitive, cooperative and has wider social interest. His style of life constantly tries to prove that he is better than his older siblings. Thus the second-born child is achievement oriented. It is also a matter of interest here that Adler was himself second-born. The position of the last-born is unique and he has a great risk of being a problem child. He has strong feelings of inferiority and lacks independence. However, he is highly motivated to surpass the older siblings. Hence, he is also achievement oriented and competition minded. The only child has no siblings to compete and hence, he has to compete with his parents. This child has an inflated self-concept and exaggerated sense of superiority. Such child is too dependent upon others and lacks the feeling of cooperation and social interest. Thus, Adler's psychology, on the whole, was more optimistic and realistic and recognized the impact of social forces in shaping human behaviour.

7.2 Carl Jung

7.2.1 Life Sketch:

Carl Jung (1875-1961) was born in a small village in Switzerland. His mother's family had long tradition of spiritualism and mysticism. His father was a believer in the occult and often reported to have some talk with dead including his first wife. Due to such family background, it seems natural that Jung had developed interest in spiritualism and in occult. As a child, Jung was very emotional as well as sensitive one. He was deeply attached with both his parents. He was a Chris tian but was not a church-goer. Jung's initial choice was archaeology but later on he shifted to medicine. He completed his medical degree from Basel University in 1900. He joined Burgholtzli Mental Hospital in Zurich as a psychiatric assistant. The director of this hospital was EugenBleuler, a Swiss psychiatrist and authority on Schizophrenia. During 1902-3 he had also chance to study for six months in Paris under Pierre Janet, a successor to Charcot. After returning from Paris to Switzerland, he got married with Emma Rauschenbach, a young Swiss woman. Two years later he started teaching at the University of Zurich and also kept himself associated with duties at mental hospital. Under the directorship of Bleuler at the mental hospital, he began to study word association and also started writings on Schizophrenia. It was through this writings that he made contact with Sigmund Freud. In 1909 he resigned from his post of psychiatric assistant at Burgholtzli because of some differences with Bleuler.

Freud's famous book Interpretation of Dreams was published in 1900. Like Adler, he was deeply influenced by this book. He became a good defender of Freudian psychoanalysis and the correspondence between two persons started (McGurie, 1974). In 1907, Jung visited Vienna upon the invitation of Freud. Freud loved and respected him much. With backing of Freud, Jung was selected as the first president of International Psychoanalytic Association in 1911. This also arose some protests among Freud's Viennese colleagues. In

1909 Freud and Jung had gone together to America to deliver lectures at Clark University at the invitation of G.S. Hall. Gradually personal as well as theoretical differences between Freud and Jung started emerging and as a consequence in 1913 these two persons terminated their personal correspondence. The next year Jung resigned his presidency and shortly thereafter he withdrew his membership from International Psychoanalytic Association (Brome, 1978). The break was complete and these two men never saw each other again. He founded his own school called analytical psychology.

In the years immediately following the break with Freud, he was surrounded by loneliness and self-analysis. After several years he resumed his research works and writings. He travelled widely in developing his theory of personality and published his most influential books Psychological Types in which he discussed his religious beliefs* myths etc., in detail. In recognition of these works he was awarded honorary degrees from several famous Universities like that of University of

Harvard, Oxford and the University of Calcutta (Feist, 1985). In 1944 he became professor of medical psychology at the University of Basel but in 1945 he had to resign on ill-health ground. He died on June 6, 1961, in Zurich at the age of 86 years approximately. Thus Jung lived long and his reputation was of world fame and extending beyond psychology.

7.2.2 Carl Jung's Analytical Psychology

Jung was the second of Freud's earlier associates to rebel and establish his own system called analytical psychology. In this system Jung accepted some of the concepts of Freud no doubt but he rejected several other concepts charging them to be overloaded with sex.

The major contributions of Jungian analytical psychology may be outlined under the following four headings:

1. Conscious and Unconscious

Like Freud, Adler divided the structure of psyche into two parts— conscious and unconscious. Any psychic event that is sensed by ego is called conscious and any psychic event not sensed by ego is called unconscious. Thus, for Jung, ego is always identified with conscious aspect of psychic. It is different from self that is identified with both conscious and unconscious psyche. Thus, self is concerned with whole of the personality whereas ego is concerned only with conscious psyche. Unconscious, as said above, is that aspect of the psyche which is not related to the ego. It contains all previously repressed conscious images as well as those psychic events that have never been conscious. For Jung, unconscious is more important and therefore, he emphasized unconscious even more than Freud (Jung, 1953). Unconscious is divided into two parts— personal unconscious and collective unconscious. Personal unconscious consists of repressed infantile memories, for gotten events or subliminally perceived experiences of a person. It is called personal because it varies from person to person and at the same time, is unique to the person concerned. The con tents of personal unconscious are called complexes. He devised his famous word association test to uncover such complexes particularly feeling-toned complexes. The nature of the con tents of personal experiences is such that some may be recalled readily, some are remembered with little difficulty and some can't be recalled at all. Obviously Jung's personal conscious differs a lot from Freudian concepts of unconscious. Collective unconscious is the most important but controversial concept of Jung. It consists of primordial images that include memory traces not only from our human past but also from our prehuman and animal ancestry (Hall, Lindzey, Loehlinand Manosevitz, 1985). In fact, these images are the record of those experiences that have passed from one generation to other. Our distant ancestors' experiences with God, sun, earth, which are transmitted from one generation to another, are stored in collective unconscious. People's many types of myths, legends and religious beliefs are stored in collective unconscious which is revealed through various activities of the persons. It is also manifested through "big dream".

The contents of collective unconscious consist of ancient and archaic images called archetypes. Like complexes, archetypes are affectively toned. But these two also differ from each other. Complexes are individualized and constitute the contents of personal unconscious whereas archetypes are generalized and constitute the contents of collective unconscious. Jung recognized several types of archetypes. However, the most important types of archetypes that shape our personality and behaviour are: the persona, the anima, the animus, the shadow and the self. The persona is the mask that people exhibit before public. It reflects the way a person wishes to be perceived by others. Like Freud, Jung reported that all human beings are essentially bisexual and possess both a masculine and a feminine side. The feminine side of the male represents anima and the masculine side of the female represents the animus. Through these two types of archetypes Jung tried to focus upon the traditional views of what is masculine and what is feminine. The shadow archetype reflects the animal instincts that human beings have inherited through their evolutionary cycles. The self-archetype is one which motivates the person towards the wholeness. It governs the process of individuation that is useful and creative aspect of the unconscious and is made productive and conscious.

2. Attitudes and Functions:

Jung's psychological types Jung pointed out that there are two aspects of personality that function at both conscious and unconscious level. They are attitudes, that is, introversion and extraversion and the functions, that is, thinking, feeling, sensing and intuiting. A person having attitude of introversion tends to focus on inner and private world having very limited objective experience. Such people are reserved, and self-centred. Likewise, a person having attitude of extraversion tends to focus on external activities, events and things. These people are active and outgoing. These two

types of attitude oppose each other and while one tends to rule the personality, other remains repressed and unconscious. There are four functions — thinking, feeling, sensing and intuiting. Thinking is a function that seeks to connect ideas with each other so that a person may solve the problem and understand the world nicely. Thus it is an intellectual function. Feeling produces some subjective experience relating to pleasure, pain, love and anger. So it is an evaluative function. Sensing means providing sensation and perception of oneself and the world around the person. Intuiting refers to the subliminal perception or unconscious perception. Since sensing and intuiting are not evaluative functions, they are called non-rational functions.

One basic characteristic of these four functions are that normally one function is dominant and conscious, while the other three functions remain dormant and unconscious. Jung also stressed that everyone has his own unique pattern of attitudes and functions and on the basis of these two types of attitudes and functions, herecognized eight basic psychological types — introversion-thinking, extraversion-thinking, introversion-feeling, extraversion-feeling, introversion-sensation, extraversion-sensation, introversion-intuition, extraversion-intuition.

3. Psychic energy

Like Freud, Jung postulated the concept of psychic energy that can't be produced or destroyed. Our personality structure is charged with psychic energy. The nature of psychic energy is such that is can be repressed, displaced and sublimated. However, it can never be destroyed. He postulated two principles that govern psychic energy— principle of equivalence and principle of entropy. The principle of equivalence (first law of thermo dynamics) stated that energy may be transformed but not lost. One common example of this principle is that of an adolescent boy deeply infatuated with his girlfriend. In such situation the energy that he previously used in concentration on academic activities, is now being spent on his girlfriend. After the infatuation is over, there occurs improvement in the academic performance. In this example, we find a mere change in energy first from academic activities to beloved and then from beloved to again academic activities. The principle of entropy (the second law of thermodynamics) states that when two bodies are kept together, the energy from higher charge tends to flow to one of the lower charge until they are equal. Applied to the personality structure, this principle states that there is a tendency toward a balance of energy charges among the various systems. This principle brings stability in functions and results in a certain kind of attitudes in the person. That is why this is also called as the equalization of energy principle.

4. Personality development

For Jung, personality development takes place through a series of stages that culminate in individuation. He divided those stages into four parts — childhood, youth, middle age and old age.

He emphasized particularly upon the second half of the life which starts at middle age that begins at approximately age 35 for women and 40 for men. At this stage the person has sufficient opportunity to bring together the different aspects of personality that help in the fulfilment or actualization of the self. Thus he emphasized upon self-actualization that is one of the major goals of personality. However, impulse for neurotic reactions remains also present at that time and a person's direction of movement depends upon his ability to maintain balance between the poles of the various and conflicting forces. In explaining personality development Jung used two terms— individuation and transcendent function. The concept of individuation or psychological rebirth refers to the process of becoming an individual or whole person. Transcendent function refers to going beyond ordinary development by bringing together all different parts of personality in harmony.

A sound development of personality involves both individuation and transcendent function. Thus we find that like Freud, Jung also made significant contribution to psychology. His concept of self-actualization has been very much inspiring to later psychologists like Maslow, Alport and Murphy who have incorporated this in their own explanation of motivational basis of personality. Likewise, Jung's words association test has been considered by many psychologists to be one of the most valuable contributions to psychology. It has proved very useful in uncovering feeling- toned complexes, emotional conflicts as well as in detection of lie.

7.3 Summary

Alfred Adler and Carl Gustav Jung have been the two most important rebels of Freudian Psychoanalysis. While rejecting overemphasis upon sex by Freud, Adler made significant contributions by way of formulating and recognizing concepts like organ inferiority and

compensation, striving for success or superiority, social interest, style of life, creative power, fictional finalism, birth order. Despite these, his individual psychology has been criticized on three major grounds. His system also differed from that of Freudian system on five major grounds. 2. Carl Jung has been another important rebel of Freudian psychoanalysis. Like Adler, he also rejected Freudian overemphasis upon sex. Among his important contributions are conscious and unconscious, attitudes and functions, psychic energy and personality development. His analytical psychology has also been criticized on four major grounds. Jung's psychology differed from that of Freud's psychology basically on three major grounds.

7.4 Review Questions

- Assess the contributions of Alfred Adler to the development of psychology.
- Evaluate the contributions of C.G. Jung in development of psychology.
- What were the major points of distinctions among Freud, Adler and Jung towards their interpretation of various psychological concepts?

7.5 Self-assessment Questions

1- Alfred Adler was a Neo Freudian (T/F)

2- Trust vs. mistrust in the context of neo Freudian was given by -------

3- Adler dealt with inferiority and superiority complexes (T/F)

4- Sense of independence in many tasks develops can be found in the work of _____

5- Erikson gave _____ vs. inferiority

6- In the age group of 12–18, Identity vs. confusion is related to psychoanalysis

(T/F)

7- All the neo-Freudians have in common? They were all mentored by Freud (T/F)

8- The Ego-Theorists is the another name for Neo- Freudians (T/F)

9- Drive for Superiority was given by Adler (T/F)

10- Basic human problem is Inferiority Complex as reported by Adler (T/F)

11- Development is stage like & universal was said by Erikson (T/F)

12- Trust versusmistrust is true for Neo- Freudians (T/F)

13- According to Adler, human beings have several competing motivations. (T/F)

14- ____ was the primary proponent of the collective unconscious.

15- According to Jung, we have easy access to the material in our collective unconscious. (T/F)

7.6 Further Readings

Cioffi, F. (1998).Freud and the question of pseudoscience. La Salle, IL: Open Court.

Esterson, A. (1993). Seductive mirage: An exploration of the work of Sigmund Freud. La Salle, IL: Open Court. Gay, P. (1988). Freud: A life for our time. New York: Norton.

Hannah, B. (1976). Jung, his life and work: A biographical memoir. New York: Putnam.

Horney, K. (1967). Feminine psychology. New York: Norton. (Original works published 1923–1937) Loftus, E. (1993). The reality of repressed memories. American Psychologist, 48, 518–537.

Rubins, J. L. (1978). Karen Horney: Gentle rebel of psychoanalysis.

Unit 8: Sensation and Perception

CONTENTS

Objectives

After reading this unit, you will be able to:

- Define sensation and learn its connection with our day-to-day life.
- Understand the functioning of five major sensations.
- Learn the process of visual and auditory sensation.
- Describe perception and perceptual process.
- Understand laws of perceptual organization.
- Describe how sensations become perception.

Introduction

Sensation and perception are distinct processes that are interrelated to each other. There is a lot of information in the world which every one of us deals with on a daily basis. Sensation is the process by which all this input goes on in the body and the input is obtained by our body through sensory receptors. Perception is the next step. It is basically the process by which our body selects, organises and interprets all the information received through sensory receptors. Perception of the same information can be different for different individuals because perception is based on our learning, life experiences, memories, emotions etc.

8.1 Sensation

Sensation is the input about physical world around us which is provided by our sensory receptors which are the special receptors in our sense organs. Sensation activates our sense organs by source of any physical energy. The study of sensation includes the initial connection between organisms and their physical surroundings. Also we study how the physical information that is received is translated in the form of electrical signals, a process known as transduction.

The sensory receptors are nothing but specialized form of neurons. Neurons are the building block of our nervous system. The senses provide us with very accurate information of whatever is happening inside and outside of the body. We generally think of five sensations like vision,

hearing, taste, touch and smell, but there are more senses like somosthesis which is actually a combination of senses including touch, pressure and pain. Kinaesthetic and vestibular sensations are other extra senses which are important but very less talked about.

Sensory thresholds

Ernst Weber gave us Weber's law of *just noticeable difference (jnd)* also known as the difference threshold. A jnd is the smallest difference between two stimuli which we are able to detect 50% of the time. So Weber's law simply states that the jnd for different sensations is constant. The work of Ernst Weber was expanded by Gustav Fechner (1801-1887) by studying *absolute threshold* (Fechner, 1860). An absolute threshold is the lowest point or the minimal level of stimulation that a person can detect 50% of the time. People normally get confused between jnd and absolute threshold. Jnd is detecting difference between 2 stimuli whereas absolute threshold is detecting the minimal level of stimulation.

Examples of absolute thresholds	
Sense	**Threshold**
Sight	A candle flame at 30 miles on a clear, dark night
Hearing	The tick of a watch 20 feet away in a quiet room
Smell	One drop of perfume diffused throughout a 3-room apartment
Taste	1 teaspoon sugar in 2 gallons of water
Touch	A bee's wing falling on your cheek from 1 cm above

There are many a time we get influenced by stuff that is on the television or in the movies which we did not even pay a lot of attention to. How does this happen? This happens by *subliminal stimuli.* 'limin' means threshold so sublimin means below the threshold. The stimuli which are strong enough to actvate our sensory recpetors but not strong enough to get our conscious attention are known as subliminal stimuli. These subliminal stimuli affect the way we think and behave by a process known as *subliminal perception*.

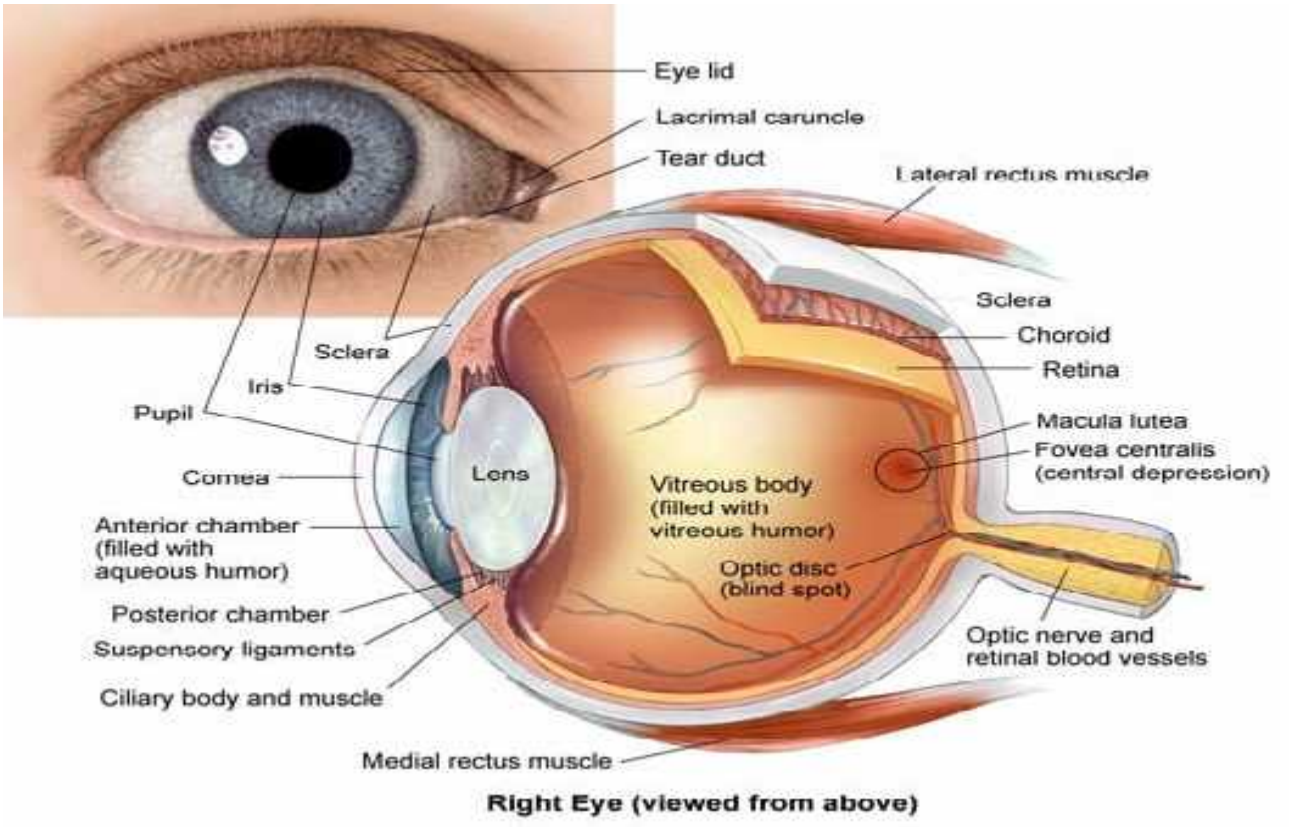
Habituation and Sensory Adaptation

We all know that the information present around is infinite and we cannot be aware of each and everything that is going on around us. Just like we never seem to notice the sound of the fan until it is suddenly turned off. The process by which our brain deals with the information that is relatively unchanging in our environment is known as *habituation*. There is another process known as *sensory adaptation.* Sensory adaption is a process by which receptor cells become less responsive to an unchanging stimulus and no longer send signals to the brain. Just like when you first come home you can smell the odour of the garbage but after a while you no longer notice.

8.1.1 Visual sensation

Visual sensation is the process where we take in information about the outside world through eyes. Our eyes receive the stimulus from the environment through eyes. Our eyes detect the presence of light which is a small part of the electromagnetic radiation. Our eyes can detect radiations between wavelength of 380 and 760nm. The colour of the light perceived by us is determined by us in three dimensions, namely, hue, saturation and brightness. The hue depends on the wavelength of the light wave. The colour corresponds to the wavelength of the light from the electromagnetic spectrum. If the light received by the eyes is of only one wavelength is received more pure or saturated the colour perception is. Brightness of light depends on the amplitude of the light wave-larger the amplitude brighter the colour.

To understand visual sensation we need to understand the structure of the eye and what happens when light enters the eye. The following image might help.



The front surface of the eye is covered by a transparent membrane known as *cornea*. The cornea protects the eye from foreign substances and also focuses the light inside the eye. The black coloured hole we can see in the centre is known as *pupil*. Light enters the inside of the eye through this hole. The pupil is formed by a round muscle known as *iris*. Iris is responsible for the colour of our eye and also is very flexible as it can change the size of the pupil and let more or less light inside the eye. Behind the pupil is the *lens* or the eye lens. The lens is flexible, so that it can focus the light directly onto the back of the eye which acts as a screen known as *retina*. So, the light enters the eye and falls on the retina. Retina is the light sensitive area consisting of photoreceptors cells, bipolar cells and ganglion cells.

The photoreceptor cells receive the light and turn them into neuronal signals. There are two types of photoreceptor cells present in the eye, namely, *rods* and *cones*. Cones are responsible for colour vision and our ability to see very fine details. There are around 6 million cones in the retina concentrated on a point known as *foveacentralis*. Cones function at their best in brightly lit conditions. Rods function best in dim-lit conditions and are responsible for vision at night. Rods can see in black and white and are responsible for peripheral vision. There are about 100 million rods in each eye which are found all over the retina except the fovea.

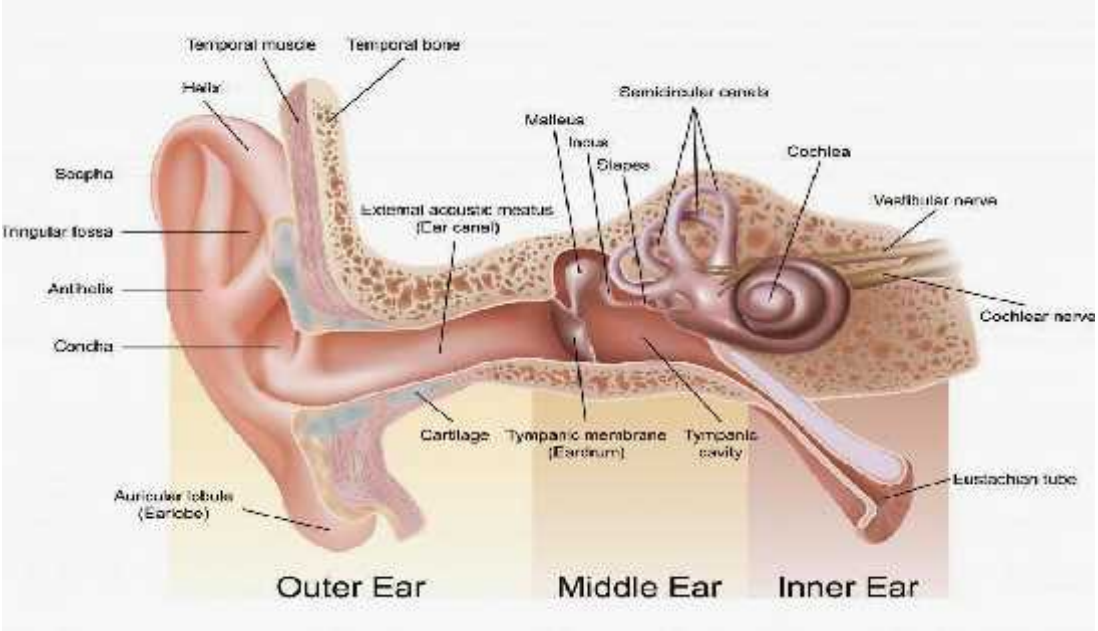
There is a spot in the eye where all the neurons leave the eye in the form of optic nerve which carries information from the eye to the brain. This particular spot in the eye is known as the "blind spot" as there are no rods and cones at this spot. We are not usually aware of the blind spot because of the presence of two eyes because of which there is no blind area.

8.1.2 Auditory Sensation

The auditory sensation is the process by which we receive information from the physical world through our ears. In this particular sensation our ears receives input from the physical world in the form of sounds. We can hear through solid, liquid as well as gaseous matter. The sounds are detected by ur ears in the form of mechanical waves which are vibrations detected by the ear.

The vibrations which can be detected by human ear are measured in terms of frequency and it is quite vast. We can hear the sound ranging from about 20 to 20,000 Hz. Sound waves has 3 properties, namely, pitch, volume and timbre. The *pitch* of the sound is determined by the frequency, the loudness of the sound is determined by the amplitude of the wave- higher the amplitude, higher is the volume. The purity or timbre of the sound is determined by the wavelength of the sound waves.

The ear is a series of structures divided in three parts the outer ear, the middle ear and the inner ear.



The outer ear: the visible external part of the ear is known as the *pinna*. The pinna does the function of concentrating the sound waves towards the inside of the ear and also enables us to detect the direction of the sound. After the pinna the sound travels to the *auditory canal* or ear canal which ends at the *tympanic membrane* or the ear drum. When the sound waves reach the ear drum, it vibrates and makes the bones in the middle ear to oscillate.

The middle ear: the middle ear consists of auditory ossicles. The auditory ossicles are three tiny bones known as the hammer (*malleus*), anvil (*incus*) and stirrup (*stapes*). The malleus, incus and stapes are known as the smallest bones in the human body. These three bones amplify the vibration that they receive after the sound waves hit the ear drum. The stapes, which is the last in the chain, causes vibration in a membrane which covers the opening of the inner ear. This membrane is known as *oval window*.

The inner ear: the vibrations received by the oval window sets into motion a set of chain reactions inside the ear. The inner ear consists of a snail-shaped structure known as *cochlea*. Cochlea is a fluid-filled structure which has a membrane running all through the middle of it known as the *basilar membrane*. The basilar membrane houses the *organ of Corti* which has specialised hair-like cells which are the receptors for sound. It is at this place that the sound gets converted into neuronal signals and the message is sent to the brain with the help of auditory nerve.

8.1.3 Olfactory sensation

Olfaction, also known as olfactics, is the sense of smell. This sense is mediated by specialized sensory cells of the nasal cavity of vertebrates, which can be considered analogous to sensory cells of the antennae of invertebrates. The olfactory system translates the chemical molecules our nose receives into neural signals and this system is located at the top of the nasal passage. The olfactory system though small in area, consists of about 10 million olfactory receptors. Each receptor cells contain little hair called cilia and they send signals to the brain when these hairs are stimulated by different molecules of the substances that are in the air moving around them. They send signals directly to a part of the brain known as olfactory bulbs.

8.1.4 Kinesthetic Sensation

Kinesthetic sense is the sense of body position and the movement of body parts relative to each other. It is a sense that provides sensory feedback about motor activities of our body, for example how the hand moves to pick up the telephone when it rings.

8.1.5 Tactile sensation

Tactile sensation also known as sense of touch is one of important factors in the design of various products. The most characteristic feature of tactile sensation is a diversity of perceptual contents. In

tactile sensation information is received from varying pressure or vibration against the skin. Tactile sensation is considered a somatic sensation, meaning it originates at the surface of the body, rather than internally.

8.2 Perception

Perception is a mental process by which humans organize sensation into meaningful patterns and give meaning to the lot of information that is received by our sense organs. Perception is a process by which brain receives information through sense organs and organises them and interprets them. Basically sensation is input and perception is the processing of that input.

Perception is a dynamic process because it is ever changing and involves ordering and attaching meaning to raw information. Perception is the process of attaining awareness or understanding of sensory information.

8.2.1 Perceptual Process

The perceptual process includes the following stages:

1. **Theenvironmentalstimulus**: everything that our environment which has the potential to be perceived is known as the environmental stimulus. The environmental stimulus can be received through eyes, ears, nose, tongue and skin.
2. **Attendedstimulus**: out of all the environmental stimulus that we have we choose to focus our attention onto certain things or objects and these are known as the attended stimulus.
3. **The image on the retina**: if we take example of visual sensation, then the image that is formed on the retina after the light enters the eye is the third step in the process. Basically, this is where the physical information from the outside world reaches the end stage where it needs to be translated.
4. **Transduction**: the translation of the physical information into neuronal signals is a process named as transduction.
5. **Neuralprocessing**: in this stage, the electrical signals go through neural processing. This includes the decision as to which path these signals need to follow and depends upon the type of signal. The auditory signal will follow the path of auditory nerve and reach the cortex; the olfactory signals reach the olfactory bulbs and so on.
6. **Perception**: Perception is a stage when we become consciously aware of the stimulus present. This is the stage where we actually perceive the stimulus in the environment.
7. **Recognition**: perception not only involves the conscious awareness of the stimuli but also it involves giving meaning to it. So, this is the stage where we are categorizing and interpreting whatever we are sensing.
8. **Action**: this stage involves the action taken in response to the stimulus.

8.2.2 Perceptual Constancies

The input that we receive from our sensory receptors is vast and in varying forms of shape size and colour which is changing at every given moment. To make sense of this ever changing physical information our perceptual process has the feature of constancies to keep a few things constant.

1. *Size constancy*: It is our tendency to interpret an object of always being the same size regardless of the distance that it has from us. So, if a person who is 6 feet tall is casting a very small image on the retina, we do not perceive the person to be small rather we interpret that the person is standing far away from us.
2. *Shape constancy*: This is our tendency to interpret the shape of the object to be constant. For example, when we toss a coin, the image that is falling on our retina keeps changing its shape from round to oval to elliptical, we still perceive the coin to be a round only.
3. *Brightness constancy*: This is our tendency to perceive the brightness of the object as constant even when the lighting condition changes. For example, if a plain white paper has a shadow cast on it, the paper is reflecting less light as compared to before but we still perceive the paper to be of white colour only.

8.2.3 Perceptual Organization

Perceptual organization is the way in which we organise information into a structure which is easier for us to understand and to make meaning of. The input that our sensory receptors receive is

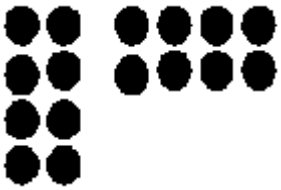
way too much and is in variety of shapes, blobs, swirls patches, lines, edges etc., and to have an idea of what is going around we need to organise it in meaningful structures and this is what perceptual organisation does. The work on perceptual organisation is done mostly by the Gestalt psychologists and they gave us a few principles of perceptual organisation.

Figure-ground relationship is one of the major principle given by Gestalt psychologists. The figure-ground relationships refer to the tendency to perceive objects on a background. The stimulus that we are paying most of our attention to becomes the figure and the rest of the visual area becomes the background. The figure and ground are reversible in nature.

The Gestalt psychology gave us a series of laws to explain how features of the visual sense are grouped together in an organised manner. The laws are given below:

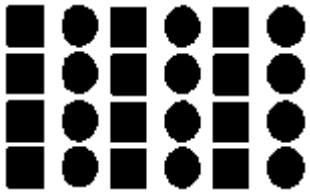
1. Law of proximity
2. Law of similarity
3. Law of simplicity
4. Law of closure
5. Law of continuity

PROXIMITY: Very simple rule of perception which states that the closer the objects are to each other, the more is our tendency to group them together. This is known as law of proximity or nearness.



The above circles are usually seen as one vertical group and one horizontal group rather than just some circles.

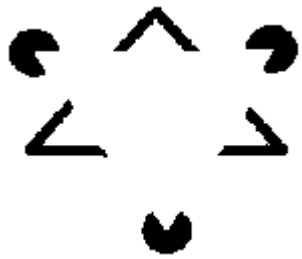
SIMILARITY: This law states that we tend to group similar items together. Humans can usually recognise the physical resemblance quite easily and we make groups based on the same property. In the figure below, we usually see columns of squares and triangles rather than just squares and triangles.



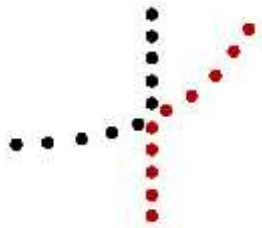
SIMPLICITY: Law of simplicity states that we tend to organise things to make a balanced or symmetrical figure. This law is also known as law of pragnanz or law of good figure.

In this image, we usually perceive it as 5 circles, instead of all the complicated shapes it is made up of.

CLOSURE: The law of closure states our tendency to fill in the gaps automatically. Just like in the figure below, there are actually no triangles or circles but our brain fills in the gaps and we perceive circles as well as triangles.



CONTINUITY: This law states our tendency to perceive things as simply as possible by keeping it in a continuous pattern, rather than a complex, broken pattern.



This particular image is easier to interpret as 2 lines crossing each other than perceiving each small segment of lines.

8.2.4 Depth Perception

The capability of humans to see the world around us in three dimensions is known as depth perception. There are two types of cues that exist to help perceive depth in the world. These are monocular cues and binocular cues. Monocular cues require the use of only one eye and binocular cues require the use of both eyes.

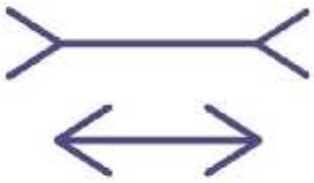
Examples of monocular cues are: Linear perspective, Relative size, Overlap, Aerial perspective, Texture gradient, Motion parallax and Accommodation.

Convergence and Binocular disparity are the binocular cues.

8.2.5 Perceptual illusions

The errors in the process of perception are known as perceptual illusions. We can also say that the stimulus that "fools" the eye is the illusions.

Müller-Lyer illusion is one of the most famous visual illusions shown in the figure below.



When you look at the image the line above 'appears' to be longer than the line below, even when the two lines are of exact same length. Similarly, there is The Moon illusion in which the moon at the horizon appears to be much larger than the moon in the sky. This is due to the fact that when the moon is in the sky, it is alone and no other stimuli are present to compare it with. Whereas, when the moon is at the horizon, the moon appears to be behind the trees or houses which act as cues for depth and make the moon appear larger.

8.3 Summary

Through this chapter we got to know about the meaning of sensation and perception. Sensation is taking input and perception is about interpreting and processing that input. We receive information through sensory receptors that are there in the sense organs like eyes, ears, nose, tongue and skin. The different sense organs have intricate biological mechanisms for receiving sensory information and transducing it into neuronal signals. Perception is a complete process by which we recognise and interpret sensory information. Gestalt school of psychology has given us principles of perceptual organisation. Apart from all these principles and laws of perception, we can still have errors in perception which are known as perceptual illusions.

8.4 Keywords

Sensation, sensory threshold, absolute threshold, perception, perceptual constancies, perceptual illusions

8.5 Review questions

1. What is light and how does it travel through the eye?
2. If light works like waves, does sound have similar properties?
3. How is the sense of taste and smell alike?
4. How is our interpretation of the world relatively constant?
5. What are visual illusions and how are they influence perception?

8.6 Self-assessment questions

1- The middle ear contains six tiny bones. (T/F)
2- The moon appears larger when it is near the horizon than when it is seen overhead. (T/F)
3- Sensory adaptation refers to diminished sensitivity after prolonged and constant exposure. . (T/F)
4- Rods specialize in detecting black, white and gray. . (T/F)
5- The retina is a membrane in the upper nasal passage. . (T/F)
6- The field of psychophysics was founded by Fechner. . (T/F)
7- People with blind sight are psychic (T/F)
8- Interposition, relative size and linear perspective are _____ depth cues.
9- _____ is defined as the organization and interpretation of sensations.
10- The _____ _____ is defined as the intensity of a stimulus that allows an organism to just barely detect it.
11- The visual cliff is used to assess _____ perception in infants.
12- The absolute threshold for human hearing is _____ decibels.
13- _____ _____ describes our ability to focus on some sensory inputs while tuning out others.
14- Vestibular system is a set of liquid-filled areas in the inner ear that monitors the head's position and movement, maintaining the body's balance. . (T/F)
15- The retina is a membrane in the upper nasal passage (T/F)

8.7 Further readings

North, A & Hargreaves, David &McKendrick, Jennifer. (1999). The Influence of In-Store Music on Wine Selections. Journal of Applied Psychology. 84. 271-276. 10.1037/0021-9010.84.2.271.

Coren, S., Ward, L. M., &Enns, J. T. (2004). Sensation and perception (6th ed.). New York, NY: John Wiley and Sons.

May, M., &Chudler, E. H. (2007). Sensation and perception. New York, NY: Chelsea House Publications.

Coren, S., Ward, L. M., &Enns, J. T. (2004). Sensation and perception (6th ed.). New York, NY: John Wiley and Sons

Ackerman, D. (1990). *A natural history of the senses*. Vintage.

Sacks, O. (1998). The man who mistook his wife for a hat: And other clinical tales. Simon and Schuster.

	Best Illusion of the Year Contest website http://illusionoftheyear.com/

Unit 9: Attention

CONTENTS

Objectives

After reading this unit, you will be able to:

- Understand the nature and roles of attention
- Differentiate between types of attention
- Learn about top down and bottom up processing
- Understand the theories of attention

Introduction

Imagine at a very large and noisy part you are trying to find your friend. You look all around the crowd for the green color which she is wearing and trying to hear her calling out your name. Somehow you heard your name amidst the loud noise and you start moving towards her. While you were moving towards her you suddenly heard the sound of breaking glass and you turned your head towards it to see someone has broken a dish. Then you again return to moving towards your friend and meet her. The process by which you were able to do all these functions like hearing your name despite so much noise at the party, spotting the green dress of your friend amidst the sea of colors, turning your head towards the breaking glass sound; involves attention. When we talk about information processing by human brain attention is that process by which certain information can be enhanced and certain other be inhibited.

Every single day of our life or rather every minute of our life our sense organs are bombarded by immense amount of sensory information which is not humanly process. The information processing centre which is our brain has a certain capacity and cannot make sense of the constant stimulation from every sense all around us. So what is the coping mechanism of our brain? How can we as human beings sensibly choose what information is meaningful or useful to us at the

moment and also avoid distractions by all the irrelevant input? In this chapter we will try to answer these and more such questions.

9.1 The nature and roles of Attention

One answer to all our above asked queries is the process named attention. Attention is a resource which we use to selectively focus on certain information and selectively ignore the irrelevant but perceivable information. All of us have an intuitive understanding of attention; as in we all know what paying attention to something means, but still the studies related to attention have been many. The concept and process of attention is studied under the branch of cognitive psychology. Moray (1970) gave us six different meanings of the very term, attention. Posner and Boies (1971) gave us a model of attention which had three components, namely, orienting to sensory events, detecting signals for focused processing and maintaining a vigilant state. There are many terms that have been used synonymously with attention like, arousal, effort, capacity, perceptual set, consciousness etc. The process of attention is so effortless and natural in human beings that it is really hard to design and conduct studies experimentally. The field of cognitive psychology has still conducted a lot of experiments and given us a deep understanding of the process of attention.

Attention is a cognitive and behavioral process by which we choose relevant stimuli and ignore the other perceivable but irrelevant stimuli. Attention is a process by which our brain organizes and understands the world in which we are surrounded by insanely large amount of stimulus every moment. Attention is studied in education, psychology as well as neuroscience. The key aspects or major characteristics of attention are:

1. Attention is **limited**, both in terms of capacity as well as duration.
2. As the attention is limited, it also is **selective** as in it is very particular about what and where to focus at any given moment.
3. Attention is **cognitive**, as it aids our mental processes and thus considered to be the part of cognitive functions.

9.2 Types of Attention

The cognitive psychologists studying attention have agreed on the fact that attention is not a single process but a group of sub-processes. Sohlberg and Mateer (1987, 1989) gave a model of attention which was based out of their studies in experimental neuropsychology. According to their model, attention can be divided into the following parts:

- **Arousal**: Refers to our activation level and level of alertness, whether we are tired or energized.
- **Focused Attention**: Refers to our ability to focus attention on a stimulus.
- **Sustained Attention**: The ability to attend to a stimulus or activity over a long period of time.
- **Selective Attention**: The ability to attend to a specific stimulus or activity in the presence of other distracting stimuli.
- **Alternating Attention**: The ability to change focus attention between two or more stimuli.
- **Divided Attention**: The ability to attend different stimuli or attention at the same time.

The description of some of the most studied types is given below:

Selective Attention

Selective attention refers to the ability of attention to select particular information to focus on and leave the rest. This is the most basic and most deeply studied type of attention. Selective attention is the type of attention which helps us handle complex settings around us. From the variety of sensory information that we have, we select and focus on what we consider as important. Just like at a workplace we have colleagues, canteen and gadgets that are very good distractors. So when we choose to focus on our work by keeping other things away, we are using selective attention.

Sustained Attention

Sustained attention is our ability to focus on a particular stimulus for a longer amount of time. So whenever we are able to focus on a work which is time-consuming, we are using sustained attention. There are three stages for sustained attention, namely,

- Paying attention, when you start to focus
- Keeping attention, when you continue to focus
- Ending attention, when you finally stop paying attention

Students studying for examination, focussing in meetings, webinars and seminars, making a business plan etc.

Divided Attention

Divided attention refers to focussing on two or more tasks at the same time. Divided attention is also known as multitasking. In this type of attention we are basically dividing our attention in two or more tasks. For example, when we talk on phone while cooking or writing an email along with attending a seminar etc. require us to divide our attention.

Though it is a very cool feature of attention to divide itself and do multiple tasks at once, but it is not very helpful as it doesn't last long. It can even be harmful as it has adverse effect on the productivity of each of the task we do simultaneously as we are not able to fully concentrate on any one. So we should divide our attention only when it is absolutely necessary.

Alternating Attention

Alternating attention refers to shifting our focus to and fro between multiple tasks. It is a little similar to divided attention, but unlike divided attention here we are not doing multiple tasks at once. In alternating attention we keep shifting our attention from one task to another and then back. So, that means even we are switching our attention, we are focussed only at one task at any given point of time.

For example, when we make notes in the classroom what we do is we shift our attention to and fro between listening to the teacher and then writing in our notebook and back to listening. Also, when you follow a recipe for making a dish then also you are alternating attention between reading the recipe and then performing that task.

9.3 Theories of Selective attention

9.3.1 Broadbent's Filter Model

Donald Broadbent (1958) said that humans have a limited capacity to process information at any given point of time. Therefore, the information that the brain has to process is selected early on from the vast amount of sensory information which is presented. The stimuli from all the senses enter into a sensory buffer from which a selective filter is needed to filter out the information that we need at the moment.

According to Broadbent, the stimulus to be attended is selected by the filter based on the physical properties of the stimulus. Once information is selected by the filter, the other ones are unattended and are lost. Broadbent also performed dichotic listening tasks to experimentally check the theory. So, once the input to be attended is selected by the filter, it is then passed on to the short-term memory for processing and manipulation before storage in the long-term memory.

This theory says that all the processing of the information related to semantics is done after the filter has selected what information to pay attention to based solely on the physical characteristics of the stimulus. Therefore, all the messages that do not pass through this filter are not understood and simply lost.

9.3.2 Treisman's Attenuation Model

Anne Treisman (1964) gave an extension to the Broadbent's bottleneck filter theory of early selection. Treisman was of the opinion that the information which we do not pay attention to is also sometimes there in our memory but Broadbent's model is saying that all the unattended information is lost. Therefore this filter model does not account for the other information.

Treisman gave another theory which came to be known as Treisman's attenuation model. In this theory, Treisman agreed to the bottleneck filter however, Treisman's filter attenuates the unattended information rather than eliminating it altogether. Attenuation means reduction of the force/impact of the stimulus. For example, if we have 4 things to attend in one room (like tv,

people talking, fan whirring, phone ringing) we can turn down or attenuate 3 in order to focus on one. But that doesnot mean that the other three are not being perceived at all.

Treisman (1964) agrees with Broadbent's theory of an early bottleneck filter. However, the difference is that Treisman's filter attenuates rather than eliminates the unattended material.

Treisman carried out dichotic listening tasks using the shadowing technique in order to establish her theories. Clearly, the result of her studies show that the unattended messages are also being processed for meaning rather than selecting information only on the basis of physical characteristics only.

9.3.3 Visual Attention

Visual attention refers to the selection of relevant stimulus from a cluttered visual scene. Visual attention is thought to be operating at a two-stage process like attention being distributed uniformly over the whole scene and then processing the information. In our day to day life, the visual information that our eyes receive a lot more information than our brain can process. Visual attention is a cognitive process by which helps us in coping up with this limited capacity problem. Visual attention is a very flexible process and operates on the regions of space, physical characteristics of the objects and movement of the objects in the visual perceptual field.

Spotlight Model

The term "spotlight" was inspired by the work of William James, who described attention as having a focus, a margin, and a fringe. The focus is the central area that extracts "high-resolution" information from the visual scene where attention is directed. Surrounding the focus is the fringe of attention, which extracts information in a much more crude fashion. This fringe extends out to a specified area, and the cutoff is called the margin.

Zoom-Lens Model

First introduced in 1986, this model inherits all the properties of the spotlight model, but it has the added property of changing in size. This size-change mechanism was inspired by the zoom lens one might find on a camera, and any change in size can be described by a trade-off in the efficiency of processing. The zoom-lens of attention can be described in terms of an inverse trade-off between the size of focus and the efficiency of processing. Because attentional resources are assumed to be fixed, the larger the focus is, the slower processing will be of that region of the visual scene, since this fixed resource will be distributed over a larger area.

Cognitive Load

Think of a computer with limited memory storage: you can only give it so many tasks before it is unable to process more. Brains work on a similar principle, called the cognitive load theory. "Cognitive load" refers to the total amount of mental effort being used in working memory. Attention requires working memory; therefore devoting attention to something increases cognitive load.

9.4 Attentional Systems and Neuroanatomy

According to the neuroanatomical model from Posner and Petersen (1990), there are three different attentional systems. They are the following:

- **Reticular Activating System (RAS) or Alert System**: This system is mainly in charge of Arousal and Sustained Attention. It is closely related to the reticular formation and some of its connections, like the frontal areas, limbic systems, the thalamus, and the basal ganglia.
- **Posterior Attentional System (PAS) or Orientation System**: This system is in charge of Focused Attention and Selective Attention of visual stimuli. The brain areas related to this system are the posterior parietal cortex, the lateral pulvinar nucleus of the thalamus, and the superior colliculus.
- **Anterior Attentional System (AAS) or Execution System**: This system is in charge of Selective Attention, Sustained Attention, and Divided Attention. It's closely related to the prefrontal dorsolateral cortex, the orbitofrontal cortex, the anterior cingulate cortex, the supplementary motor area, and with the neostriatum (striate nucleus).

9.5 ADHD, inattention, and other disorders associated with attentional problems

Attention is a vital cognitive process that is required for the proper functioning of all the other cognitive skills. For example, we can learn something only when we properly pay attention to it and same with memory. The information is stored in the memory only if it properly paid attention to. Similarly with reasoning and problem solving etc. proper attention to the information is required to carry out the process effectively. Therefore, any alteration or fault in any of the attentional processes can make our daily life more complex and difficult.

Attention span or attention levels can vary a lot throughout the day which is absolutely a normal thing to happen. So not able to pay much attention when you are sleepy or just after a meal will not mean that your attention process has become faulty. Tiredness, fatigue, certain drugs, very extreme temperature conditions etc. are some of the factors which can negatively affect our attentional process.

If we talk about actual faults in attention, then Attention Deficit Hyperactivity Disorder (ADHD) or Attention Deficit Disorder (ADD) are the most well-known and well-studied disorders of attention.

The major characteristic of ADHD is known to be difficulty in arousing and maintaining attention. Also, there is difficulty in controlling and directing behaviour in general along with difficulty in controlling and directing of behaviour towards a particular stimulus.

It has been observed in various brain imaging techniques that the brain of patients with ADHD show anatomical differences in certain areas like nucleus accumbens, the striate nucleus, the putamen, the amygdala, hippocampus, thalamus and the prefrontal areas. The differences in these brain areas might be the reason of inattention in ADHD patients.

There are other states like coma, vegetative state, state of minimal consciousness etc. in which alterations in attentional processes or sub-processes can be seen. Brain damage like stroke or chronic traumatic encephalopathy can be the cause of the above said disorders. Brain damage may also cause other serious disorders like heminegligence, Alzheimer's etc. and also other problems related to attention like excessive fatigue or distractibility.

9.6 How can you rehabilitate or improve attention?

Every cognitive skill, including attention, can be trained and improved. **Brain plasticity** is the basis of attention rehabilitation and other cognitive skills. The brain and its neural connections can be strengthened by challenging and working them, so by frequently training these skills, the brain structures related to attention become stronger.

Did you know that you can train your mind to pay attention and increase your attention span? Here are a few effective tips to help you improve your attention span:

Read It Again

> Imagine that you are reading your favorite book for the second time. You're likely to notice other details such as character motivation and plot points that you had missed the first time. Rereading helps pay attention to details and memorize things with greater efficiency.

Take A Moment To Reflect

> It's easy to get caught up in the workplace, but you need to monitor your thoughts and feelings too. Self-awareness comes from paying attention to yourself. It is a great way to understand your strengths and weaknesses—enabling you to feel more in control of your thoughts and actions.

Challenge Yourself

> Improving your ability to pay attention to detail may be challenging, but who said it can't be fun? Practice noticing small features in games or comic books. You can even play online games like 'I Spy' or 'Where's Waldo' to train your eyes to see specific things.

Break Down Goals

> Every goal, no matter how big or small, requires a series of actions. If you have a long-term goal that you need to accomplish, break it down and pay attention to each component. Imagine that you have to appear for a job interview. You can break it down into multiple steps—things that you should carry, the clothes you should wear and the time you should reach the office.

Take A Walk

It may sound strange, but paying attention to details can be achieved with an activity as simple as taking a walk by yourself. Take a route that you normally don't use—it can be the road to your office or the nearest restaurant. You will be surprised by the number of things that you notice.

9.7 Summary

- Attention is a cognitive process that allows us to choose and concentrate on relevant stimuli.
- According to Sohlberg and Mateer model (1987, 1989) there are several types: arousal, focused, sustained, selective, alternating and divided.
- Attention can be altered by some disorder or condition such as Attention Deficit Hyperactivity Disorder (ADHD) or without hyperactivity (ADD), stroke, dyslexia, anxiety, etc.
- It is evaluated with neuropsychological tests and can be measured in different areas of life (academic, clinical, professional, etc.).
- Attention can be improved or rehabilitated by training and thus increasing brain plasticity.

9.8 Keywords:

Attention, selective attention, divided attention, models, multitasking attention span, brain plasticity, ADHD

9.9 Review Questions

1. Discuss the implications of the different models of selective attention for everyday life.
2. Think of examples of when you feel you can successfully multitask and when you can't.
3. Discuss what aspects of tasks or situations seem to influence divided attention.
4. What advantages and disadvantages would be associated with being able to filter out all unwanted information at a very early stage of processing?
5. What are the implications of processing all ignored information fully, even if you are not consciously aware of that information?

9.10 Self-assessment questions

1. Cocktail party effect occurs as a result of:
    a. Central attention
    b. Selective attention
    c. Egotistical attention
    d. Self-focused attention
2. The general concern for the Broadbent's Filter Model is?
    a. It was not falsifiable
    b. It was based on correlational data and thus cause and effect conclusions were not possible
    c. It was not generalizable across populations
    d. It lacked ability to account for all of the data.
3. The _____ is the lowest level of a stimulation that an organism can detect.
    a. All-or-nothing phenomenon

b. Minimal activity stimulus
c. Absolute threshold
d. Sensory adaptation

4. During which of the following activities might you use selective attention?
   a. Driving on a busy road during rush hour
   b. Attending a concert at a sold out show
   c. Having a conversation with a friend at a loud party
   d. All of the above activities
5. Attention is limited. (True/False)
6. James (1890) is known for his work on:
   a. Attention
   b. Perception
   c. Memory
   d. None of the above
7. Alertness refers to an individual's readiness to deal with stimuli that appear before him/her. (True/false)
8. Large, bright and moving objects can _____ catch our attention.
   a. Chemically
   b. Easily
   c. Ability
9. The size, intensity and movement of stimuli are
   a. Determinants of attention
   b. Characteristic features of attention
   c. Types of attention
10. Several psychologists have studied the processes of perception in different socio-cultural setting (True/False)
11. Broadbent did _____ listening experiments.
    a. Selective
    b. Divided
    c. Focused
    d. Perceptual
12. Broadbent wanted to see how people were able to focus their attention (selectively attend), and to do this he deliberately overloaded them withstimuli. (True/False)
13. Human figures are more likely to be attended then the in animate objects. (True/False)
14. What is inattentional blindness?
    a. One's ability to focus one's attention on multiple sources
    b. Looking at the big picture as opposed to focusing on smaller details
    c. A developmental disease impacting one's vision
    d. Failing to see objects when one's attention is directed elsewhere
15. Which of the following is not a principle of Gestalt psychology?
    a. Closure
    b. Gradient
    c. Connectedness
    d. Continuity

Answers: 1. B 2. A 3. C 4. D 5. True 6. A 7. True 8. A. 9. A. 10. True 11. A. 12. True 13. False 14. D 15. B

9.11 Further readings

Bargh, J., & Morsella, E. (2008). The unconscious mind. *Perspectives on Psychological Science, 3*(1), 73–79.

Deutsch, J. A., & Deutsch, D. (1963). Attention: some theoretical considerations. *Psychological Review, 70*, 80–90.

Spelke, E. S., Hirst, W. C., & Neisser, U. (1976). Skills of divided attention. *Cognition, 4*, 215–250.

Treisman, A. (1960). Contextual cues in selective listening. *Quarterly Journal of Experimental Psychology, 12*, 242–248.

https://www.britannica.com/science/attention

https://en.wikipedia.org/wiki/Attention

https://www.frontiersin.org/articles/10.3389/fncom.2020.00029/full

https://pressbooks.bccampus.ca/intropsychstudyguide/chapter/multiple-choice-questions-3/

Unit 10: Learning

CONTENTS

Objectives

After going through this unit, you would be able to

- Define and concept of learning.
- Characteristics of Learning
- Explain method and types of learning.
- Explain the theories of learning.

Introduction

Learning the most complex and interesting construction of human behavior. Learning the process of changing the way we behave throughout life. Learning is a fundamental process in all of our behavior. It is an important process in human behavior as we learn to perform a variety of tasks such as (speaking, writing, thinking and perception). We have also learned about our attitudes and emotional states. The learning process is related to our changing behaviors and inconsistent behaviors, perceptions and affective behaviors. These are powerful and help the person to adapt to its changing environment

10.1 Introduction of Learning

Learning can be defined as a relatively permanent change in behavior as a result of experience. The psychology of learning focuses on various ways in which people learn and interact with their environments. There are three important factors in this definition:

i) Learning takes change in behaviour.

ii) Change brings place through rehearsal differing here from changes due to growing/ maturation and experience

iii) The behaviour should be change permanent to be learning

Learning is a major contribution in the field of psychology discipline. In Learning so many complexes in process involves a complex interaction of conscious and unconscious processes.

Learning is so many complexes in the process of interaction with conscious and unconscious. Learning has been learned extensively the relationships that our minds make automatically between events. Our minds have a natural tendency to connect events that take place in close proximity. Integrated learning is the process of physical activity in the interaction between stimuli or events in nature. Associative learning has three basic learning processes. we have discussed in this section (i) the classical conditioning tends to involve unconscious processes, the operant conditioning tends to involve cognitive processes, and the study of learning (social and cognitive) in all the basic processes of integration. Coherent learning is associated with both cognitive and cognitive functioning.

Various researchers have described learning in their own way.

"A change in a person's condition or strength that lasts for a period of time and is not limited to growth processes." (Robert Gagne's Learning Stories)

"Learning is a permanent change in one's knowledge or behavior as a result of experience. This definition has three elements: 1) the transition period is longer than the short term; 2) a place of change in the content and structure of information in the student's memory or character; 3) The cause of change is the student's environmental experience rather than fatigue, motivation, drugs, physical condition or physical interventions." (Encyclopedia of Educational Research, Richard E. Mayer)

"Learning is the process of progressive behaviour adaptation." – Skinner

"Learning is modification of behaviour."**– Gates**

"The term learning is to signify both the development of intelligences and attribute of muscular action." **- Ewere**

"Learning is the process whereby knowledge is created through the transformation of experience." **- Kolb 1984**

"Learning is a relativity endurance change in behaviour which is a function of prior behaviour usually called practice. "**–Mark**

10.2 Characteristics of Learning

The Law of learning characteristics explains by W. R. MC have given below:

- Learning is a continuous process and modification of behaviour.
- Learning is continuous throughout life of person.
- Learning is persistent andinfluences into all characteristics of human life.
- Learning is process to involvessocially, emotionally & intellectually
- Learning depends on maturation and motivation.
- Learning is always concerned with goals.
- Learning is responsive to incentives.
- Learning is developmental.
- Yoakman and Simpson have defined nine characteristics of learning, are given below
- Learning is related to growth
- Learning is related to adjustment
- Learning is related purposeful
- Learning is related experience
- Learning is related intelligent
- Learning is related active
- Learning is related both individual and social
- Learning is related product of the environment
- Learning is also affecting the conduct of the learner

Learning is related growth

Learning is related growth; this growth implies both physical and mental development of the learner. The individual grows through living and learning.

Learning is related adjustment

Learning is related to permits the individual to adjust himself/herself properly with the new situations or environment. Everyday life person faces different types of problems and learning provide a key role to solve the problems day to day life.

Learning is related purposeful

Learning is related to purposeful and goal oriented in our life. Individual learn only those activities properly behind which he has some goal or purpose.

Learning is related experience

Learning is related to individual learns through experiences. Human life is complete of experiences. All experiences provide new knowledge, understanding skills, and attitudes.

Learning is intelligent

An individual cannot learn things by only cramming without proper understanding. But his proper attention, understanding is essential to learn things effectively.

Learning is active

Learning is an active process. Individual must be active and ready to learn, readiness is essential for effective learning.

Learning is both individual and social

Individual can learn both individually and by participating social activities. Individual also learn from his peer, friends, relatives, parents, and classmates, family as well as from religious places.

Learning is the product of environment

Individuals also learn lot of things from his environment, his society he lives.

Learning is related to affects the conduct of the Learner

Learning is related to affects the learner's behaviour and manner. All learning processes involve experience to change the mental structure of the learner.

10.3 Methods of Learning

Psychologists give various methods for learning which helps the pupil to learn things effectively some of the common methods are as under.

- Whole to part method
- Whole vs part method
- The mediating method
- The recitation method
- Cramming

Whole to Part Method

This method says that the general nature of the learned material should be apprehended first, at the level of the learner's insight. This method is based on the Gestalt principal that learning proceeds from the whole to its parts and not vice-versa.

Whole vs Part Method

This method says that learning can be both whole as well as parts. Sometimes the learner should use whole method and some time he /she should use part methods. When the learner learns small or short things heshould be learnt as a whole for example memorizing a poem. Here the material is too long the part method should be used. The part method has proved most fruitful in non verbal materials like skills; typewriting etc. The whole method is not valid here because there is no logical unity or continuity in the material.

The Mediating Method

The mediating method is applicable to long vocabulary material, as well as to more logical wholes proceeds from whole to part as before but allows the marking off more difficult or unfamiliar parts for more intensive study.

The Recitation method

When time allows, this method is valuable for all kinds of material. It simply means checking upon one's self by being one's own inquisitor, from time to time. It is also found that, recitation method of study is batter for both immediate and delayed recall and both sense and non-sense material.

Cramming

Another method of learning is cramming. Cramming is the attempt to acquire control, usually for the purpose of immediate reproduction, of a relatively large amount of material in comparatively short time.

10.4 Theories of Learning

Learning theory is descriptions of the learning process. There are two basic concepts of concepts such as classical andoperant theory, highlighted by stimulus-response (SR) relationships. The concept of learning also describes the process of engagement. Some psychologists say that all forms of learning cannot be described as simple forms of stimulus-Response relationships. Theories of understanding provided the essential role of perception and understanding. Although man is a social animal or a social creatur we also learn several behaviors in the social environment. The theory of the social learning model also relates to the concept of learning.

10.4.1 Classical Conditioning

Conditioning CS is a learning procedure in which a biologically compelling stimulus (e.g. food) paired previously neutral stimulus (e.g. a bell).

Pavlov was studying the reflex of salivation of the dog in the response to food. Reflex is related to unlearned responses or automatic behavior. If you see a delicious food then automatic salivation into mouth that is provoked by an explicit stimulus. For example, when food power is presented in the front of a dog, however, the dog's mouth salivates automatically. The dog is not learning this beahviour, it is a reflexive.

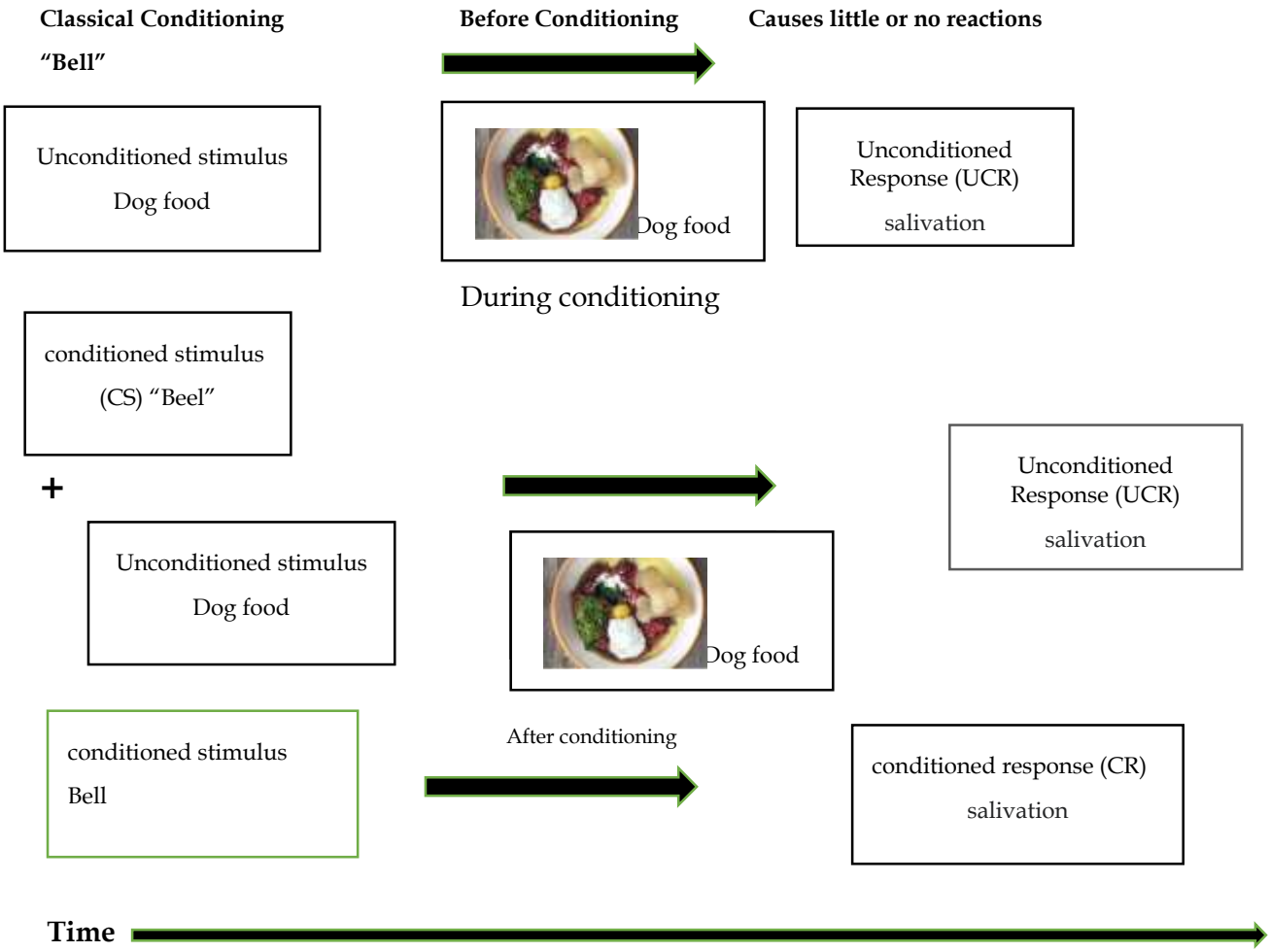
Pavlov's food classical conditioning is associated with the introduction of dog food and other stimulants such as iron bells (neutral pressure). After giving some trials there, the bell preceded the presentation of the food, and the dog began to spit when the bell rang. Classical condition to describe other technical terms used.Details are given below-:

food U~~nconditioned sti~~mulus(UCS)

Salivation elicited for food ——————— Unconditioned Response(UR)

Sound of bell C~~onditioned stimu~~lus (CS)

Salivation to bell ——————— Conditioned Response (CR)



Basic Principles

(i) Acquisition: is definesthe periodthroughwhich is an organism is learning the association of stimuli. acquisition is the primary process of conditioned response through repeated pairing of an unconditioned stimulus to conditioned stimulus. Classical conditioning each trial presented of the CS (Sound of bell) and the US (Food) is presented a number of trial and the interval between CS and US should be short of the time.

(ii) Stimulus Substitution Through conditioning a connection a bond is shaped between the CS and US and as outcome of this CS (bell) becomes equal to US (food) in provoking a response. We mean thereby that an association between CS and US permits one to supernumerary CS for US in evoking a response.

iii) Stimulus Generalization and Discrimination

Stimulus Generalization: is process for stimuli similar like CS (bell ring) to elicit the CR(Salivation). When researcher have increase or decrease stimulus intensity which is relate neutral stimulus subject will be response happen.

Stimulus Discrimination: stimulus Discrimination is the process to make one response to one stimulus or certain stimuli but not to a response that is similar to a natural stimulus. Like example

two different tones (SCI) (bell) ---------- On one trial CS (1) ---------- paired with US (food) ---------- other trial CS (2) ----------without US (food). ---------- respond only to CS (I).

iv) Extinction and Spontaneous Recovery: In classical conditioning Repetition of the conditioned stimulus (Bell) is presented alone without unconditioned stimulus repeatedly gradually reduces the response. This is called Extinction. In classical conditioning reappearance of a debilitated response that has been extinguished, does come after some time following extinction.

10.4.2 Operant Conditioning

The Operant conditioningis named because that person is "operates" in nature. Edward Thorndike, who suggested the idea. Thorndike also describes to instrumental learning because the answer "instrument" in earning a reward. Both the operant and classical state was also called S-R learning because the stimulus (S) is paired with the response (R).

The most well-known experiment is BF Skinner who designed this device called the operant box, sometimes called the skinner box. indicating that the answers are readable when followed by a "satisfactory condition." Although the operating conditioning does not require the use of CS or UCS, CS can be administrated but requires the use of a shaping and reinforcing method.

Shaping is a term given the first steps needed to make a topic engage in behavior that should be rewarded. for example, a mouse will be rewarded for pressing a bar, it must first read:

- go to the bar next to the operator box
- touch the bar
- pressing the bar

usually, reward (food) initially provided at the end of each of these steps. At last, a reward is providing only when bar is pressed. (With subjects who comprehend spoken orders, shaping can here and there be cultivated verbally).

Reinforcement

In the operating condition, the term reinforcement is used. refers to anything that increases the likelihood that a response will occur. Psychologist BF Skinner suggested this. Reinforcement is indicated by the effect that occurs on the behavior, increasing and strengthening the response.

Reinforcement includes anything that strengthens and enhances character. Includes clear visual rewards, times and circumstances. compliments, getting out of unwanted work, token rewards, sweets, extra play time, and fun activities were examples of reinforcement in the classroom.

Primary Reinforcement

Basic reinforcement is also called unconditional reinforcement. It happens normally and does not require learning to work. Essential reinforcers always have a flexible base because they help in type enhancement. Genetic makeup and experience alike can play a role in the formation of the functions of such a substance. For example, while one person may pursue a particular type of diet, the other person may not like the food in any way.

Secondary Reinforcement

Secondary Reinforcement also called conditioned reinforcement. includes stimuli that have gotten remunerating by being combined with another reinforcing stimulus. For example, when preparing a canine, applause and treats may be utilized as primary reinforcers. The sound of a clicker can be related with the applause and treats until the sound of the clicker itself starts to fill in as a secondary reinforcer.

Types of reinforcement

positive reinforcement: includes magnifying certain things to increase the response. Eg, give a chocolate or a sweet bar to a child after cleaning his or her room.

Negative reinforcement:means removing something to increase the response. Eg, such as canceling questions when students put in all their homework. By removing the vengeance motivator, the teacher hopes to develop the character he or she wants.

Schedules of reinforcement

Reinforcement periods are specific principles used to introduce (or eliminate) reinforcement (or punishments) following the previously defined operant behavior. These levels are seen in relation

to the time and extent of the reaction required to introduce (or eliminate) the reinforcer (or punisher). Different periods of consolidation produce specific effects of functional behavior.

Interval schedule

Interval schedules require a minimum amount of time that must elapse between continuous reinforcement responses (for example 5 minutes). Responses made before this time are not valid. Interval schedules can determine the length of time fixed between reinforcers (Fixed Interval schedule) or time-frame flexibility between reinforcers (Variable Interval schedule).

Fixed Intervalschedule produces a faster response speed as the reinforcement hour approaches. Student visits to the college library show a selective increase in level as the hour of direct assessment approaches.

Variable Intervalthe schedule produces a constant response speed. The "redial" button press on the phone is supported on a regular basis when you try to reach your parents and receive a "busy" signal in the opposite position.

Ratio Schedule

The rating system requires a certain number of operant responses (e.g., 10 reactions) to deliver subsequent reinforcement. The required number of responses can be adjusted from one reinforcer to the next (Fixed Ratio Schedule) or may vary from one reinforcer to the next (Flexible Ratio Schedule).

Fixed Ratio schedules support a high response speed until a reinforcer is detected, after which a breathable visibility in response can be observed, especially at large sizes. Vendors who are paid on a "commission" basis may work with the flu to get to the part of their business, after which they are happy to receive deals for a few days.

Variable Ratio schedules support high response and consistency of response. The power of this support period is explained by the card shark that suddenly inserts money and pulls the handle of the "slot machine."

Punishment

Punishment was characterized as a result that follows an operant reaction that diminishes (or endeavors to diminish) the probability of that reaction happening later on.

Positive punishment

While trying to diminish the likelihood that a conduct will happen later on operant reaction is trailed by the introduction of an aversive boost. It is a positive punishment.

Negative Punishment

While trying to diminish the likelihood that a conduct will happen later on, an operant reaction is trailed by the evacuation of an appetitive improvement. This is a negative punishment.

10.4.3 Observational learning

Observational learning is the way toward picking up noticing the conduct of others. The target conduct is noticed, retained and afterward imitated. Otherwise called demonstrating and displaying, observational learning is more normal in youngsters as they emulate the practices of grown-ups. While we at times deliberately notice specialists to in order to learn new data, observationallearning is rarely meaningful. Especially for young children. A child can discover how to scare or smoke cigarettes by looking at adults. They learn constantly by seeing if the behavior is good.

Four processes of Observational learning

Albert Bandura (Canadian-American psychologist) was one of the psychologists who put the idea of observational learning. Social Learning Theory, emphasizing the importance of observing and modeling behaviors, attitudes and emotional responses to others were his ideas.

He found that as social animals and humans have a habit of learning by observation. children in families imitate members of their families. Or newborns (three weeks old) begin to mimic the movements of the mouth and expose the adults around them.

According to him there are four processes that influence observational learning:

(i) Attention

To learn, the viewer has to focus on something natural. They have to see model and behavior happen. The level of thinking can change depending on the model's characteristics and weather - including the level of the model's similarity, or the current viewer's attitude.

(ii) Retention

Simple attention isn't sufficient to get familiar with another behavior. An onlooker should likewise hold, or recollect, the conduct sometime in the future. To build odds of maintenance, the onlooker should structure the data in a memorable simple configuration. Possibly they utilize a mental helper. Or on the other hand structure an everyday learning propensity. The conduct should be effectively recalled so the activity can be performed with almost no exertion.

(iii) Reproduction

reproduction is the interaction where the eyewitness should have the option to actually play out the behavior in reality. More difficult than one might expect. Regularly, creating another behavior requires long periods of training to acquire the abilities.

(iv) Motivation

All learning requires some level of motivation. For observational learning, the onlooker should be roused to create the ideal behavior. Once in a while this motivation is characteristic for the eyewitness. Different occasions, inspiration can come as outer support – prizes and disciplines.

Bobo Doll Experiment

In this experiment showed that children imitate violent behavior by watching others. In this experiment the children were shown a violent video in which the model would act violently on a doll you could not enjoy (hitting, punching, kicking and verbally kicking the doll). There were three different conclusions:

- The model was punished for their behavior
- The model was rewarded for their behavior
- There were no results

After watching the model, the teens were given a Bobo doll, which is inseparable from the one in the video. Their habits were noticed.

Analysts found that children would imitate aggressive behaviors when they saw a model accept a prize, or when no results were achieved. On the other hand, the youth who saw that the model was brutally rejected showed real violence on this doll.

10.5 Summary

1. Learning is a long-lasting change in behavior resulting from experience.
2. Ivan Pavlov was the first one to describe Classical conditioning which is a type of associative learning which results with the association of two stimuli.
3. Unconditioned response is the naturally occurring response to an unconditioned stimulus; whereas a conditioned response is the learned response which occurs due to a association between conditioned stimulus and unconditioned stimulus.
4. Operant conditioning is a type of learning in which behavior is controlled by the consequences and B F Skinner was the one to devise operant learning.
5. A system of reinforcement and punishments is used in order to make any organism learn a new behavior.
6. Skinner established schedules of reinforcement and punishment through various experiments with rats well known as Skinner box experiments.

7. Albert Bandura conducted experiments to show that children can learn behavior by watching the adult's behavior, which led to the formation of the concept of observational learning.
8. Observational learning is the process of learning to respond in a certain way by looking at others or models.

10.5 Keywords

Learning, Behavior, Classical conditioning, Ivan Pavlov, Higher order conditioning, Shaping, BF Skinner, Operant Conditioning, Consequences, Association, Reinforcement, Punishment, Observational Learning, Social Learning, Imitation, Modeling

10.6 Review Questions

1. What is the difference between classical conditioning and operant conditioning?
2. What is learning? Explain
3. Briefly discuss about observational learning. Give example.
4. How many processes to influence observational learning?
5. Can u Describes classical conditioning in present situation?

10.7 Self-assessment Questions

1. Learning is best defined as a relatively permanent change in behavior that occurs as a result of experience.

True/False

2. Associative learning is related to------

a) Classical conditioning

b) Pavlovian conditioning

c) both

d)none of the above

3. Associative learning is related to--------

a) operant learning

b) social learning

c) observational learning

d) all of the above

4. Classical Conditioning learning theory has developed -------

a) Pavlov

b) Bandura

c) Skinner

d) all of the above

5. Operant conditioning learning theory is related----------.

a) Bandura

b) Pavlov

c) Skinner

d) all of the above

6. _____is the process by which a person or animal learns an association between two stimuli or events.

a) Associative learning

b) social learning

c) learning

d) none of the above

7. A stimulus that does not initially elicit a response in an organism is neutral stimulus.

True /False

8. In Watson and Rayner's experiments, Little Albert was conditioned to fear a white rat, and then he began to be afraid of other furry white objects. This demonstrates stimulus generalization.

True/False

9. Extinction is related to the conditioned stimulus is presented repeatedly without being paired with an unconditioned stimulus.

True/false

10. In Pavlov's work with dogs, the psychic secretions were conditioned responses.

True/false

11. Primary reinforcer is related to

a) food

b) water

c) sex

d) all of the above

12. observational learning theory is also known---------

a) classical Conditioning

b) operant learning

c) modelling

d) all of the above

13. Who has conducted Bobo doll study?

a. Bandura

b. Skinner

c. Pavlov

d) all of the above

14. In Classical learning theory US is related to

a) Unintentional Stimulus

b) United states of America

c) unconditional stimulus

d) none of the above

15. Albert Bandura has proposed observational learning.

True/False

Answers-1.true 2.c 3.a 4. a 5. a 6. c 7. true 8. true 9. true 10. true 11. d 12. c 13. a 14. c 15. true

10.8 Suggested/Further readings

An Introduction to the History of Psychology byB.R Hergenhahn and Tracy Henley published in 2013

Introduction to Psychology 10th Edition by James W. Kalat

Introduction to Psychology: Gateways to Mind and Behavior with Concept Maps and Reviews by Dennis Coon and John O. Mitterer published in 2008

Psychology – 10th Edition byDavid G. Myers published in 2011

https://psu.pb.unizin.org/intropsych/chapter/chapter-7-learning/

https://www.psychology.org/resources/educational-psychology-theories/

https://www.online-psychology-degrees.org/psychology-learning-theories/

https://courses.lumenlearning.com/educationalpsychology/chapter/major-theories-and-models-of-learning/

Unit 11: Memory

CONTENTS

Objectives

After reading this unit, you will be able to:

- Learn the definition of memory and its types.
- Understand the process of memory
- Enumerate the characteristic features of memory
- Know about the techniques to improve memory.
- Understand the factors that are responsible for forgetting.

Introduction

We learn information day in and day out and some of us are even top-notch learners. Just imagine what if we learn information but don't have any way to store it for further use? Or simply said, what if we learn but don't have any memory of whatever we learn?

Let's see, what our life will look like if we don't have memory. I need someone to teach me how to brush my teeth and how to get dressed every single time. I don't know how to tie shoe laces or how buttons or zippers work? Who should I ask for help because I don't remember the faces of the humans that are roaming in my house? Wait, house! What is that? Is it even mine? Everything is getting so confusing. I think I should just go to bed. What is a bed??

So, you see how important memory is for our daily functioning? And with this little task I think all of us can appreciate how amazing a capacity human brain has for memory. In this chapter, we will try to explore the complete process of memory, what memory is and how does it processes and stores information for further use.

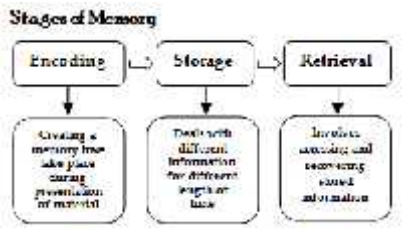
11.1 Memory

Memory is the capacity of the human brain to learn and store information which is usable. All the usable skills and knowledge is stored in memory and memory allows human beings to function efficiently in daily life as well as helps in the functioning of all the other cognitive functions as well. Memory is the cognitive process by which we encode and store information in order to recall it whenever we want to use that information in future. Memory gives us the ability to learn and adapt from our previous life experiences and also to build relationships with our fellow human beings. It gives us power to recall previously learned facts, experiences, skills and habits.

The word memory comes from the Latin word "*Memoria*" and "*Memor*" which means *mindful* and *remembering* respectively. In the field of psychology, memory is considered to be basis of all the other cognitive processes like problem solving, logical thinking, imagination and decision making. We in life remember millions of pieces of information from the most trivial of things to the most vital information. Our idea of self-concept is dependent on memory and our representation of other people also depends on our memory. Yet, as you will see, our memories are often incomplete, biased and distorted. We are often surprised at how our memories for events differ vastly from those of others who experiences the identical event. The specific nature of memory mechanisms processes, and capacities varies from one species to another. This variability reflects the differing environmental demands to which different species have had to adopt over the cause of evolution. Birds can recall the location of the nest; Squirrels remember for months, where they stored food; and antelope retain the association of the lion's roar with danger each species is using memories to adapt to its environment.

11.2 Components of Memory

Memory consists of three separate but interrelated components they are encoding, storage, and retrieval. They are also called the stages of memory.



Encoding

Encoding is the first step for memory. In this stage, sensory information received from the environment is converted into neural impulses which are then processed by the brain for storage. Encoding is a process by which meaning is derived from the information and converted into a language (neuronal signal) so that it can be placed in the brain.

Storage

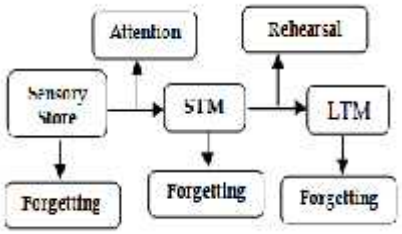
The second stage of memory is storage; in storage the encoded information is stored so it can be later use. Storage refers to the retention of encoded representations over time and corresponds to some change in the nervous system that registers the event. Stored representations are referred to as memories.

Retrieval

Retrieval is the process of retrieving the stored information to current working use. It is the third stage of memory and very important because if a piece of information is not recalled then there is no memory at all. Encoding and storage have no use if certain information cannot be recalled. Retrieval often requires effort external effort to access the stored information and it is involved both in the explicit and implicit memory systems.

Information Processing Model of Memory

The Information Processing Model of memory is given by Richard Atkinson and Richard Shiffrin in 1968. This model is also known as multi-store model of memory. The basic tenets of this model is that information received through our sense organs (Eyes, Nose, Ears, Skin, Tongue) from the environment is passed through two temporary storage buffers (stores) before it can be placed into more permanent storage and then retrieved for later use.



The obtained information from the environment is first placed into sensory store; here the sensory information is immediately and initially recorded of sensory. In sensory store the visual information can be stored approximately 1/4 of a second & auditory information up to 3 seconds.

When the information is successfully recognized or attended in sensory store than information is transferred into the short-term memory (STM). In short-term memory information is stored up to 20 seconds, here information is rehearsed (repeated again & again). After that rehearsed information is transferred from short-term memory into the long-term store. In long term memory we can store unlimited information for long time (even some memories throughout life like school days, marriage, death of loved one etc) and can be placed back into short-term memory in future through retrieval process.

Strengths

1. This model was a pioneer in giving us an understanding to the memory in a simplistic manner.
2. The model gave the metaphor of information processor to the human brain and compared it with computer which is somehow still valid.
3. The multi-store manner by which memory is explained is supported by research.
4. This model has been effective in helping us make predictions about memory and also to design experiments to study memory.

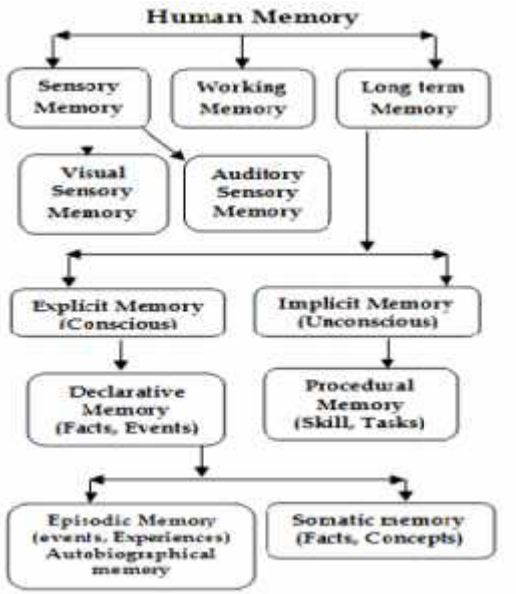
Limitations

1. The interaction between different stores is not explained properly in this model.
2. The advance researches on LTM have shown us that LTM is not a single store but has many levels or sub-stores.

11.3 Types of Memory

There are various types of memory which are broadly categorized in three stages or types.

1. Sensory memory
2. Short- term memory
3. Long- term memory



11.3.1 Sensory Memory

Sensory memory refers to the memory of the sensory system. The information received by our sense organs is briefly stored in its original sensory form for a few seconds or less. Our sense organs like eyes, ears, nose, tongue and skin receive information from the physical environment and all of this information is very briefly stored in their sensory memory systems before moving onto the short term memory.

The information received by the sense organs is physical in nature whereas our brain understands only in the form of neuronal signals. The process of changing the physical information to the neuronal signal is known as transduction. The special sensory receptors cells transduce the information and during the process a memory is created. This memory is very short (less than few seconds) and is known as sensory memory. Sensory memory is specific to the particular sensory modality and very briefly continues the sensation after the stimulus ends.

Characteristics of Sensory Memory

- The first and foremost characteristic of sensory memory is, that is a record of the sensory effects of the stimulus. It is simply the representation of the physical characteristics of the stimulus.
- The capacity of the sensory memory is infinite.
- The storage of information in sensory memory is independent of attention.
- The information from a particular sense organ is stored in the sensory memory of that particular sensory modality.Auditory information is only stored in the echoic memory, and visual information are stored in iconic memory.
- The sensory memory is in high resolution and is detail oriented.
- Sensory memory is really brief and it is being continuously replaced by new memories once the previous information decays. Information once lost from SM is gone for good and there is no way to recover it.

Types of Sensory Memory

1. Visual sensory memory
2. Auditory sensory memories
3. Haptic Memory

Visual Sensory Memory

Visual sensory memory also known as iconic memory, in iconic memory information is received by May last for only 20-400 milliseconds. The idea of iconic memory is somewhat controversial. Most of the evidence for iconic memory is found in laboratory studies.

Auditory Sensory Memory

Auditory sensory memory is also known as echoic memory. In echoic memory information is received by ears. From the physical environment like voice song, etc. an echo is a brief flurry of activity in the auditory system. Echoic memory is the brief registration of sounds or echo's in memory. Auditory echoes are slightly longer than icons up to 4,000 milliseconds (4 seconds).

Haptic Memory

The type of sensory memory which stores information from the skin in the form of tactile sensations is known as haptic memory. Experiencing pressure, itching, and pain throughout the body follows various pathways, which comprises the somatosensory system, and is stored in haptic memory

11.3.2 Short Term Memory

When we look up and try to tell someone about the sounds that we are hearing right now or the things which we are able to see right now, we are using our short-term memory. Short term memory is also known as working memory. Short-term memory or STM receives information from the sensory memory and processes that information. STM is a very dynamic and rapidly working system. It receives information both from the sensory memory as well from the long term memory for real time processing of the information.

The concept of short term memory were originally introduced by William James and revived by Waugh and Normen in 1965.

Short term memory can be compared to the RAM of the computers. RAM provides a working space for short processing and computations and then transfers it to the other parts of the memory system. Similarly, STM works on the information that we are currently using. Either it can be from the long term memory or it can be from the sensory memory which needs processing before being stored in the long term memory. As the STM is very active and dynamic, it has a limited capacity. It is also vulnerable to interruptions or interferences.

The time duration of sensory memory is no more than 18 seconds without rehearsal and upto 30 seconds with rehearsal. The capacity is also limited as in the amount of information that STM can hold is 7+2 items. The capacity can be increased by the method of chunking. For example when we remember a ten digit phone number (9875392056) a person can learn it more easily by dividing it into 3 chunks (987, 539, 2056). This chunking is more effective than trying to learn 10 digits singly and this is due to the limited capacity of STM.

As said earlier, STM is also known as working memory because it deals with what we are doing/thinking at any given moment. In terms of Freud, STM is the conscious memory. STm memory is created when we pay attention to the stimulus. It has been found that in short term memory, the information is stored in the form of level of processing which are three.

Phonological processing

Phonological processing means that the information is in the STM is processed only on the basis of the sound.

Visual processing

In short term memory some information is processed both at the phonological level as well as the visual level or visual level alone.

Semantic processing

Semantic processing refers to the processing of information based on its meaning.

It is said that the more a particular information is processed at multiple levels stronger the memory is.

Components of Working Memory

Short term memory is also referred to as working memory because it is the memorythat one is currently using. For the better understanding of the working memory, Baddeley and Hitch proposed a model of working memory which had the three components: the central executive, phonological loop and the visuospatial sketchpad.

The Central Executive

The central executive gathers information from the phonological loop, the visuospatial sketchpad and the long term memory. It is like a master which encodes the sensory memory and decides what is important to be stored in the long term memory. Also, the central executive also retrieves information from the long term memory as when needed.

The Phonological loop

The phonological loop processes auditory information and is used to learn anything related to sounds like new vocabulary, solving math-problems, remembering instructions etc. the phonological loop is active whenever we read, speak or repeat words. We usually notice an "inner voice" that reads along whenever we read something or when we try to remember something that is said to us.

The Visuospatial Sketchpad

The visuospatial sketchpad is the component of working memory that is used to process visual information with the help of physical characteristics or the location of the object.The information is processed directly with the help of perceptual processes or indirectly through a visual image. It also helps in tracking the motion of the object which is in our visual field. The visuospatial sketchpad is active while learning to solve puzzles, mazes etc.

Rehearsal

Rehearsal is the technique that is used to keep the information in the short term memory active for long. Rehearsal is simple repeating the information over and over again in order to get it stored in

the memory. Rehearsal can be either overt or covert. With the help of rehearsal, the information can be better stored in long term memory. It is used to create memory traces which have some permanence.

Types of Rehearsal

1. Maintenance Rehearsal
2. Elaborative Rehearsal

Maintenance Rehearsal

Maintenance rehearsal is repeating the information over and over to keep it active in the working memory so that we can keep working on the same information. Maintenance rehearsal cannot be used to store information in the long term memory permanently. This rehearsal is temporary and does not create a deeper level code.

Elaborative Rehearsal

Elaborative rehearsal refers to the repetition of the information in a more elaborative manner by associating meaning with the information. The individual elaborates the information as much as possible and tries to understand the meaning of information from every aspect possible. This kind of rehearsal makes the information more meaningful. Because of the elaboration, the information is integrated into the previously known information or forms meaningful association with other memories making the information more memorable. This type of rehearsal is effective because it involves thinking about the meaning of the information and connecting it to other information already stored in memory. It is deeper than maintenance rehearsal.

11.3.3 Long term Memory

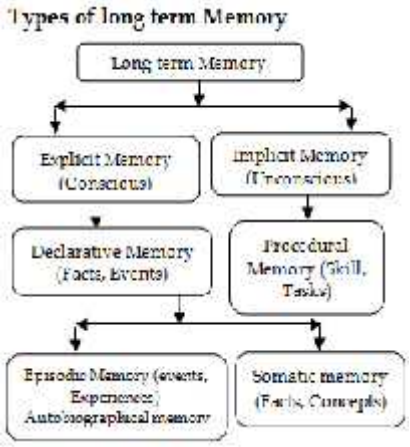
Long term memory (LTM) is the most stable part of the memory. The information stored in the long term memory is relatively permanent and the capacity of the LTM is also infinite. The information learnt by us in childhood is available for recall even after 50 years. It is seen that yes with passage of time information can be lost or forgotten but still LTM is a system of memory which stores information for a very long period of time and is also relatively enduring. LTM is the last store of the multi store model proposed by Atkinson and Shiffrin.

According to Mazur (2006) *"long-term memory has also been called reference memory, because an individual must refer to the information in long-term memory when performing almost any task"*.

Whenever we are talking about memory in general, most of us are referring to the long term memory as here we have information that has been previously learnt. In case of sensory and short term memory, they are more related to the current information and working. Long term memory is something every one of us relies on for our day-to-day functioning ass demonstrated in the very introduction of this chapter. We remember people's names, their faces our relationships, daily life objects and how to use them, the words of our language all with the help of long term memory. As we all know that we remember our life in a chronological order this depicts that long term memory is stored in temporal sequence.

Long term memory is characterized by the stable and permanent changes in the neural connections that are widely spread throughout the brain. The small area of brain known as hippocampus is the important area of the brain which is responsible for making of the memories. The process of making these neural connections is known as consolidation and the consolidation of information requires time and proper functioning of the brain. Consolidation of memory can take up to 3 months after the initial learning of the information.

Different theories exist among psychologists about how knowledge reaches long-term memory. The common view is that information enters short term memory and then transfers to long term memory based on how it is processed.



Types of Long-term Memory

Explicit Memory

Explicit memory is that type of long term memory which includes past experiences that are consciously brought to mind, recall recognition and test you're taken in school rely on explicit memory.

Declarative Memory

Declarative memory refers to cognitive information that can be brought to mind. Declarative memory can involve words, concepts, visual images or both. It is the memory for specific facts and personal experiences.

Episodic Memory

Episodic memory refers to one's personal past experiences. It is the sub part of declarative memory that records personal experiences that are linked with specific times and places. Episodic memory stores facts, relating to information we have received or experience we have had. Such type of memory consist information regarding one's personal life for example what your first day of school was like, what you did on your last vacation.

Semantic Memory

Semantic memory is the subpart of the declarative memory. The word semantic refers to the meaning. So the semantic memory includes the impersonal knowledge about the world we are living in. this includes our knowledge of our personal experiences ranging from the most trivial to the most important. For example, we know the capitals of states and countries and rules of basketball or cricket.

Implicit Memory

Implicit memory is a typr of memory which is using our memory and we are not even aware that we are using information from our memory. It is a process by which we enhance our skills and behaviors without the conscious awareness that we are learning something new.

Procedural Memory

Procedural memory is the part of implicit memory. It is our unconscious memory of our skills and habits, specifically how to do things like use objects. Basically it is the 'how to' memory. It is the memory for all our motor skills as well as our cognitive and perceptual skills. A procedural memory in simple words is the memory of action. Our skills such as swimming, driving, dancing, cycling all are a part of procedural memory.

Autobiographical Memory

Autobiographical memory is memory for the events of one's life. The term "autobiographical memory" refers to a person's memory of their own past. Autobiographical recollection is a positive experience. One has no recollection of what has occurred. Rather, one recalls one's own construction or reconstruction of events. In general, people's autobiographical memories are very strong. They are, however, prone to distortions (as will be discussed later).They are more suitable

for various stages of life. Middle-aged adults often recall incidents from their childhood and early adulthood more vividly than events from the recent past.

Flush Bulb Memories

Brown and Kulikin invented the word "Flush Bulb Memory" in 1977. Flush bulb memories are vivid recollections of arousing or shocking incidents. They are often very comprehensive. In other words, a flush bulb memory is a particularly vivid memory of a particularly emotional or dramatic past event; these memories can also be linked to particularly vivid emotional events in one's life. Flash bulb memories are like image frozen in a memory card tied to a particular place, dates, and times.

According to Robin 1985 Flush bulb memories are most often formed when an event is surprising important or emotional.

Eye witness Memory

Eye witness memory can be defined as the memory which is related to any witnessed event. In which an individual see any accident is happen and recalls it in his memory and later describes how the accident occur. For example the flood of 2014 is the eye witness memory for many people in Kashmir.

11.3.4 Difference between STM and LTM

Short-term Memory	Long-term Memory
STM is called primary memory	LTM is called secondary memory
STM has limited capacity	STM has unlimited capacity
It is rapid memory	It is slow memory
Frontal lobe is related for STM	Temporal lobe is related for LTM
Duration is less than 30 seconds	Duration is unlimited depending on the other factors.

11.4 Techniques for Improving memory

Researchers found following fruitful techniques for improving human memory.

Proper attention

Proper attention plays a vital role in remembering process, without paying proper attention towards the information received through sense organs from the environment we can't send it to our short term memory. Maximum time's people forget things due to less or no attention towards them.

Rehearsal

Rehearsal is a technique used for keeping information active. Memory rehearsal is a term for the role of repetition in the retention of memories. The process of rehearsal consists of keeping items of information in the center of attention. Rehearsal involves repeating information over and over in order to get the information processed and stored as a memory.

Chunking

Chunking is the process through which the large material or information is stored in long term memory by breaking it into many meaningful units called Chunks for example, to remember a 10 digit mobile number (9103133348) a person could chunk the digits into three groups like 9103,1333,48. This method of remembering mobile number is far more effective than attempting to remember a sting of 10 digits. This is because we are able to chunk the information into meaningful groups of numbers

Elaborative Processing

There is evidence that more elaborative processing results better memory. Elaborative processing involves thinking of information that relates to and expands on the information that needs to be remembered. For instance, you want remember the name of your class teacher who teach you math in 10th, in elaborative process you recall your school days first than all related information will be send back from long term memory to short term memory and you get the name of your class teacher.

Mnemonics

The mnemonic devices are found to be good methods in helping people to remember material quickly and easily. The mnemonic device is a method of organizing materials, through this device the person consciously puts certain systems or order in the material he learns. He can use meanings, rhythms and groupings as means of organizing the material.

Sleep

Studies have shown that the brain requires 7-8 hours of sleep per night. Sleep strengthens relevant associations and weakens irrelevant associations, thus improving your access to memories.

11.5 Forgetting

The loss of knowledge from long-term memory is referred to as **forgetting**. We all forget stuff, such as a loved one's birthday, someone's name, or where our car keys are kept. As you've seen, memory is fickle, and forgetting can be aggravating and even humiliating. Why, then, do we forget? This question has two straightforward responses. Either the memory is no longer available as in it has disappeared or the information is still there in the memory but somehow due to any reason it is not being available for recall. Based on these two things, various psychologists have given theories of forgetting.

Trace decay theory of Forgetting

This theory is based on the fact that there is a trace of memory in the brain. It uses the process of consolidation to explain forgetting. Memory consolidation creates a structural change in the brain which means that if there is a memory there is something physical inside the brain corresponding to it and we call it a memory trace. The trace decay theory of forgetting says that forgetting of information occurs due to lapse of time and due to passing time the memory trace is automatically decayed and hence lost. This theory has its focus on the limited duration as well as limited time of the short term memory. This theory however pays no attention to how the information is learnt or what events happened between learning that information and when we are trying to recall it. It simply says that more the time passes the weaker the trace becomes and eventually decays.

Displacement theory

This particular theory tries to explain forgetting in the short term memory. Displacement theory says that forgetting is simple; it is because the information is not available. According to this theory, STM has limited capapcity and limited duration due to which as when new knowledge or information keeps pouring in, it displaces the older one and take its place. The capacity of STM is 7+/- 2 items so it is a very small amount of information and also it is limited time just a few seconds so, as the new information needs to come in it pushes the older one out. If the older information has some rehearsal then it might get a chance to go in the long term memory otherwise it is displaced and forgotten.

It is like a conveyor belt, as we keep putting on more boxes on the conveyor belt the older ones will fall out.

Interference Theory

It was believed that what we had previously learned, as well as what we would learn in the future, could disturb or interfere with memory. This theory proposes that during encoding, information in long-term memory can become confused or mixed up with other information, causing memories to be distorted or disrupted.According to the interference theory, forgetting happens as a result of memories interfering and disrupting one another, or in other words, forgetting occurs as a result of interference from other memories (Baddeley, 1999). Interference can lead to forgetting in one of two ways:

1. **Proactive interference**: If you can't learn a new job because you've already learned one, it's called proactive intervention (pro=forward). When what we already remember gets in the way of what we're learning right now – when old memories get in the way of fresh memories.

2. **Retroactive interference:** When you forget a previously learned task as a result of learning a new task, this is known as retroactive intervention (retro=backward). In other words, later learning interferes with earlier learning, causing old memories to be disrupted.

Proactive and retroactive Interference is thought to be more likely to occur where the memories are similar, for example: confusing old and new telephone numbers.

Lack of Consolidation

Memory, according to this theory, is also based on biological processes. When we receive new information, it takes time for adjustments to occur in the nervous system – the consolidation phase – so that it can be properly documented. During this time, information is transferred from short-term memory to long-term memory, which is more permanent.The brain is made up of a large number of neurons that are linked together by synapses. Chemicals can be transferred from one neuron to the next via synapses. Neurotransmitters are chemicals that can either inhibit or enhance the performance of neurons. As a result, if there is a problem with the biological process of consolidation, memory is not created, according to this theory.And we can feel like we have forgotten something that just happened.

Retrieval Failure Theory

When information is stored in long-term memory but cannot be retrieved, it is referred to as retrieval failure. Such data is said to be available (that is, it is still stored) but not usable (i.e. it cannot be retrieved). The retrieval cues aren't present, so it can't be accessed.

We also store information about the situation when we store a new memory, which are known as retrieval cues. These retrieval cues will stimulate the memory of the situation when we are in the same situation again. Retrieval cues can be:

- **External / Context -** in the environment, e.g. smell, place etc.
- **Internal / State**- inside of us, e.g. physical, emotional, mood, drunk etc.

There is considerable evidence that information is more likely to be retrieved from long-term memory if appropriate retrieval cues are present.

11.6 Summary

- Memory is a system or process that stores what we learn for future use.
- Memory has three basic components: encoding, storage and retrieval.
- Encoding is process of getting information in our memory system through automatic or effortful processing.
- Storage is retention of that information and Retrieval is getting the information out of storage.
- Sensory memory, short-term memory and long-term memory are the different types of memory as told by Atkinson and Shiffrin.
- The stimuli that we pay attention to goes in the short-term memory and the information we rehearse moves on into the long-term memory.
- Other models of memory are given by Baddeley and Hitch which says that there is a feedback loop between short-term and long-term memory.
- Despite the precision of our brain in the functioning of the memory there are still times that we forget a lot of information, a process that's usually referred to as retrieval failure.
- There are many ways to combat this failure which includes mnemonics, rehearsals and adequate sleep. These can also help in studying effectively.

11.7 Keywords

Absentmindedness, acoustic encoding, amnesia, anterograde amnesia, arousal theory, Atkinson-Shiffrin model, automatic processing, chunking, declarative memory, effortful processing, elaborative rehearsal, encoding, episodic memory, explicit memory, flashbulb memory, forgetting, implicit memory, long-term memory (LTM), memory, memory-enhancing strategy, proactive interference

11.8 Review Questions

1. Compare and contrast implicit and explicit memory.
2. According to the Atkinson-Shiffrin model, name and describe the three stages of memory.
3. Compare and contrast the two ways in which we encode information.
4. What might happen to your memory system if you sustained damage to your hippocampus?
5. Compare and contrast the two types of interference.
6. Compare and contrast the two types of amnesia.

11.9 Self-assessment Questions

1. _____ is a memory store with a phonological loop, visiospatial sketchpad, episodic buffer, and a central executive.

- sensory memory
- episodic memory
- working memory
- implicit memory

2. The storage capacity of long-term memory is _____.

- one or two bits of information
- seven bits, plus or minus two
- limited
- essentially limitless

3. The three functions of memory are _____.

- automatic processing, effortful processing, and storage
- encoding, processing, and storage
- automatic processing, effortful processing, and retrieval
- encoding, storage, and retrieval

4. This physical trace of memory is known as the _____.

- engram
- Lashley effect
- Deese-Roediger-McDermott Paradigm
- flashbulb memory effect

5. An exceptionally clear recollection of an important event is a (an) _____.

- engram
- arousal theory
- flashbulb memory
- equipotentiality hypothesis

6. _____ is when our recollections of the past are done in a self-enhancing manner.

- stereotypical bias
- egocentric bias
- hindsight bias
- enhancement bias

7. Tip-of-the-tongue phenomenon is also known as _____.

- persistence
- misattribution
- transience
- blocking

8. The formulation of new memories is sometimes called _____, and the process of bringing up old memories is called _____.

- construction; reconstruction
- reconstruction; construction
- production; reproduction
- reproduction; production

9. When you are learning how to play the piano, the statement "Every good boy does fine" can help you remember the notes E, G, B, D, and F for the lines of the treble clef. This is an example of a (an) _____.

- jingle
- acronym
- acrostic
- acoustic

10. If you want to improve your short-term memory, you should spend time writing about _____.

- your best possible future self
- a traumatic life experience
- a trivial topic
- your grocery list

11. The self-referencing effect refers to _____.

- making the material you are trying to memorize personally meaningful to you
- making a phrase of all the first letters of the words you are trying to memorize
- making a word formed by the first letter of each of the words you are trying to memorize
- saying words you want to remember out loud to yourself

12. Memory aids that help organize information for encoding are _____.

- mnemonic devices
- memory-enhancing strategies
- elaborative rehearsal
- effortful processing

11.10 Suggested Readings

Atkinson, R., &Shiffrin, R. (1968). Human memory: A proposed system and its control processes. In K Spence & J Spence (Eds.). The Psychology of Learning and Motivation: Advances in Research and Theory (Vol. 2). New York: Academic Press.

Bransford, J. (1979). Human Cognition: Learning, Understanding, and Remembering. Belmont, CA: Wadsworth.

Galotti, K.M. (2008). Cognitive Psychology: Perception, Attention, and Memory. London: Cengage.

Solso, R.L. (2006). Cognitive Psychology. New Delhi: Pearson Education

Cunia, E. (2005). Cognitive learning theory. Principles of Instruction and Learning: A Web Quest. Retrieved April 2006, from http://suedstudent.syr.edu/~ebarrett/ide621/cognitive.htm

http://www.well.com/user/smalin/miller.html

Unit 12: Thinking, Intelligence and Creativity

CONTENTS

Objectives

After reading this unit, you will be able to:

- Describe intelligence and intelligence theories
- Understand how to measure intelligence
- Know about the characteristics of intelligence
- Understand the meaning of thinking and the characteristics of thinking
- Describe the types of thinking
- Define and describe creativity
- Describe the types of creativity
- Understand the stages of creative process.

12.1 Introduction

What is the best way to solve a problem? How does a person who has never seen or touched snow in real life develop an understanding of the concept of snow? How do young children acquire the ability to learn language with no formal instruction? Psychologists who study thinking explore questions like these and are called cognitive psychologists.

Cognitive psychologists also study intelligence. What is intelligence, and how does it vary from person to person? Are "street smarts" a kind of intelligence, and if so, how do they relate to other types of intelligence? What does an IQ test really measure? These questions and more will be explored in this chapter as you study thinking and intelligence. We will consider thinking and briefly explore the development and use of language. We will also discuss problem solving and creativity before ending with a discussion of how intelligence is measured and how our biology and environments interact to affect intelligence. After finishing this chapter, you will have a greater appreciation of the higher-level cognitive processes that contribute to our distinctiveness as a species.

12.2 Intelligence

In general, intelligence is our capacity to in a purposeful way, to think in rational way, and also to deal very effectively to environmental. Intelligence also involves reasoning, problem solving ability,

knowledge, memory and successful adaptation to one's surroundings. Intelligence can be defined as the ability of adjusting in a new environment. It is the ability to avail of experience.

Intelligence is the ability to see and adapt to novel situations rapidly and efficiently; the ability to utilize abstract and effectively; the ability to group relations and to learn speedily.

Different psychologists gave definition of intelligence in different ways.

"Intelligence is the capacity to learn and adjust to relatively new and changing conditions."- **Wagnon 1937**

"Intelligence is the capacity of an individual consciously tom adjust his thinking to new requirements. It is general mental adaptability to new problems and conditions of life."- **Stern**

"Intelligence is the aggregate or global capacity of an individual to act purposefully, to think rationally and to deal effectively with his environment" - **David Wechsler**

"Intelligence is the ability to do abstract thinking." - **Termen 1921**

"Intelligence is ability to adjust to environment." **– Colvin**

"Intelligence is the power of making good responses from the point of view of truth and fact." **– Thorndike**

"Intelligence is the judge well, to understand properly to reason well, these are the essential springs of intelligence." **– Binet**

"Intelligence comprises the mental abilities necessary for adaptation to, as well as shaping and selection of, any environmental context."- **Sternberg**

*"Intelligence is the ability or skill to solve problems or to fashion products which are valued within one or more cultural settings."***– Gardner**

"Intelligence is like electricity which is easy to be measured but difficult to be defined" **-Jenson**

12.2.1 Characteristics of Intelligence

Following points highlights the characteristics of intelligence.

1. Intelligence is an innate natural power.
2. Intelligence helps the individual in learning things and making adjustment.
3. Intelligence is a product of heredity and environment.
4. Intelligence is not a skill which is acquired through practice.
5. Intelligence is the ability of abstract thinking.
6. Intelligence is not a memory. An intelligent person may have dull memory and vice-versa
7. Heredity exercises a good deal of influence on intelligence.
8. It helps to understand and deal with people, objects, and symbols

12.2.2 Measurement of intelligence

In psychology, we measure concepts by using different psychological tests/scales. Firstly, it is very important for a test or scale to reliable i.e., consistent, secondly, should be valid, means should measure what it supposed to measure. There are variety of tests available to measure intelligence. The intelligence test is of two types, one is individual tests and other is group test. And the first individual intelligence test was constructed by Binet and Simon called Binet-Simon Scale. The first group tests were Army Alpha and Army Beta test. Individual test can be administered only on one individual at a time and group test can be administered to number for people.

Further intelligence test can be classified on the basis of nature of items in the test. Verbal and Performance tests. In verbal test, also known as paper-pencil test, here written language is used to give instructions and also some language is required on the side of subject. It means, this only can be performed on those who are literate. In case of performance test, although in this some instructions in language have been used, but here the job of the subject is to perform a task. instead to read or write. The advantage of performance over verbal tests are they can be applied in child case as well as those who are illiterate.

Other classification is Speed and Power test- In speed test there is always a time limit to complete the test for example 20 or 25 minutes will be given to complete it. And in power test, the difficulty level of items/statements increases as the item number increases.

Few important intelligence tests are-

Stanford-Binet Scale, Wechsler Scales, Kaufman Scales, Raven's Progressive Matrices, Goodenough Draw-a-Man test. And some Indian Intelligence Test are- General Mental Ability test by R P Shrivastava and K Saxena, Group test of P Ahuja, Verbal Intelligence scale of R K Ojha and Ray Chaudhary etc.

12.2.3 The concept of the intelligence quotient

This concept was first introduced in the year 1916 by Terman. The IQ he defined as a ratio of the mental age to the real age or we can say chronological age. And multiply by 100. So, the formula is MA/CA X 100. If Radha, of a mental age of 7 and her chronological age of 10, has an IQ of 7 divided by 10, multiplied by 100, which comes out 70. This means, Radha's mental age is 70 per cent of her chronological age.

12.3 Thinking

Thinking is a process like perceiving and remembering. It is because of thinking that a being called a rational being and this is a special gift provided to man by nature. Thinking is a productive process that assist us to procedure a novel representation of an object or of any event by altering presented information. It comprises a number of cerebral activities, like concluding, conceptualizing, reasoning, envisaging, judgement, problem solving, and artistic thinking.

Thinking is the utmost comprehensive of the three essentials of the thought process and is considered by generality rather than omission. It is considered as a highest cognitive functioning and the examination of thinking process is a very part of the branch cognitive psychology. Thinking is overt higher level of mental activity instead by problem solving as soon as the solution of the problem is arrived.

It is cognitive process that involves some changes of knowledge in one's cognitive system. All thinking is based on personal experiences and knowledge. it is an active process. It encompasses events that range from day dreaming to problem solving.

"Thinking is the process that enables us to find symbolic representations of problems by using symbolic representation of stimuli and events." **Silver (1978)**

"Thinking is the mental representation of image symbolic concepts rules and other meditational units." **– Kant H. (1976)**

12.3.1 Characteristics of Thinking

1. Thinking is the highly mental complex process
2. Thinking is the symbolic process.
3. Thinking involves memory, emotion, motivation language, learning, mental manipulation (arrangement and rearrangement) of symbols, images and past experiences.
4. Thinking also includes organization and evaluation of information, judgement, compression, reasoning or cognitive process.
5. Thinking is a polymorphous process.
6. Thinking is a problem solving process.
7. Thinking is an overt behaviour.
8. Thinking is goal directed.
9. Thinking is an active process.
10. Thinking is based on one's personal experiences and behaviour.

12.3.2 Types of Thinking

There are mainly two types of thinking (1) Autistic thinking and (2) Realistic thinking.

Autistic Thinking

Autistic thinking is that type of thinking which is highly private and may use symbols with very personal meanings, dreams are the examples of autistic thinking

Realistic thinking

Realistic thinking is that type of thinking which is related to realize to solve problems relating society. Environment political setup, it also includes mathematical solution. Realistic thinking have following types: (1) convergent thinking (2) divergent thinking (3) creative thinking and (4) evaluative thinking (5) critical thinking.

Convergent Thinking

J.P. Guilford coined the term *"convergent thinking"*. In simple terms, Convergent thinking is from general to specific. Humans are efficient in convergent thinking we collect information or gain knowledge related to the particular event or thing and then we conclude and come to the one solution. For example, mathematical problems where there is only one formula to solve it.

Divergent Thinking

Divergent thinking is the opposite to convergent thinking, here we go from specific to general. This is related to creativity. People who are creative they go for divergent thinking, like giving numerous ways to solve a particular problem.

Creative Thinking

Creative thinking is also known as inductive thinking. Creative thinking gives us novel ideas to deal with the situation or to solve a particular problem. One form of thinking which gives is very new and useful ideas.

Creative thinking is said to be processed in five stages (1) preparation (2) incubation (3) illumination (4) evaluation and (5) revision. Creative people are usually intelligent, talent and strongly motivated to solve the problems that interest them.

Evaluative Thinking

Evaluative thinking is that type of thinking in which an individual made the conclusion about many things by using both positive and negative aspects of that thing.

Critical Thinking

Critical thinking measures the value and rationality of something in existence. It contains exact, insistent, impartial analysis. Creative thinking generally refers to higher thinking that questions assumptions.

The term critical thinking was introduced by John Dewey in early 1900's. The word *"Critical"* is derived from the ancient word *"Kriterion"* means standards.

12.4 Creativity

Creativity is a kind of thinking that involves in solving a solution with a novel and useful method or idea. It gives us unique way to do things or to solve issues. It is one of the highest traits of humans. It helps us in utilizing all human resources, and makes us competent enough and skilled.

It comprises the group of ideas, substitutions, and options (Smith 1998). Creativity research helps in finding the individual differences in cognitions, personalities, problem solving skills, decision styles etc. Guilford had defined the term creativity in two criteria: one is originality or novelty, and another is appropriateness.

Creativity is linked to goal directed intelligent which is rare, new and mostly useful. Few examples of creativity are The Mona Lisa painting, Thermo dynamics Law, motion Law, Relativity theory etc.

"Creativity is the capacity of a person to produce compositions, products or ideas which are essentially new or novel and previously unknown to the producer." **- Drevdahl**

"Without creativity man is not able to make full use of information and resources available locked up in old habits, structures, patterns and concepts and perceptions?" **- Akinboye (2002)**

12.4.1 Characteristics of Creativity

1. It is the production of novel ideas.
2. It is the reconstruction of old ideas
3. It is related to insight.
4. It is active involvement in searching the alternatives.
5. It gives is some special ways to deal with Information.

12.4.2 Types of Creativity

Little-c Creativity

Little-c creativity is everyday creativity. This type of creativity is found in everyday activities.

Big-c creativity

Big-c creativity is also known as eminent creativity. This type of creativity is found on interpersonal and historical judgements of novelty, appropriateness and lasting impact.

12.4.3 Aspects of Creativity

Guilford (1986) considered creative thinking as involving divergent thinking, which emphasises fluency, flexibility, originality, and elaboration. A little explanation of the same is given below:

Fluency:

Fluency means amount of appropriate ideas coming up to deal with things.

Flexibility

Creative people are very flexible. They don't carry rigidity in their concepts, ideas, solutions but having variety of them to be used.

Originality

It is the originality not the copied one's. Creative person has many ideas and are novel or original

Elaboration

The amount of added thoughts; validates the person's ability to develop and detailed their ideas.

Resistance to Premature Closure

Creativity makes ap person resistant to premature closure. This is the degree of psychological flexibility. They keep their mind very open.

Stages of Creativity

Graham Wallas (1926) suggested the stages of creative thinking.

Preparation

The vary first stage is preparation, here a person tries to collect all the facts available to the issue or problem, which are essential to solve the issue. This stage to learn about the problem as much as we can. Understanding is essential.

Incubation

When there is no solution and it involves variety of complexities. Here functional fixedness or mental set plays an hinderance in solving the issue. And due to over processing, person starts feeling fatigue and stops thinking about the issue or distract himself from the issue. But the unconscious part is working or involved in creative process during this stage.

Illumination

In the third stage, and suddenly the subject gets the novel way or idea to deal with the issue. Here the thinker gets the insight and get the best ways or solutions. This generally happens when we distract or stops thinking about the problem and later suddenly got the answer or solution of it.

Verification

The last is verification stage, where we check the solution. Sometimes, few modifications occurred at this stage. An individual here apply the solution finally and get the result.

Summary

Intelligence, thinking and creativity all are the most fundamental and complex characteristics of the cognition. It helps us in dealing with life events effectively. These makes us separate from animals.

12.4.4 Keywords

Analytical intelligence, convergent thinking, creativity, creative intelligence, divergent thinking, Multiple Intelligences Theory, triarchic theory of intelligence

12.5 Review Questions

- Do you think emotional intelligence has any role to play in your personal life?
- Describe a situation where you think practical intelligence might be needed.
- Describe situations or events in which divergent thinking is being used
- Explain the multiple intelligences theory.

12.6 Self-assessment questions

1. Howard Gardner has given_____ number of Multiple Intelligences

2. The components of Traichic Theory are

- Componential, Sequential, Contextual
- Componential, Experiential, Contextual
- Contextual, Experiential, Sequential
- Contextual, Streamential, Experiential

3. _____intelligence is accumulation of knowledge, facts, and skills that are acquired throughout life

4. How many mental abilities did Thurstone suggest constituted intelligence?

- 7
- 2
- 8
- 6

5. Deviation I.Q. is a concept given by Wechsler. True/False

6. _____is the process of thinking that explores multiple possible solutions in order to generate creative ideas.

7. _____makes broad generalizations from specific cases or observations.

8. A type of mental activity in which focus is directed inward and the thinking is subjective (as opposed to objective) is known as

- Inductive Thinking
- Autistic Thinking
- Convergent Thinking
- Deductive Thinking

9- Emphasizing what comes to mind first or most readily/quickly is known as _____

- Critical Thinking
- Intuitive Thinking
- Confirmation Bias

10- Tendency to think about things only in respect of their usual functions

- Fixation
- Mental Set
- Functional Fixedness
- Confirmation Bias

11- What is correct sequence of stages in Wallas model of creativity?

- Preparation Incubation Illumination Verification
- Preparation Illumination Incubation Verification
- Preparation Verification Incubation Illumination
- Preparation Incubation Verification Illumination

12- _____stage is characterized by taking step back from the problem and allowing the mind to wander to let it contemplate and work the problem through.

13- Which of the following is not a dimension of Torrance Tests of Creative Thinking

- Originality
- Flexibility

- Fluency
- Extension

14- Which of the following is not a related to creativity

- Intelligence
- Academic Achievement
- Recalling information
- All of the above

15- Divergent Thinking is thinking associated with Creativity. True/False

12.7 Further Readings

Abraham, A., and Windmann, S. (2007). Creative cognition: the diverse operations and the prospect of applying a cognitive neuroscience perspective. *Methods* 42, 38–48. doi: 10.1016/j.ymeth.2006.12.007

Anderson, J. R. (1983). *The Architecture of Cognition* Cambridge, MA: Harvard University Press

Barsalou, L. W. (1992). *Cognitive Psychology: An Overview for Cognitive Scientists* Hillsdale, NJ: LEA.

Boden, M. A. (1990). *The Creative Mind: Myths and Mechanisms* London: Abacus.

https://courses.lumenlearning.com/boundless-psychology/chapter/step-3-memory-retrieval/

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

https://practicalpie.com/theories-of-forgetting/

Unit 13: Emotion and Motivation

CONTENTS

Objectives

After reading this unit, you will be able to:

- understand the nature of human motivation,
- describe the nature of some important motives,
- describe the nature of emotional expression,
- understand the relationship between culture and emotion
- Know how to manage your own emotions.

Introduction

Sunita, a young lady from a mostly secret town, places in 10-12 hours of difficult work each day to overcome the different designing selection tests. Hemant, a truly tested kid, needs to participate in an endeavours and prepares himself widely in a mountaineering organization. Aman sets aside cash from his grant so he can purchase a present for his mom. These are only a couple models, which show the job inspiration plays in human conduct. Every one of these practices is brought about by a fundamental intention. Conduct is objective driven. Objective looking for conduct will in general continue until the objective is accomplished. For accomplishing their objectives individuals design and attempt various exercises. How is Sunita going to feel if after all the difficult work she has placed in, she doesn't succeed or Aman's grant cash gets taken? Sunita, maybe, will be miserable and Aman furious. This part will assist you with understanding the essential ideas of inspiration and feeling, and related advancements in these two regions. You will likewise become more acquainted with the ideas of disappointment and struggle. The fundamental feelings, their natural bases, plain articulations, social impacts, their relationship with inspiration, and a few strategies to assist you with dealing with your feelings better will likewise be managed.

13.1 Introduction to Motivation

The expression "motivation" is gotten from the Latin "Moveers" which signifies "to move". It is that space of mental science that reviews the variables that empower, or stimulate, behavior. In particular, it is The expression "Motivation" springs from the Latin "Movers" which recommends "to move". it's that space of psychology that reviews the elements that energize, or animate behavior. In particular, it's worried about how behavior is started, coordinated, and maintained. In straightforward words, inspiration is that the way toward exciting developments inside the living being.

Motivation is that the need or want which coordinates our conduct. the possibility of inspiration emerges from the natural interaction of homeostasis which recommends that the body consistently keeps a decent or a proceeding with interior state. At whatever point this equilibrium is intruded on, a particular need emerges and along these lines the individual is inspired to act in a specific way to deal with homeostasis.

Additionally, Motivation might be a psycholoical process driven by needs. it's a dynamic and purposive interaction intended to be the drive behind all our practices. Inspiration is, in this way, instrumental during a conduct interaction. Recognizable proof of persuasive properties of human conduct must be completely gotten a handle on to serve life forms better and on appropriate contemplations. Inspiration is that the interior cycles that can't be straightforwardly seen inside the circumstance yet which are genuine, by the by, and which serve to actuate, control, and keep up individuals' activity. issues with inspiration are spread through the different degrees of investigation of brain research. for instance, the ideas of remuneration and support and consequently the physiological instruments are vital to speculations of inspiration.

13.2 Nature of Motivation

The idea of Motivation is regularly seen from the ensuing focuses concluded from various meanings of Motivation.

1. The idea of Motivation centers around clarifying what "moves" conduct.

2. A large portion of our ordinary clarification of behavior is given regarding motives.

3. Intentions likewise help in making forecasts about conduct

4. Thought processes are the general expresses that empower us to frame forecasts about conduct in numerous different circumstances.

5. Motivation is one of the determinants of conduct.

6. Senses, drives, necessities, objectives, and motivators go under the wide bunch of Motivation.

13.3 Types of Motives

There are two kinds of motive and two kinds of There are two sorts of motivation. the 2 sorts of motives are biological and psychosocial motives.

1. Biological Motives: The biological or physiological approach to know motivation is that the very first plan to understand the motivation. This approach has its base from the homeostasis and therefore the concept of adaptation that organisms need to maintain the body's needs which are internal physiological imbalances. These physiological imbalances produce drives that successively stimulate the behavior of the organism. This approach relies on the concept of instinct. Instincts are the inborn patterns of behavior that don't require learning and are biological in nature.

The major biological motives are hunger, thirst, sleep, sex, parental care, etc.

2. Psychosocial Motives: Social motives are usually learned or acquired from social groups, family, community, neighborhood, friends, and relatives, etc. Psychosocial motives are certain complex sorts of motives that result from the interaction of the individual with his/her social surroundings also as our collective unconscious.

Major psychosocial motives are: the necessity for affiliation, need for power, need for achievement, curiosity, and exploration, etc.

The two sorts of motivation that are there are:

1. Intrinsic motivation: Intrinsic motivation comes from within and is typically autonomous. once you are intrinsically motivated the behavior or activity that's being done gives the individual internal satisfaction and private joy. The goal of the behavior is to achieve, mastery, competence, and purposiveness.

1. 2. Extrinsic motivation: Extrinsic motivation comes from the external expectation of some reward or reinforcement. The goal is concentrated on an external outcome like fame, money, reward, or external reinforcement. Basically, the motivation behind the behavior arises from external factors, not the interior psychological needs.

. the 2 kinds of thought processes are organic and psychosocial intentions.

1. Natural Motives: The organic or physiological way to deal with realize inspiration is that the absolute first intend to comprehend the inspiration. This methodology has its base from the homeostasis and subsequently the idea of variation that living beings need to keep up the body's requirements which are inner physiological uneven characters. These physiological irregular characteristics produce drives that progressively animate the conduct of the life form. This methodology depends on the idea of intuition. Impulses are the characteristic examples of conduct that don't need learning and are organic in nature.

The major organic intentions are hunger, thirst, rest, sex, parental consideration, and so on

2. Psychosocial Motives: Social thought processes are typically taken in or procured from gatherings of people, family, local area, neighborhood, companions, and family members, and so on Psychosocial intentions are sure intricate kinds of thought processes that outcome from the collaboration of the person with his/her social environmental factors additionally as our aggregate oblivious. Major psychosocial intentions are: the need for alliance, need for power, need for accomplishment, interest, and investigation, and so on

The two kinds of inspiration that are there are:

1. Natural inspiration: Intrinsic inspiration comes from the inside and is regularly self-ruling. when you are characteristically spurred the conduct or action that is being done gives the individual inward fulfillment and private bliss. The objective of the conduct is to accomplish, authority, ability, and purposiveness.

2. Extraneous inspiration: Extrinsic inspiration comes from the outside assumption for some award or support. The objective is focused on an outside result like distinction, cash, award, or outer support. Essentially, the inspiration driving the conduct emerges from outer elements, not the inside mental necessities.

13.4 Perspectives on Motivation

There are various perspectives to elucidate the rationale for behavior aka motivation. Each perspective on its own won't be ready to fully explain all human behavior, but together they will explain tons about human behavior.

Instinct hypothesis

As indicated by the Instinct hypothesis, all human conduct is motivation by Instinct. Instinct are the biological patterns of behavior examples of conduct that don't need learning. for example, newborn children have an inborn reflex that assists them with chasing down an areola and get sustenance, while birds have a natural had the opportunity to relocate before winter. Both of those practices happen normally and consequently. they are doing not had the opportunity to be figured out how to be shown.

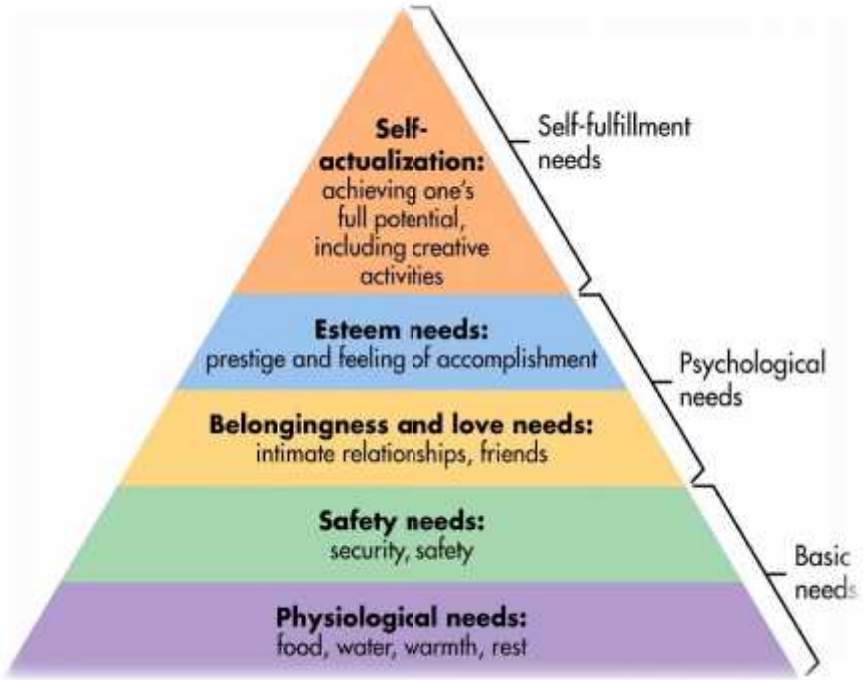
In any case, saying that every single one of the human conduct is predicated on impulse will be misrepresenting in light of the fact that it's difficult to process the very certainty that two populace are quarreling about ensuing government because of a natural sense. Therapists get that while the populace is organically modified, singular encounters likewise assume a significant part in why the conduct is shown. Thus, more hypotheses of inspiration came into placeDrive-decrease hypothesis

Clark Hull gave a substitution viewpoint to considering feeling by saying that the decrease of drives is that the essential power behind inspiration is. The drives emerge on account of requirements. Body based his concept of drive-decrease on the idea of Homeostasis during which a necessity is made which gives ascend to a drive to act. The drive is that the condition of strain or excitement which is brought about by natural or physiological necessities. A drive makes a horrendous express, a strain that must be diminished.

To decrease this condition of strain, people, and creatures chase down approaches to fulfill these natural requirements. We get a beverage once we are parched. We eat once we are eager. We happen the indoor regulator once we are cold." He recommended human and creature practices that decrease such drives would then rehash." Thus a persuasive cycle is madeHierarchy of requirements hypothesis

Chain of importance of requirements hypothesis

The pecking order of requirements hypothesis was given by Abraham Maslow inside the 1940s. He expressed that people are spurred to understand certain requirements and a couple of necessities are points of reference to other people. He caused a pyramidal model to clarify his perspective. reliable with this model, our most rudimentary need is for actual endurance and this is regularly the sum one inspiration for the populace to attempt to any conduct. When the physiological necessities are gotten we move further together the pyramid. This pyramid is appeared in the figure beneath .



Physiological needs: These are the biological things that humans need for utmost basic survival which are air, water, food, sex, sleep, etc. If these needs are not met, the human body cannot function in an optimal state and thus Maslow considered them to be of prime importance.

2. Safety needs: Once the essential physiological requirements are met, wellbeing and security take significance. Wellbeing and security needs are satisfied by society, apparel, cover, clinical consideration, monetary security, property, and so on

3. Love and Belongingness needs: Love and belongingness are given significance after the physiological and wellbeing needs. This need includes the sensation of belongingness and society and is made unmistakable by the need of relational connections in various everyday issues and person is inspired towards something very similar.

4. Esteem needs: Esteem needs are at the fourth level in Maslow's pyramid and they are separated into two classifications; regard for oneself and the craving for regard from others. Accordingly respect, accomplishment, autonomy, authority, status, notoriety, distinction these are required by individuals are then persuaded to act in a manner to satisfy these necessities.

5. Self-realization needs: Self-completion is the most significant level in the chain of importance of requirements model and alludes to the need of the individual to accomplish genuine potential, self-satisfaction, self-awareness, and that's just the beginning

13.5 .**Motivational conflicts**

Sometimes the urge to try to do something worthy or good or pleasurable is opposed by the very fact that it involves pain or inconvenience or diligence. Then the organism conflicts with two opposite motives.

The simplest three are these:

1. Approach/avoidance conflicts. The organic entity is pulled in and repulsed by components of a comparable circumstance. Attempt to entice a semi-tame squirrel with a nut, and you'll likely notice some instability. You are a potential hunter, however the nut might be an attractive food, along these lines the squirrel has a methodology/aversion struggle.
2.

2. Approach/approach conflicts . The organic entity is compelled to choose between two attractive results that are totally unrelated (for example just one can be picked). In this methodology, there are two uplifting objectives that have equivalent strength of fascination, however an individual can pick just each in turn. Sitting in front of a presentation of product, when you can just bear to shop, for a certain something, you'll end up connected during a relocation movement like scratching your head.

3.Avoidance/avoidance conflicts. The creature is compelled to choose between two diverse unwanted results. It includes picking "the lesser of two shades of malice." Animals got between a chimney and a waterway should pick which to confront. They are probably going to bring up indications of misery, bouncing around, pawing the base , or expressing until they dive into the stream.

13.6Introduction to Emotion

The term "Emotion" springs from the Latin word "Emotes" which suggests "to move", "to move" or "to put in motion". In Psychology, the word "Emotion" is employed to explain a state of pleasure within the organism.

13.5 Components of Emotions

Psychologists generally agree that emotions consist of three components: they are (1) subjective experience (2) physical change and (3) cognitive appraisals.

1. The subjective experiences are that psychologists and laypeople alike refer to when they ask "How are you feeling"?

2. The physical change includes increased heart rate, skin temperature, or brain activation, to be an integral part of what makes an emotion.

3. The third component, cognitive appraisals involve people's belief and understanding about why they feel the way they feel.

Emotion is a state portrayed by physiological excitement, change in look, motions, stances, and abstract sentiments. The feeling addresses an emotional inclination tone. Feelings will be sentiments that typically impact the conduct of both physiological and intellectual components. Abstract assessment, physiological cycles, and psychological convictions are feelings.

Emotion penetrate human existence as individuals become hopelessly enamored, make progress, and appreciate companionships, yet they likewise underline agonizing scenes that may might as well rather than neglect. Here and there our feelings can overpower us, for example, when we become focused by requests on our time.

Emotion are a major piece of human encounters. They caution of peril, make connections among individuals, and pass on bliss to life. In any case, they can likewise cause issues; individuals who feel excessively restless might be too hesitant to even consider meeting new individuals or even to take off from the house. Feelings are incredible spurring powers all through the range of human existence, influencing goals activities, and contemplations of a private . Feelings signify a condition moved, spurred, or excited here and there. A feeling includes sentiments, driving forces, and physiological responses.

"A Emotion is a complex mental express that includes three unmistakable parts: an emotional encounter, a physiological reaction, and a social or expressive reaction"- Hockenbury&Hockenbury

"Emotion might be an intricate framework, described by the cooperation between neurohormonal segments, expressive conduct and exact (experiential)."- Izard (1991)

"Emotion is that the emotional part of the natural interaction. They give energy to the tasks of the impulses and empower the person to accomplish the end."- Mc Dougall

"Emotion" is that the worked up condition of the person, as addressed by a combination of things ." - Webster's Dictionary 1963

"Emotion" is an intense aggravation of the organic entity, as a whole mental in beginning including conduct, cognizant experience, and instinctive working." - P.T Young

"Emotion is an influenced condition of the organic entity" – Titchener

"Emotionis a type of energy activation."- Carr

13.6 Characteristics of Emotions

According to Drever, an emotion has five important characteristics and it is through these characteristics that an experience is designated as an emotional experience. These characteristics areas

An emotional experience has an affective relationship to an object or idea.

2. An emotional experience is accompanied by organic resonance i.e. certain organic change takes place when an individual is in a state of emotion.

3. During an emotional experience there is some sort of pleasure-pain feelings.

4. Every emotional reaction tends to be violent and has a good deal of impulsive force behind it.

5. During the emotional experience the behavior is more or less limited and cannot be varied.

encounter has an emotional relationship to an article or thought.

2. A emotional experience is joined by natural reverberation for example certain natural change happens when an individual is in a condition of feeling.

3. During aemotional experience there is a type of delight torment sentiments.

4. Each emotinal response will in general be savage and has a decent arrangement of incautious power behind it.

5. During the enthusiastic experience the conduct is pretty much restricted and can't be fluctuated.

13.7 Classification of Emotions

Classification of Emotions

Robert Plutchick has classified emotions into two basic group's i.e. primary and secondary emotions.Classification of Emotions

Primary Emotions

Primary emotions are the quick feelings that an individual felt in light of some random circumstance.Primary emotions are felt first and mirror a person's actual sentiments with respect to the circumstance. Primary emotions s are significant in light of the fact that they give us the data about our present circumstances and prepare us or roused to act somehow or another. Some essential feelings are expectation, acknowledgment, outrage, disdain, dread, bliss, pity, shock, and so on

Secondary Emotion

Secondary emotions are those feelings thatprimary emotions trail. These feelings at times confound an individual's view of how you really feel about a

circumstance. Secondary emotions have significant segments of insight. Their degree of energy (low to high) and their worth are resolved (wonderful to unsavory). Secondary emotions can a ton of unnecessary trouble in one's life. They generally result from your primary emotions through mindfulness or oblivious worth decisions These feelings are regularly maladaptive in light of the fact that they notice the reality of a circumstance and make it outlandish for you to appropriately experience and work through your primary emotions all things considered.

Summary

- The process of persistent behavior that is aimed at certaindriving forces is called motivation.
- There are two kinds of motivation, biological and psycho-social.
- Innate causes of biological incitement, such as the hormones, neurotransmitters, structures of the brain (hypothalamus and limbs), etc. The physiological motivation examples are hunger, thirst, and sex...
- Psychosocial motivation explains mainly reasons resulting from the individual's interaction with his or her social environment. The need for affiliation, the need for achievement, curiosity, and research are examples of psychosocial reasons.

13.8 Review questions

1. Explain the concept of motivation.

2. What are the biological foundations of thirst and hunger?

3. How do the requirements for achievement, affiliation, and power influence the behavior of adolescents? Explain with examples.

4. what's the essential idea behind Maslow's hierarchy of needs? Explain with suitable examples.

5.Does an emotional experience precede physiological excitement or follow it? Explanation. Explanation.

6. Is it important to consciously interpret and label emotions to elucidate them? Discuss giving suitable examples.

7.How does culture affect emotional expression?

. Why are negative emotions important to manage? Suggest how negative emotions can be managed.

13.9 Self-assessment questions

1- Motivation is the result of a person-situational interaction(T/F)

2-Energy, direction, and achievement are the three key elements in defining motivation (T/F)

3- High levels of effort don't necessarily lead to favorable job performance unless the effort is channeled in a direction that benefits the organization (T/F)

4- McGregor's theories X and Y are probably the best-known theory of motivation. (T/F)

5- Maslow argued that before the next level is activated, every level in the hierarchy of needs must be considered satisfied. (T/F)

6- Based on McClelland's three-need theory, high achievers perform best when the odds are against them. (T/F)

7- _____refers to the process by which a person's effortsare energized, directed, and sustained toward attaining a goal.

8- What level of need is based on the desire for food, drink, and sexual satisfaction----------

9- The ----------plays a central role in producing emotions.

10- The thalamus plays a key emotional role(T/F)

11- A state characterized by physiological arousal, changes in facial expression, gestures, posture, and subjective feelings is called ----------

12- Basic motives such as hunger and thirst is called ----------

13- Overall level of activation in the body and nervous system of a person or animal is called ----------

14- ----------is social behavior whose objective is to harm someone, either physically or verbally

15- The desire to excel or meet some internalized standard of excellence is called

d ----------

13.10 Further Readings

CTV. (2014). Heroic act (video broadcast). Toronto, ON: *CTV National News*. Retrieved July 24, 2014, from http://toronto.ctvnews.ca/video?clipId=389519

Freud, S. (1922). The unconscious. *The Journal of Nervous and Mental Disease, 56*(3), 291.

Hassin, R. R., Bargh, J. A., &Zimerman, S. (2009). Automatic and flexible: The case of nonconscious goal pursuit. *Social Cognition, 27*(1), 20–36.

Lawrence, J. W., Carver, C. S., &Scheier, M. F. (2002). Velocity toward goal attainment in immediate experience as a determinant of affect. *Journal of Applied Social Psychology, 32*(4), 788–802.

https://www.psywww.com/intropsych/ch09-motivation/motivational-conflicts.html#:~:text=Sometimes%20the%20urge%20to%20do,called%20an%20approach%2Favoidance%20conflict.

https://corporatefinanceinstitute.com/resources/knowledge/other/maslows-hierarchy-of-needs/#:~:text=Maslow's%20hierarchy%20of%20needs%20is%20a%20theory%20of%20psychology%20explaining%20human%20motivation&text=The%20theory%20states%20that%20humans,on%20to%20more%20advanced%20needs.

https://opentextbc.ca/introductiontopsychology/chapter/chapter-10-emotions-and-motivations/#:~:text=An%20emotion%20is%20a%20mental,attention%20and%20guides%20our%20behaviour.&text=Motivations%20are%20closely%20related%20to,food%2C%20water%2C%20and%20sex.

CTV. (2014). Heroic act (video broadcast). Toronto, ON: *CTV National News*. Retrieved July 24, 2014, from http://toronto.ctvnews.ca/video?clipId=389519

Freud, S. (1922). The unconscious. *The Journal of Nervous and Mental Disease, 56*(3), 291.

Hassin, R. R., Bargh, J. A., &Zimerman, S. (2009). Automatic and flexible: The case of nonconscious goal pursuit. *Social Cognition, 27*(1), 20–36.

Lawrence, J. W., Carver, C. S., &Scheier, M. F. (2002). Velocity toward goal attainment in immediate experience as a determinant of affect. *Journal of Applied Social Psychology, 32*(4), 788–802.

Levin, A. (2009, June 9). Experience averts tragedy in Hudson landing. *USA Today*. Retrieved from http://www.usatoday.com/news/nation/2009-06-08-hudson_N.htm.

Morsella, E., Bargh, J. A., & Gollwitzer, P. M. (2009). *Oxford handbook of human action*. New York, NY: Oxford University Press.

National Transportation Safety Board. (2009, June 9). Excerpts of Flight 1549 cockpit communications. *USA Today*. Retrieved from http://www.usatoday.com/news/nation/2009-06-09-hudson-cockpit-transcript_N.htm.

Wells, K. (2013). Self-regulation technique helps students focus in class: Teachers try new approach to improving students' behaviour. CBC News Posted: Nov 30, 2013 Retrieved 2014 from http://www.cbc.ca/news/canada/self-regulation-technique-helps-students-focus-in-class-1.2440688

Williams, L. E., Bargh, J. A., Nocera, C. C., & Gray, J. R. (2009). The unconscious regulation of emotion: Nonconscious reappraisal goals modulate emotional reactivity. *Emotion, 9*(6), 847–854.

Unit 14: Indian Perspective

Objectives

- Understand about history of Indian psychology
- Importance of Vedas and Upnishad in the development of Indian psychology
- Vedanta influence on psychology
- Role of consciousness through Indian thought

Introduction

Indian psychology is a way to deal with brain science dependent on the Indian ethos, the trademark soul of the Indian human advancement. One could likewise say that it is a brain science established in the consciousness based Indian perspective.

It might assist with explaining that with "yoga", we don't mean the darshana (the philosophical school) of a similar name. We additionally don't restrict its importance to any of the many specific schools of yoga, as hatha yoga or raja yoga. We take "yoga" in its most extensive sense, wherein it shows all precise endeavors to turn out to be deliberately one with the Divine, in its detached, otherworldly viewpoint, yet in addition in its show, dynamic presence. Additionally with an invigorating otherworldliness we mean an otherworldliness that acknowledges the world and human instinct as a field for the Divine to show, as a "work in progress", as a reality that should be risen above to be changed.

At the end of the day, we feel that Indian, awareness based ways to deal with brain research can make a critical, and desperately required commitment to our worldwide human progress. To help this turn of events, the Indian Psychology Institute has been set up with the particular goal of helping with the presentation of ideas, speculations and practices from Indian Psychology into scholastics and the expert act of brain science.

14.1 Introduction to Vedantic Psychology

Indian Psychology, at that point, is an arrangement of psychology that is established in old style Indian idea and is suggested in various strategies pervasive in the subcontinent for psycho-otherworldly improvement like the different types of yoga. Indeed, Indian idea is so rich, complex, and differed that an assortment of translations and a few models are conceivable. In any case, we think the accompanying summed up model is a fitting one in the first place.

Indian psychology includes the investigation of the individual. The individual is considered as a composite of body, psyche, and awareness. Body alludes to the sensory system, the faculties, and

related designs associated with the cerebrum. The psyche is the speculative intellectual instrument identified with the body toward one side and awareness at the other. Cognizance is imagined to be unchangeably unmistakable from body and psyche. It establishes the nonphysical part of the individual. Body, brain, and cognizance are reasonably particular, but at the same time are commonly unchangeable in the human setting. Awareness is subjectively unique in relation to the body and the brain with which it very well might be related. Therefore, however it is related with a psyche at a given time, it doesn't collaborate with it. The body and the psyche, in contrast to awareness, are physical; and they can interface with one another and are impacted by one another. Notwithstanding, a brain can't be decreased into its actual constituents and a body can't be changed into a psyche despite the fact that they impact each other inside an individual. They work in an unexpected way. From this viewpoint, the body is imagined as gross matter that grants crumbling.

However, mind being an unpretentious type of issue isn't compelled by spatiotemporal factors in a similar way as the gross body does. The body deteriorates hopelessly at death. The psyche, be that as it may, can possibly endure materially demise (Rao 2014b).

As a composite of body, brain, and consciousness, the individual capacities at three distinct levels. Applied to knowing, for instance, the individual is equipped for preparing data sensorially through the instrumentalities of the body. This might be known as the degree of perception. The second degree of comprehension is encouraged by the working of the brain. The third level is trans cognitive acknowledgment of truth.

Although the history of Indian psychology goes back to millennia, its modern phase —or revival, if you will—began only recently. Of the many psychologists who had realized the painful neglect of the indigenous tradition, about 150 came together at a conference in Pondicherry in 2002 and unanimously proclaimed the Manifesto of Indian Psychology.

While acknowledging truth, the psyche partakes in cognizance accordingly, generally, if not totally, liberated from substantial cycles and their impact. The ideas of śravaṇa (in a real sense hearing, yet can be likened with perception when all is said in done), manana (thinking/understanding), and nididhyāsana (thoughtful acknowledgment) generally compare to the three degrees of knowing. At the degree of śravaṇa and manana, perceptions and comprehension, there is an essential qualification among subject and item and thought and activity. Knowing and being are separated. One may realize that something is false, yet may follow up on it and the other way around. Notwithstanding, in reflective acknowledgment, a state accomplished by nididhyāsana, the qualification among subject and article vanishes; and there is combination of thought and activity; and knowing and being mix into one another so one becomes/does what he knows to be valid. This is exemplified in the Upanisadic proclamation "to realize Brahman is to be Brahman."

Brain is the instrument of cognizance and shows mindfulness in different structures on account of its relationship with awareness. It is additionally the seat of feelings and volition. In its collaboration with the body, the brain encounters a wide range of feelings and participates in various types of activity. In this manner the brain is the instrument of our comprehensions, expressions of warmth, and volitions. In acknowledgment of this reality, the individual, alluded to as jīva in Sanskrit, is usually considered as a knower (jñātā), enjoyer/victim (bhoktā), and specialist (kartā). While thinking, feeling, and doing are ordinary modes in everyday living, they are one-sided or mutilated by an assortment of variables and, hence, they don't genuinely mirror the genuine situation. Different methods of conquering the constraints of these modes have been created. Fruitful act of such ways drives an individual to understand her actual self (ātman) through the experience of cognizance thusly and to have undistorted truth, perfect joy, and uncorrupted volition. An individual who consequently achieves self-acknowledgment arrives at the most dynamic and magnificent structure and acknowledges awareness accordingly, which is alluded to as Brahman in the Upanisads, purusa in Sāmkhya arrangement of Indian way of thinking. In ordinary exercises the personality appreciates and wants. Knowing gets docile to fulfilling the actual hungers and substantial produced mental longings. The individual has changing pictures of oneself. Nonetheless, Brahman or Ātman is something that infests the individual just as the universe on the loose. In prudence of this, there shows solidarity in the variety we find in the universe and congruity in the changing range of occasions in one's day to day existence. The solidarity of the individual, regardless of her continually changing mental states and real conditions, is an element of the presence/impression of Ātman (awareness accordingly).

Here a qualification should be made between consciousnesses as-such recognized as Brahman, ātman, or puruṣa, and mindfulness. Awareness as-such is perpetual and unspeakable. It is uncertain and inadequate, and as such it takes no structures. From a critical perspective it isn't

localizable. With regards to psychological movement, its job is close to reflect/brighten the structure the brain takes in its connection with the world through the tactile entryways. Mindfulness is the aftereffect of awareness enlightening the structures the brain takes. Hence, cognizance is engaged with one's insight, warm gestures, and volitions to the degree that the individual's perspectives are brightened by the impression of awareness. The individual whose psyche acts through the substantial mechanical assembly might be viewed as adapted in light of the fact that her idea, enthusiasm, and activity are one-sided and contorted by the states of the body.

Just an unconditioned individual can have the genuine impressions of cognizance accordingly. The objective of the individual is to arrive at a particularly unconditioned state (Rao 2010).

Once more, as a composite of body, psyche, and awareness, the individual might be concentrated from a physiological point of view to figure out how real cycles impact one's conduct and being, and what mental states mean for real cycles. An individual can likewise be concentrated from the viewpoint of the brain to figure out how the psyche capacities and how its capacities are impacted and how they might be controlled to upgrade human possibilities and advance wellbeing. Further, human working can be concentrated from the viewpoint of cognizance to comprehend and acknowledge nonphysical assets of human working accessible as a result of the relationship of the psyche with awareness. In this way an individual can be learned at various levels. Two such degrees of most extreme interest in brain research are the psychophysical level and the psycho-otherworldly level. The last is the level where the brain partakes in awareness thusly and the individual has self-acknowledgment.

The term Indian psychology was purportedly first used by Sri Aurobindo, well known Yogi and freedom fighter of modern India, in 1910 in one of his writings on education.

The regard for the "internal" in Indian idea has prompted an accentuation on cognizance and its supremacy. The supremacy is declared either as an overall single reality as in Advaita monism or as an unchangeable part of reality free of the physical as in Sāmkhya-Yoga. Regardless, the supposition that isn't caused by objective contention alone dependent on powerful assumptions or the authority of the Vedas. They are gotten from their separate epistemological positions, which are themselves grounded in mental suppositions and are viewed as phenomenologically given realities.

As its continued looking for truth, the Indian practice turning internal endeavors to distinguish the components that will in general contort and distort our overall comprehension of our general surroundings. It tries to investigate techniques and systems to control them. Further, it attempts to create strategies that uncover truth in its unblemished and stainless condition, to detail philosophical speculations, and to recommend practices of direct predictable with reality so uncovered. In such a plan, the initial step is to see how we typically procure data and the potential constraints and flaws of such data. The starting point at that point is intellectual science as precise epistemology.

Such handling is known to be one-sided in view of the constraints natural in the preparing instruments and furthermore as a result of the way wherein the preparing individual is arranged, whose presuppositions, perspectives, and inspirations oblige and predisposition her discernments. The preparing instruments themselves decide somewhat the structure, the nature, and the substance of perceptions. The manner in which bats see the world is not quite the same as the manner in which we do. People can't deal with low hear-able signs as a canine or deer can. In the event that we were arranged distinctively with various types of tangible engine contraptions we would almost certainly work diversely and our insight into the world would be diverse fundamentally.

In the event that the center is outward, one's view of the world comprises in the manner it is addressed to us. The portrayals are accepted to be genuine seeing that they are believed to relate to the outer articles and occasions, a correspondence verified by between subject arrangement/approval.

In the event that the center is internal, however, one will in general view genuine reality as no other than mindfulness itself. A few scholars in the West who buy in to this view declare that our insights comprise reality.

In the Indian practice, in any event, when the truth is compared with mindfulness, mindfulness isn't restricted to authentic discernment. Or maybe, mindfulness is viewed as comprising of

immediate and unmediated attention to the real world. Such nonrepresentational mindfulness from a critical perspective is reality itself. People, it is accepted, can understand reality in itself as awareness accordingly. There is then the chance of nonsensory wellspring of information, which by its very nature is accepted to be liberated from the bends and flaws that assail sensorially prepared data. Surely, this is a view shared by numerous Indian masterminds, free of their mystical presuppositions. It is accepted that by following determined systems and developing certain propensities for mind, it is feasible to accomplish a condition of mindfulness such is life itself. A particularly understanding underscores a lot of Hindu and Buddhistic idea. Jainism puts even a more explicit accentuation on extrasensory wellsprings of mindfulness.

A definitive objective of human advancement is freedom or mokhsa, independence from existential limitations. The tangible servitude of the psyche is accepted to be the main single source that screens genuine reality from us. Hence, the freedom of the brain from that subjugation is a fundamental condition for genuine opportunity and mokhsa.

For the person who acknowledges reality in its actual structure, the tactile information we have of the world shows up as only a hallucination, as a fantasy shows up on waking.

Independence from such a hallucination is an important condition for understanding reality in one's being. The objective is to accomplish wonderful information, since amazing information makes one great. Wonderful knowing in the last investigation includes acknowledgment of one's own acting naturally, acknowledgment. The strength of such a declaration isn't gotten simply from objective contention. Or maybe, it is grounded in the conviction that it is feasible to discover such people, in actuality. Acknowledging cognizance as-such is viewed as an experimental reality experienced abstractly just as shared by the individuals who go through vital preparing and practice (sādhanā), following the endorsed discipline.

Yoga is considered all around by all Indian masterminds to be a helpful strategy for freeing the psyche from its existential state of tactile servitude with the goal that it can get to cognizance as-such for acknowledgment of the essential fact of the matter.

14.2 Consciousness in Indian Psychology

The word awareness begins from the Latin word "Consciousness" which means “Knowing”, “privy to”. In the Western custom, when brain research started as a science in the later piece of nineteenth century, it was characterized as the study of Consciousness; even today characterizing awareness is a difficult undertaking.

Square (1995b) notices, Consciousness "indicates various ideas and signifies various marvels" (p. 227).

Jonkisz(2012) recognizes five types of awareness. He assigns them as orders of awareness. They are in his words sensorimotor Consciousness, perceptual awareness, meta-perceptual cognizance, hesitance, and meta-self

Rao (1998, 2001, 2002, 2011b) scientific classification of awareness first partitions Consciousness into two primary classifications supernatural and value-based.

In the supernatural space, Consciousness is absolute subjectivity past the duality of subject and object and with practically zero qualification among knowing and being. It is a condition of Consciousness all things considered, an encounter of unadulterated awareness

Value-based awareness is cognizance as reflected in the psyche, where clear qualifications among subject and object and between knowing, feeling, and being are made

Supernatural Consciousness is as it was transpersonal. It shows

- In the experience of unadulterated conditions of Consciousness,
- Mystic mindfulness and higher Samadhi states, and
- In the instances of abnormal clairvoyant occasions.

Value-based awareness is of two sorts

(1) underneath the edge of mindfulness In the beneath classification, we have

- (i) the oblivious in the Freudian and Jungian sense,
- (ii) the subconscious as in subconscious discernment and implied memory, and

- (iii) periphery mindfulness

(2) over the edge. In this class alludes to central mindfulness, which is again of two sorts—subject Consciousness and item awareness.

In the Vedic ontology, from which Sri Aurobindo determined his idea of Consciousness, Consciousness isn't just seen as individualized mindfulness. It is the actual embodiment of everything in presence and as such not just the wellspring of individuation and the self-appreciation, yet additionally a developmental energy:

Consciousness isn't just force of attention to self and things, it is or has likewise a dynamic and inventive energy. It can decide its own responses or swear off responses; it can reply to powers, yet make or put out from itself powers. Consciousness is Chit yet additionally Chit Shakti, mindfulness yet in addition cognizant power.— Sri Aurobindo 1991, p. 234

Find the consciousness in different perspective of Vedic literature.

Each of the three parts of consciousness – its enormous nature, its energy angle, and its capacity to separate itself into changing structures and degrees – join to deliver the cycles of involution and advancement of awareness that have given to our reality its specific character

Awareness is something crucial, the basic thing in presence – it is the energy, the movement, the development of consciousness that makes the universe and all that is in it – the world as well as the microcosm is only awareness masterminding itself.

In the Vedāntic framework the crucial the truth is portrayed as a solidarity (Saccidānanda) comprising of presence (Sat), awareness (Cit) and enjoyment (Ānanda).

Since the resolute solidarity of Saccidānanda is viewed as the fundamental idea of everything in presence, it follows that in this metaphysics nothing can exist that isn't cognizant or that misses savor the experience of its own reality. Nor is awareness conceivable without savor the experience of its own reality, nor can there be please that isn't cognizant.

An intriguing part of the planes of awareness is that they are viewed as relating to focuses of cognizance in the (inconspicuous) body, called chakras in Sanskrit. That various areas in the body would be identified with various kinds of cognizance isn't a thought that has emerged distinctly in the Indian custom.

14.3 Mind and Body Relation

This topic is an attempt to find out mind body relationship from Indian Perspective. All the schools of Indian philosophy have considered this issue from very ancient period. Indian thinkers do not equate self and mind. In Indian Writings the word mind is used in the sense of manas or antahkarna (internal organ) and not in the sense of atman (self).

Ayurveda Explains More about the Tridoshic Body Type!

The word manas is used in many place in the Vedic texts. It has been used in the sense of measuring. It is an organ of research; it symbolizes the rational faculty in man. Mind is concerned with sankalpa. This word has appeared only in late passage of Rigveda.

Upnishad Thought on Mind and Body

Radhakrishnan Says, " TheUpnishad refuse to identify the self with the body, or the series of mental status or the presentation continuum or the stream of consciousness"

Kathaupnishad refers to the body as the chariot, the senses are the horses which draw the chariot, the mind is to the rein which control the horses and the intellect to the charioteer . it declares that the atman, the self, is the master of chariot and is looked upon as the enjoyer when he is united with the body, the senses and the mind.

NyayaVaiseshika Thought on Mind and Body

According to this thought mind and self are dravyas, which denoted as substances, like other five elements of body. NyayaVaiseshikamanas are the integral part of body as an organ, which is the

instrument of cognition in another substance. Knowledge arises when there is a conjunction between the self, the mind, the sense organs and the object. When the mind is not operating cognition is not arises.

Samkhya yoga dualism Thought on Mind and Body

Samkhya yoga dualism Thought makes a distinction between purusha, the pure self, free from all attributes and the prakriti which is neither material nor mental. The purusha, the pure consciousness is neither bound nor librated. It is only a psycho physical organism, the evolute ofprakriti, that is bound and that is to be liberated. Purusha is ever free. The evolution of prakriti and the consequent results like mind, life and body arise when by the mere presence of purusha, the equibilirum of three gunas (Satva, Rajas and Tamas) of the prakriti is upset.

14.4 Summary

In ancient times glimpses of psychological thoughts are found in rigveda and upnishads. In Vedic psychology, Vedanta and Yoga Sutra also contribute a lot. In Vedanta mind has been explained and emphasizes upon transformation and modification of mind. The doctrine of Koshas in TaittriyaUpnishad shows a very insightful analysis of self as being physical, vital, mental, intellectual and blissful. According to Geeta and other thinkers personality also depends on Triguna and Tridosa. The different Indian ways of thinking like Nyāya, Vaiśeṣika, Sāṃkhyā, Yoga, Mīmāṁsā, Vedānta, Buddhism, Jainism, Sūfi, and so forth are a depository of extremely rich examination of mental cycles of brain body cooperation. They offer system for controlling brain, consideration, memory, feeling and approaches to accomplish self-acknowledgment. They incorporate the entire range of human existence, and draw out an orderly investigation of various parts of the real world. The content of the Upaniṣads, Brāhamaṇās, Āranyakās, Mahākāvyas and Purāṇas alongside society writing from various pieces of India offer a collection of intelligence and experiences. To put it plainly, the Indian perspective and its suppositions and techniques about human reality do can possibly contribute fundamentally, not exclusively to the world's repository of information yet additionally to the space of training and applications for settling individual, social and instructive issues.

Indian Psychology discovers its underlying foundations in Indian way of thinking, with its faith in the huge potential inalienable in the individual. It has the "expertise" to raise the consciousness of a person which is a point of convergence from any viewpoint for human prosperity. The Indian ways of thinking give significant hypothetical experiences into the human condition. They likewise give commonsense techniques to discover love, delight and harmony, which they guarantee are inside the person. These characteristics are viewed as parts of one's actual self, of unadulterated consciousness. In Indian idea, an individual is certainly not a different section, however on a more profound level, is unified with all.

14.5 Key Words

Atharva Veda, Upnishad, BhagwadGeeta, PanchKosha, Triguna, Tridosha, Nyāya, Vaiśeṣika, Sāṃkhyā, Yoga, Mīmāṁsā, Vedānta

14.6 Review Question

Psychology from Indian Vedic literature: Myth or Fact.

Indian traditions are based on theories of Psychology.

Role of Consciousness according to Vedic Literature.

Role of Vedanta to understand mind and body relation.

Identify the Indian origins of Psychology.

14.7 Self Assessment Question

Q1 We find in the _____, a distinction made between two aspects of the mind—manas and citta.

Sama Veda

Rig Veda

Atharva Veda

Yazur Veda

Q2 The Katha Upnishad liken the human quest to the

Warrior

Chariot

Reins

Horses

Q3 Pondicherry manifesto of Indian Psychology comes in year of

1879

1905

1947

2001

Q4 According to the Upaniṣhads, mind cannot be treated as consciousness, as the consciousness or self exists even without the mind

Mundaka Upanishad

Chandogya Upanishad

Garbhopanishad

Maitrayaniya Upanishad

Q5 According to PanchaKoshas theory, mentioned in the Taittiriya Upanishad which one is the bliss sheath.

AnanadamayaKosha

AnnamayaKosha

ManomayaKosha

PranamayaKosha

Q6 Eight fold division of Prakriti Described by

Nyaya system

Western Philosophy

PranamayaKosha

SrimadBhagwad Gita

Q7 "Speak the truth. Practice virtue (dharma)" Statement from

Mundaka Upanishad

Chandogya Upanishad

TaittiriyaUpnishad

Maitrayaniya Upanishad

Q8 According to Indian Psychology 'moksha' or 'nirvana' isdirectly related with

Karma

Dharma

Consciousness

None of them

Q9 Which one is not a part of research method in Indian Psychology?

Observation

Content analysis

Case Study

Contrast Analysis

Q10 Pratyaksh and Praman is the concept of

Observation and truth testing

Introspection and truth testing

Observation and Karma

Introspection and Reality

14.8 Suggested Readings

FOUNDATIONS AND APPLICATIONS OF INDIAN PSYCHOLOGY by MATTHIJS CORNELISSEN, GIRISHWAR MISRA AND SUNEET VARMA, PEARSON

PSYCHOLOGY IN THE INDIAN TRADITION by RAO, K. RAMAKRISHNA, PARANJPE, ANAND C, SPRINGER

PERSPECTIVES ON INDIGENOUS PSYCHOLOGY by GIRISHWAR MISRA, AJIT K. MOHANTY, CONCEPT PUBLISHING

https://ipi.org.in/second/whatisip.php

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3215408/

https://link.springer.com/referenceworkentry/10.1007%2F978-1-4614-5583-7_150