EPS 100 INTRODUCTION TO PSYCHOLOGY

LECTURE I

THE NATURE AND SCOPE OF

PSYCHOLOGY 1.1 Key words and concepts

Conditioning Emotions Intelligence Individual differences Intra –personal relations Memory Motivation Perceptions Problem-solving Schools of thought Sub-consciousness

1.2 Introduction

In this introductory lecture, I shall first introduce you to the definition of the term psychology, after which I will focus on the psychological perspectives that are currently used in the study of behavior and mental processes.

The ideas behind various schools of thought will then be examined with a view to introducing you to the dynamic nature of the field of psychology. I will end this lecture with a brief look at the branches of modern psychology.

You are encouraged to participate fully in this lecture and towards this end, I have prepared for you some exciting activities within the lecture, as well as some revision exercises which you will find at the end of the lecture. I have also suggested some additional reading materials.

1.3 Objectives

By the end of this lesson, you should be able to:

- Define the term „psychology"
- Explain the basic tenets of the five perspectives of psychology
- Identify the schools of thought that have significantly contributed to the growth of psychology
- Distinguish between the branches of modern psychology

1.4 The nature of psychology

As you will notice later in this lecture, the field of psychology has its roots in many disciplines, including philosophy and physiology. This makes it difficult for us to come to a consensus regarding a single, globally accepted definition of psychology.

In spite of this problem, there is no debate about the meanings of the two words that comprise the compound word „psychology". These words are „*psycho*" and „*logos*".

> **Note:**
> The word *Logos* means „use of logic"
> While *psycho* means „of the mind"

Therefore the term „psychology" literary means „the science of the mind". I would also like to introduce you to definitions by respected psychologists, after which I will select a working definition. The contributions by these psychologists are as follows:

- Ornstein (1985) defined psychology as „ the study of human experience",
- Kendall (1986) saw psychology as the scientific study of mental and behavioral functioning.
- Atkinson and Hilgard (1983) viewed psychology as the scientific study of behavior and mental processes. This definition was also proposed by Myers (1996).
- Munavi (1988) asserted that psychology was the scientific study of human and animal behavior.

You can see that the above definitions have a common theme, that of psychology being scientific and the focus on behavioral functioning. The last definition shall be our working definition, since it is most comprehensive in terms of:

- Acknowledging the scientific nature of psychology.
- Focusing on the study of both humans and animals.

1.5 Why do we need to study psychology?

Obviously, this question may not be answered adequately until you go through the whole text. However, I would like you to note that once you have studied psychology, you will be in a good position to:

- Describe behavior
- Understand behavior
- Predict behavior
- Control behavior

In order to describe, understand, predict and control behavior, you need to be able to evaluate the quality of:

- Interpersonal relationships
- Intrapersonal relationships

- Person to group relationships
- Group relationships

This and the subsequent lectures will equip you with relevant skills to achieve the above objectives.

1.6 Psychological perspectives in the study of behavior and mental processes

Activity:
Look at the definition by Kendal (1986). Note that:
Behavioral functioning refers to the study of whether the observed behavior is either well adjusted or maladjusted.
You may look up the definitions of these concepts at the end of this lesson.

I would like to start this section by informing you that there are many perspectives that psychologists follow in the study of behavior and mental functioning. For our purposes, we shall focus on the six major ones.

- **The Psychoanalytic Perspective**

Freud (1939) was very controversial and he viewed psychological traits and disorders as having an origin in sexual and aggressive drives. He believed that our behavior is controlled by the unconscious/subconscious needs/forces, which are biological in nature.
Discuss: ID, EGO and Superego.

- **The Behavioral Perspective**

This perspective studies the mechanisms by which observable responses are developed and modified in specific environments. For example, a behavioral psychologist will be interested in how people and animals develop certain emotions like fear and love or how incentives like presents, punishment can influence behavior. Some famous behaviorists include B. Watson.

- **The Biological Perspective**

This helps us to understand how the body and the brain work in unison to create emotions, memories and sensory experiences.

Note:
Biologically oriented psychologists study evolutionary and hereditary influences on behavior; how messages are transmitted within the body, and how blood chemistry is linked with moods and motives.

- **The Humanistic Perspective**

Humanistic psychologists are against the psychoanalytic view that human beings are driven by unconscious or subconscious internal forces. They emphasize that the human being have the capacity to deliberately choose a meaningful life pattern, and therefore grow to greater maturity and fulfillment.

- **The Cognitive Perspective**

The term „cognition" refers to the ability to utilize the mind in terms of remembering, thinking, problem solving and planning.

In this perspective, psychologists explore the way human beings process, store and retrieve information and how this information can be used to reason and solve problems.

- **The Cross-Cultural Perspective**

This perspective focuses on the influence of cultural and ethnic similarities and differences on both psychological and social functioning. It is assumed that each individual in a society has a specific cultural and ethnic background and this influences behavior depending on the environment one is in.

Activity:
Revise the above psychological perspectives
Which perspective do you agree with most? Write down your reasons.
Which perspective do you disagree with most? Write down your reasons.

1.7 The Historic growth of psychology

You may have wondered why the perspectives of psychology were covered before the historical growth section. This was deliberate. The idea behind this was to first provide you with a broader, general look at the different horizons in psychology, before focusing on the specific components comprising the schools of thought that developed between 1932 to the present.

Note:
A school of thought is a system of ideas, which the proponent wishes to promote. A theory is based on a school of thought. Schools of thought are not always accepted and may be controversial.

I will first introduce to you the following schools of thought:

1. Structuralism (1832 – 1920)

This was the first school of thought to emerge and its proponents were:

- Wilhelm Wundt
- Edward Tichener

Note:
Structuralism is a term that originated from the word structure.

This school of thought emphasized the role played by experiences. To the structuralists, each experience was made up of three basic elements, namely;

- Physical sensations: the ability to see, feel and
  taste. Visual sense
  Auditory
  Olfactory
  Taste
  Tactile
- Aesthetics: Feelings that we develop towards other people, objects and ideas.
- Images: our thoughts and reflections or memories.

All these elements must be present in order to create an experience.

Example:
When we meet a dog along a street, the three elements are combined as follows to make an experience:

Physical sensations: the ability to see the dog
Aesthetics: the feelings of fear that the dog evokes in us
Images: the thoughts of having been bitten by a dog or having seen somebody being bitten.

Activity:
Assume that a blind person is walking along a street and another person is approaching him/her from the other direction. Explain why this experience is complete even though the blind person cannot see.

Now that we have identified the elements of experiences, let us consider the method that was used by structuralists to identify the aforementioned elements.

Introspection
This was a technique involving self-reporting of experiences and feeling by the subject of study

Note:
The term „subject of study" refers to the person or animal being studied in an experiment.

Introspection is beneficial because it has the advantage of enabling subjects to give reports of their feelings and experiences. However, you need to consider the following side effects of using this method:

- It is prone to cheating.
- It is not suitable for studying subjects who cannot communicate verbally, for example, young children, animals, the sick people and the mentally retarded.
- It ignores all the observable traits.
- It is not possible to verify the information given by the subject.

The decline of structuralism
By 1920, structuralism began to decline because of the following reasons:

- Other better schools of thought emerged, for example functionalism and behaviorism.
- The method of collecting information, introspection, could not be accepted any longer.

2. Functionalism (1890 – 1925)

We have already noted that structuralism was no longer feasible by 1920 due to the emergence of Functionalism and other superior schools of thought.

Note:
Functionalism is a term derived from the word function, which implies practical application.

The main proponents of functionalism were William James and John Dewey. They disagreed with the structuralists" idea of experiences being made up of three elements: sensations, aesthetics and images.

According to the functionalists, a person"s mind was governed by **associations**. Through these associations, a person constantly revises past experiences through:

- Perceptions
- Emotions
- Sensations

These elements work in unison and cannot be separated.

How did functionalists study behavior?
You have already noticed that the structuralists relied entirely on introspection to gather information. This method was eventually found inappropriate. The functionalists wanted to strengthen the process of gathering information; hence, they included the observation method in the study of human behavior.

These elements work in unison and cannot be separated.

How did functionalists study behaviour?
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Note:

Conscious

was

Subconscious mind

Functionalism was therefore more objective than structuralism since it addressed the conscious and sub conscious levels. The conscious part covered through introspection while the subconscious area was addressed through observation.

Functionalism was eventually eclipsed by Behaviorism in 1925

3. Behaviorism (1925 – Present)
I will now explain the thesis of one of the most powerful school of thought that emerged in 1925 and is still very relevant in studying behaviour in psychology. This is behaviorism.

Its main proponent was John B. Watson and he asserted that psychology should only concern itself with behaviour that was measurable and observable. He insisted that introspection had no part to play in the study of human and animal behaviour. Watson is on record as having stressed that behaviour could not be inherited but was wholly **learnt**.

Intelligence: Stanford Binet test , IQ
MA/CA x 100 inferences
Genius
Above average
Average
Boarderline

Below average
Morons, imbeciles qand idiots
Genius
Above average
Average
Boarderline
Below average
Morons, imbeciles and idiots

Personality
Integrity
Patience

As we have already noted, behaviorism is still relevant today. I will now introduce other schools of thought whose influence was felt after 1925. One of these was Gestalt psychology.

4. Gestalt Psychology

Gestalt psychology began early 19^{th} century but its prominence was felt in the early 1930s. Its main proponents were:

1. Max Wertheimer
2. Kurt Koffka
3. Wolfgang Kohler

Note:
The term "Gestalt" means learning by insight, whole or form.

This school of thought originated in German, with the Gestalt psychologists focusing on the study of human experience and perception in relation to:

- Man‟s ability to solve problems
- Man‟s ability to learn from the environment

The Gestalt psychologists used introspection to gather information on perception among other issues.

5. Individual Differences

The individual differences school of thought became prominent after 1930s. Its main proponent was Sir. Francis Galton. Galton asserted that behaviour could be inherited. He justified this by giving results of a study on his family tree. He was generally impressed by the great number of exceptional people in his family, for example, geniuses like Charles Darwin (his half cousin).

Galton is accredited with formulation of mental tests and the study of individual differences. His is the first person to introduce statistical concepts in the field of psychology, one of them being the concept of **correlation coefficient**.

> **Note:**
> A correlation coefficient is a numerical index used to show the degree of similarity between two or more sets of data.

Let us now turn to another school of thought that was generally based on behaviorism principles. This was B. F. Skinner‟s S-R psychology.

6. B. F. Skinner's S-R) Psychology

This school of thought became prominent in the 1950s and is still highly respected. It is named after its main proponent B. F. Skinner. Skinner agreed with J. B. Watson, that psychology should only focus on what was measurable and observable in the study of human behaviour. His version of behaviorism also addressed the significant role played by reinforcement in the learning of new behavior. He asserted that positive reinforcement increased the probability of re-occurrence of the rewarded behaviour, while its withdrawal led to extinction of the consequences of learning.

> **Note:**
> Skinner is one of the leading authorities in the field of operant/instrumental conditioning, which I shall introduce to you in Lecture 5.

7. Psychoanalytic Psychology

This school of thought became prominent after 1960. Its main proponent was Sigmund Freud. He advocated that much of our behaviour is the result of hidden motives and unconscious wishes, and that problems of adulthood had a foundation in early childhood experiences.

He laid the foundation for psychotherapy with his famous theory on psychoanalysis (Talking cure). Freud is also famous for his contribution to the understanding of personality. He viewed a person‟s personality as being made up of three components:

The ID: The selfish part of personality.
The EGO: The realistic part of personality

The Super-EGO: The moral part of personality

I will now take you through the last section of this lecture, in which I will focus on the branches of modern psychology.

1.8 Branches of modern psychology

The branches of modern psychology can be summarized as follows:

- **Biological Psychology**

This branch is concerned with links between biology and behaviour.

> **Note:**
> In this category, you will find specialists like behavioral neuro-scientists, neuro-psychologists, physiological psychologist and bio-psychologists

- **Developmental Psychology**

This is a branch of psychology concerned with the life of an individual from birth to death in terms of;

- Physical aspects
- Cognitive aspects
- Social aspects

- **General Experimental Psychology**

This field applies experimental techniques to study behaviours like:

- Leaning
- Memory
- Motivation
- Emotion
- Personality

- **Personality Psychology**

This branch of psychology focuses on the way people express themselves depending on their most consistent and enduring inner qualities or traits.

- **Social Psychology**

This area looks at people from a scientific perspective, in terms of how they think about others, how they relate to others and how they influence each other.

- **Clinical Psychology**

The clinical psychology branch involves diagnosis/assessment and treatment of psychological dysfunctions.

- **Psychiatry**

This is a branch of medicine with a strong bias on psychological disorders. The main theme is psychological therapy.

Activity:
What is the difference between Psychiatry and Clinical Psychology?

- **Industrial/Organizational Psychology**

This area studies the work place and seeks ways of improving working conditions and relationships. An industrial psychologist also addresses issues like job placement and the resolution of employer/employee conflicts.

- **Educational Psychology**

This is a branch of psychology that applies the principles of psychology to the solution of educational problems, for example, using Guidance and Counselling principles to solve conduct disorders in learners.

1.9 Summary

- In this lecture, I suggested a working definition of the term „Psychology", and then proceeded to discuss the perspectives of psychology and the schools of thought that emerged in the process of its growth. I completed the lecture by introducing the branches of modern psychology.
- I am sure that on conclusion of this lecture, you now realize that psychology is a dynamic science of the mind and therefore an important component in teacher training.

Before we move to the next lesson on Techniques of Modern Psychology, you may need to try and answer the revision questions set out below, in addition to making reference to the texts suggested for further reading.

1.10 Definition of key terms and concepts

Introspection:	Self-reporting of experience by a subject of study
Observation:	A study of behavior with a special emphasis on the sub-conscious level
School of thought:	A system of ideas proposed before the development of a theory

1.11 Revision Questions

1. Define the term „Psychology".
2. Describe two perspectives of psychology.

3. Give two reasons for the decline of Structuralism.
4. Describe the main themes of any two branches of modern psychology.

1.12 References

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LECTURE II

SCIENTIFIC TECHNIQUES OF MODERN PSYCHOLOGY

PSYCHOLOGY 2.1 Key Words

- Biographical method
- Case study
- Clinical method
- Day-book method
- Dependent variable
- Experimental control
- Familial connections
- Field study
- Independent variable
- Interviews
- Objective observation
- Remediation

2.2 Introduction

As you are probably aware, human behaviour is not only complex, but it is also variable from day to day. No two persons are equally alike in behaviour, including identical twins.

As a relatively new science, psychology is still developing a knowledge bank using tested research methods from the older sciences. This lecture is therefore tailor-made to introduce you to these methods:

2.3 Objectives

By the end of this lecture, you should be able to:

- Identify the various scientific methods suitable for gathering information
- Explain how data derived using these methods can be interpreted.

2.4 Observation Techniques

As you are aware from the previous lecture, observation is the most basic objective process of gathering information in psychology. In general, observation involves the experimenter noting what his subject does and not what he feels or thinks

Observation is more objective than introspection, which is so subjective that it led to the decline of structuralism in 1920.

While carrying out observations, the experimenter records the environmental conditions under which behaviors are exhibited, in addition to the different types of behaviors exhibited in similar situations. Let us now look at the advantages and disadvantages of using this method.

Advantages

- This method frequently calls for very accurate observation equipment, for example, video cameras, and Global Positioning System (GPS) devices for studying subjects.

- The observation method can be used to study animals, young children, the feeble-minded, the sick and the mentally retarded.

Disadvantages

- This method only concerns itself with the observable aspects, not what is happening within the subject being studied.

Activity:

Identify five behaviours that a class teacher may want to observe among students.

- The observation equipment mentioned above can be a very expensive component in the research budget.

Note:
If you wish to accurately judge behaviour, you may combine the observational and introspective techniques as the functionalists recommended. (Refer to the previous lesson).

2.5 The Field Study Method

The Field Study method is the technique frequently referred to as Naturalistic Observation, because it involves critical studies of subjects in their natural environments. All observations must be made without interfering with the subject‟s environment. The subjects could be human beings or animals.

Advantages of Field Studies

- The main advantage of this method is that the investigator does not require direct co-operation of his subjects. Experience has shown that field studies are most successful when the subjects are unaware that they are under study.

- Another advantage is that the results of observations can be verified by an independent investigator.

Disadvantages of Field studies

- This method can be time-consuming. For example, if an investigator wanted to study the migration habits of elephants, the results may not come within the expected time probably due to environmental variations.
- Field studies can be expensive with respect to procurement costs of observation equipment, travel expenses, and honoraria for assistants.
- The subjects can behave artificially if they suspect that they are being observed.
- Some field studies can lead to loss of life or injury, especially those involving fierce animals.

Questions:
Identify four activities at school that can be studied using the field study method

Note:
Field studies do not have to be expensive, dangerous or unreliable
Very accurate results can be obtained if the investigator plans well

Let us now turn to the Life-History Method.

2.6 The Life-History Method.
This technique involves an extensive study of certain aspects of a subject over a long period of time. This method may take any of the following forms:

- Day book method
- Clinical method
- Biographical method

We shall now look at what each method entails.

- **The Day – Book Method**

This mostly used in child study. The child‟s development is carefully observed and recorded on a daily basis. On completion, such record provides a standard with which to judge normality of children.

- **The Clinical Method**

The medical life history of a person can be reconstructed on the basis of the medical record available. The researcher‟s aim would be to;

- Discover the cause of a problem (its origin).
- Identify a solution to the problem.

The method is vigorous and requires the participation of at least three professionals:

1. Psychiatrists or physicians, to examine for signs of mental or physical illness.
2. Psychologists, to evaluate the subject‟s mental state.
3. Social workers, to examine the subject‟s home background factors.

This method usually involves follow-up interventions in order to monitor progress once a remediation program has been embarked on.

- **Biographical Method**

This is simply an attempt to obtain information from an analysis of a subject‟s biography.

Note:
A biography is a record of a person‟s life that can be written by others or the subject himself.

I will now look at some advantages and disadvantages of using the life-history method.

Advantages of the Life-History Method

- The day-book method can be used to accurately determine whether a child is normal or not
- The clinical method gives vital information on the subject, which could also be beneficial to family members especially when a certain condition appears to have a familial (genetic) connection

Question:
Identify three health conditions that have a genetic connection.

- The biographical method gives important clues on characteristics that underlie a subject‟s personality.
- It may be possible to verify information if records exist

Disadvantages of the Life-History Method

- The day-book method is unlikely to be accurate if record keeping is inconsistent or non-existent.
- The clinical approach may be time-wasting if past medical records are not centralized.
- The biographical method can be compromised by personal interests and biases of the biographer.

2.7 The Survey Method

The Survey method is used by researchers interested in finding out the distribution of certain variables in a given population. For example, a researcher may use surveys to study the following;

- The proportion of the population using malaria preventive medicine.
- The relative incidence of a certain disease in a given population.
- The average age of marriage for girls in urban areas.

When is survey research recommended?

I would recommend survey research in cases where it is impossible to observe or interview the whole population

Note:

- The term population refers to the whole group under study, for example, the total population of Nairobi residents using malaria preventives. Since the population size is usually large, a small group must be selected to represent the whole group. This small group is known as a sample.
- It is assumed that the sample (n) possesses all the characteristics of the total population (N)
- The success of the survey method will depend on the accuracy of sampling and the complexity of the study

Survey Research Tools

The survey method applies the following tools for gathering information:

- Questionnaires
- Oral interviews

Advantages of using Survey Research

- It is relatively accurate
- It is time saving compared to naturalistic observations
- It is relatively inexpensive

Disadvantages of using survey research

- The results can be compromised if sampling is biased, or various relevant strata are excluded in the research.
- Telephone interviews can be very expensive
- The return rate of questionnaires in often poor, especially if they are to be posted back to the researchers.
- The respondents can lie.

Activity:
Collect samples of questionnaires and interview questions
Place them in a display folder for future reference.

Question:
Do you think it is possible to verify the responses from questionnaires?

2.8 Case Studies

These are detailed studies of individuals or groups. The main aim of the researcher may be to learn about the subject‟s social development and relationships with people in the society. Case studies usually involve observations, but the method of study is dictated by the study objectives.

A case study can also draw information from an individual‟s biography.

Advantages of Case Studies

- They provide vital information about interpersonal relationships
- If the observations are carried out well, the results can be very accurate.

Disadvantages of Case Studies

- They can be inaccurate especially if they are based on biased biographies.
- Case studies can be time wasting.
- Verification of information may not be possible

2.9 The Experimental Method

The last technique of scientific research that I will discuss is the experimental method. This is the most highly developed and formalized of all data collection methods.

Note:
Before making actual observations, the experimenter carefully defines and analyzes the problem under consideration. A formal statement is then made, stating the problem, the conditions under which observation will be made and an indication of the procedures to be followed in processing the data and evaluating the results. The whole process in known as the **Experimental Research Design**

I will now take you through the seven steps of the Experimental Research Design:

Step 1: Statement of the Problem

All scientific research in motivated by an idea that calls for further investigation. In this step, the researcher is expected to state the problem in simple and clear terms.

For example:

Can high school performance be used to predict achievement at the university?

The research question as you can see in the above example should be in question form, and should be directed at the relationship between two or more variables.

For example:
Do **teachers' comments** in pupils‟ books improve **performance**?
The variables are highlighted.

The variables should have the potential for empirical testing. This means that the variables should be quantifiable (therefore observable and measurable). In the above example,

- Performance can be expressed in the form of marks form 0 to 100.
- Teachers comments can be quantified in terms of Excellent, Good, Fair, Poor or A, B, C, D and each of these labels can be assigned a specific mark as follows:

Example:

A	=	70 100	=	Excellent
B	=	60-69	=	Good
C	=	50-59	=	Fair
D	=	40-49	=	Poor
F	=	0-39	=	Fail

Step 2 Statements of the Hypotheses
A hypothesis is a statement or proposition usually based on the results of previous observations. It is therefore a suggestion of the likely outcome of the research. The purpose of research is therefore to test the truth of the stated hypotheses.

Good hypotheses should have the following qualities:
Should state the relationship between two or more variables
Should be stated in a declarative sentence
Should have the potential for empirical testing

An example of a good hypothesis is;

- Group studies contribute to a higher grade

achievement. Let us now consider the two types of hypotheses;

- **Null Hypotheses** indicate the relationship between the variables in null form.

For example:
H0: Group study has no effect on grade achievement.

Substantive/Alternative hypotheses indicate either a positive or a negative relationship between the variables.

For example:
H1: Group study contributes to **a higher** grade achievement than individual study.

H2: Individual study contributes to **a lower** grade achievement than group study.

* The words **higher** and **lower** indicate direction of relationship.

Step 3: Deductive Reasoning Step
Between the formulation of a hypotheses and its testing, there exists one important phase known as the deductive reasoning step, which involves evaluating the feasibility or research. In this step, the researcher considers the following aspects:

- Material requirements
- Suitability of subjects
- Time available for research
- Financial implications
- Replicability of the study

Note:
This step is very crucial as it is the real judge of the study‟s feasibility. Some studies are modified at this stage, while others are abandoned.

Step 4: Experimentation step
The aim of this stage is to collect data based on the hypotheses already determined. There are two kinds of variables that the psychologist is concerned under this step. They are the dependent and the independent variables.

Note:
The independent variable is the factor whose effects are being
The dependant variable is the factor that the experimenter predicts will change when changes occur in the independent variable.

The test of the hypothesis is what happens to the dependent variable, if it changes in the predicted manner, the results are said to support the hypothesis. If the predicted changes fail to occur, the hypothesis is refuted.

Example:

H1:The use of Aspirin leads to reduction of pain

Reduction of pain = Dependent variable
Use of Aspirin = Independent variable

Note:
The independent variable is the factor whose effects are being examined. Experimental control is the process of holding constant all variables that might affect the outcome of an experiment. Therefore, in a control group, the experimenter holds the independent variable constant or removes it, while the independent variable is altered in the experimental group

Step 5: Analysis of Data
The purpose of this step is to convert raw data from the previous step into a meaningful form. In simple studies, data may be analyzed manually and then depicted in the form of tables, graphs and bar charts. In complicated studies, computer analysis is recommended, preferably using the Statistical Package for Social Sciences (SPSS), for data processing and display.

Step 6: Conclusions, Implications and Recommendations
This step involves drawing of conclusions based on the results of hypothesis testing. The researcher is also expected to determine the implications of these results before suggesting recommendations for further action.

Step 7: Report Writing
This is the final stage of the scientific research design. It involves preparation of a concise document for presentation to:

- Sponsors
- Beneficiaries of the research
- The government agency concerned

Note:
A good report should contain a summary of the previous steps as this will facilitate future replication. In addition, the report should cover the implications of the research outcome and recommendations.

After looking at the scientific research design I will now shed some light on the advantages and disadvantages of using this method:

Advantages

- It is very precise
- Verification is possible by the same or other researchers
- It is possible to use experimental controls.
- This method provides a procedure to test the validity of tentative principles that have been established on the basis of previously observed facts

Disadvantages

- The method is lengthy
- The researcher needs specialized training to go through the seven steps
- It can be expensive

2.10 Summary

As I noted in the previous lesson, the major objectives of psychology as a science are to describe, understand, predict and control behavior. These objectives can only be realized if behavior studies are accurate. We have looked at various methods of gathering behavioral information and considered the advantages and disadvantages of each.

2.11 Definition of Key Terms and Concepts

Biographical Method: Collection of information from a person‟s written account of his/her life-history

Case studies: Detailed analyses of the way individuals and groups relate. Information is derived from biographies or observations

Clinical method: Reconstruction of a person‟s medical life history for purposes of identifying the source of a problem.

Day-book method: Preparation of a day by day record of a child‟s development with a view to judging normality.

Dependent variable: the factor that changes when the independent variable is manipulates.

Experimental control: The process of holding constant all variables that might affect the outcome of an experiment.

Familial connections: A genetic bond between family members, which may facilitate transmission of certain medical conditions.

Field study: Observation of subjects in their natural environment.

Independent variable: The factor whose effects are being examined

Interview: An introspective technique that involves oral responses from the subject.

Null hypothesis: A statement indicating lack of relationship between variables.

Objective observation: A study of subjects, involving analysis of what the subject does.

Population: The total population under study

Questionnaire: A set of questions in paper form, which the respondent is required to address by completing the relevant sections.

Remediation: The process of correcting a medical problem

Sampling: The process of drawing a representative group from the parent population under study.

Subject: A person or animal under study.

Substantive: hypothesis	A statement which indicates the direction of relationship between two or more variables.
Survey research:	A method of data collection, which involves administration of questionnaires or carrying out an interview.

2.12 Revision Questions

Describe two strengths and two limitations of each of the following methods of inquiry in psychology:

Survey
Naturalistic Observation
Case-studies

Using relevant examples, distinguish between the following pairs of terms.

Dependent and independent variables
Null and substantive hypotheses

2.13 References

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LECTURE III

HEREDITY AND ENVIRONMENT

3.1 Key terms and concepts

▪ Genotype	▪ Genes
▪ Phenotype	▪ DNA
▪ Gametes	▪ RNA
▪ Fetus	▪ Heterozygous state
▪ Alleles	▪ Dominant genes
▪ Homozygous state	▪ Recessive genes
▪ Nature	▪ Zygote
▪ Nurture	▪ Mitosis
▪ Chromosomes	▪ Meiosis

3.2 Introduction

In the previous lecture, we looked at the various methods that a researcher may use to collect, process, and interpret data, with a view to understanding behaviour.

In this lecture, I am going to highlight the dynamics of heredity and environment so that you may learn more about the impact of these two factors in the course of human development.

I intend to cover this lesson from a purely psychological perspective as opposed to a biological one, so that we may achieve the objectives that follow.

3.3 Objectives

By the end of this lesson, you should be able to:

Distinguish between the terms *nature* and *nurture*
Explain how our genetic structure influences the way we develop
Illustrate the process of inheritance.
Explain the differences between identical and fraternal twins
Describe some examples of inherited traits
Discus the various chromosome anomalies that lead to mutations.
Explain the nature –nurture controversy
Explain the role played by the environment in behavior and physical development of man.

3.4 The determinants of human development

Man is a product of his nature and nurture. Nature refers to mans inner qualities, or the inherited traits. Nurture refers to all the external forces that affect man. Man is therefore a product of heredity and his immediate environment.

Note that the interaction between heredity and the environment influences the following forms of development:

- Physiological development
- Psychological development
- Sociological development
- Personality development
- Emotional development
- Cognitive development

This complex relationship can be expressed in the form of a formula as follow;

$$D = f(H \times E \times T)$$

Where;

D stands for the developmental level of man

f stands for „function of"

H stands for heredity

E stands for environmental experiences

T stands for the time period

X stands for interaction between heredity and environment

> **Note:**
> The above formula implies that if any of the variables is reduced to zero, the level of development will be nil. Therefore, all the three variables must be active to enhance human development.

You should bear in mind that up to the time of birth, an organism"s development is mainly a biological growth process that is governed by heredity. Between conception and birth, the organism"s environment consists of the mother"s womb and the protective tissues of the uterus.

After birth, the environment plays a larger role in the development of behaviour patterns. For example, the effect of learning is a component of the environment. Bodily changes continue to be governed by the hereditary mechanism known as **maturation**.

All through life, the environment helps to shape an individuals development by supplying the stimuli and the conditions necessary for learning new patterns. The environment does this by altering and enriching the individual"s basic inborn qualities.

Let us now turn to the next section and learn how we inherit traits from our parents and ancestors.

3.5 How we inherit

Every individual begins life by the union of two sex cells known as **gametes**. The cells originate from the male and female parents, who produce the spermatozoon and the ova, respectively.

We should bear in mind that within the gametes are structures known as **chromosomes**, which contain the genes. **Genes** are the real bearers of heredity. The union of the gametes is known as **fertilization**, which results in the formation of a single cell known as the **Zygote**. A normal zygote has a full complement of 46 chromosomes and each chromosome carries an average of 10,000 to 15, 000 genes.

If implantation takes place, we say that **conception** has occurred, and the resultant zygote will grow and develop through a process known as **mitosis**.

Note:

Meiosis takes place before mitosis. Meiosis is the process of gamete formation which involves halving the number of chromosomes from 46 to 23 within the reproductive cells. This ensures that each parent contributes 23 chromosomes during fertilization.

Mitosis is the process of cell division, which takes place after the zygote has been formed. The number of chromosomes in the resultant cells (daughter cells) is retained at 46.

The total heredity of an individual is determined by the genes, which exert their influence through the chemical interaction of the DNA and the RNA. DNA stands for Deoxyribonucleic Acid, a cellular material that is responsible for genetic action, in addition to manufacturing proteins. RNA stands for Ribonucleic Acid, another cellular substance that works together with the DNA in transmitting genetic information to the site of cellular activity. RNA manufactures proteins.

Individual traits, for example, intelligence and maturation rate, are usually determined by many genes working in unison. This process is known as **polygenic** inheritance.

3.6 Sex determination

After highlighting the way we inherit, I will now demystify the subject of sex determination before addressing the subject of twins.

During the process of mating, all the male spermatozoa (millions) will have an equal chance of meeting the single female ovum. I need to assert here that the characteristic of sex is influenced by the male gametes. This is because the female gametes carry a chromosome constitution X, X while the male gametes have an X, Y constitution.

Note:
The probability (theoretical) of getting either a male or a female offspring is 50:50
This is illustrated below:

		Female parent's gamete	
		X	**X**
	X	**X, X** GIRL	**X, X** GIRL
Male parent's gamete			
	Y	**X, Y** BOY	**X, Y** BOY

The sex characteristic is influenced by a pair of chromosomes known as the **sex-determining chromosomes.** All the other chromosomes are known as the **autosomes**.

After looking at sex-determination, I will now address the issue of twins.

3.7 Twins

In this sub-section of the lesson, I will dwell solely on two types of twins; the identical and fraternal twins.

Identical twins

Identical twins are often described as **monozygotic** because they develop from a single fertilized egg – the zygote. The process is as follows;

i) Fertilization and conception take place normally
ii) The zygote splits into two or more separate cells that develop individually through mitotic processes
iii) The zygotes develop into separate fetuses within the same womb.
iv) The eventual offspring will have originated from the same ovum and sperm cells; hence will have similar genotypical and phenotypical characteristics.

Note:
Phenotype refers to characteristics that are expressed outwardly. The identical twins will therefore have similar eye color, skin pigmentation, body build and sex. Genotype refers to the genetic constitution of an individual. Identical twins will therefore have similar endowments in terms of motor skills, intelligence levels, sensory capacity, rates of growth and maturation chromosomes and genes

Questions:

We have noted above that identical twins have similar endowments in many areas. Do they have similar finger-prints?

Does the quality of the environment lead to differences in these twins‟ endowments?

Fraternal twins
Fraternal twins are described as dizygotic, to indicate that they originate from two separate zygotes. The process is as follows;

i) Each zygote is results form the union of a separate sperm cell and ovum.
ii) Each of the zygote develops individually through the process of mitosis.
iii) The resultant offspring may be of the same or different sexes.

Fraternal twins will therefore have different genotype and phenotype characteristics.

Note:
Phenotype differences will include non-identical skin pigmentation, hair color, gender, eye color and body build.

Genotype differences will include non-identical potentials in motor skills, intelligence and sensory capacity.

We have seen that twins are the result of the mechanism of inheritance. Let us now look at some more examples of inherited traits.

3.8 Examples of inherited traits

I will now introduce you to two traits that result from genetic inheritance. They are as follows:

Phenylketonuria
This is a condition arising from the inheritance of a genotype that fails to produce the enzyme necessary for metabolism. This enzyme converts a toxic substance known as

phenylalanine into **tyrosine**. A shortage of tyrosine and an accumulation of phenylalanine results in the abnormal development of the brain, leading to severe mental retardation. This trait is inherited through recessive genes.

Huntington's chorea
This condition is characterized by neural degeneration in adulthood, leading to psychotic behaviour. It is inherited through dominant genes.

You may have already noticed that the above conditions are not pleasant. I will now turn to the explanations of what could go wrong if chromosomes do not divide properly, and the consequences of this.

3.9 Chromosome anomalies and the resultant behaviour

I will first define the term anomaly as any condition that is not right. Therefore, chromosome anomalies are defects pertaining to chromosomal structure or function.

Some of the anomalies I wish to introduce are as follows:

3.9.1 Non-disjunction

This is a process where chromosomes fail to segregate during gamete formation. Therefore, some of the chromosome pairs of the zygote will get an additional chromosome to make a trio, while other chromosomes will miss a partner.

Question:

Did you know that chromosomes exist as pairs so that the proper number (46) is maintained after fertilization? The process is as follows;

During gamete formation, the number of chromosomes in the gametes is halved from 46 to 23. During fertilization, each parent contributes 23 chromosomes, leading to the restoration of the original number – 46

Note:
When chromosomes exist as a trio, this condition is known as **trisomy**
If chromosomes are not paired, this condition is known as **monosomy**

In addition, if
Sex-determining chromosomes are involved in trisomy, this condition is described as **sex chromosome trisomy**
Sex-determining chromosomes are involved in monosomy, this leads to **sex chromosome monosomy**
Other chromosomes are involved in trisomy, we refer to this as **autosomal trisomy**
Other chromosomes are involved in monosomy, this leads to **autosomal monosomy**

I have introduced the subject of monosomy and trisomy because this will help you to understand the background behind the examples in the following section.

Examples of trisomy and monosmy:

1. **Sex chromosome Monosomy**

Example: Turner's syndrome (XO)

Turner‟s syndrome is a condition that affects 1 in 10,000 people all over the world. Individuals with this anomaly have a chromosome constitution (XO). X stands for the X chromosome while O implies that the second sex chromosome is missing. They therefore have 45 chromosomes in the body cells. Due to the presence of only one sex chromosome (X), all Turners cases are female.

Note:

The following are characteristics of a Turners Syndrome case:

Deformed bend of the forearm.
Sexual infantilism: lack of development of secondary sex characteristics.
Sexual dysfunction in adulthood
Broad chest with widely spaced nipples
Webbed neck.
Low posterior hairline
Small body and short in stature (below five feet in height)
Irreversible sterility.
Perceptual and cognitive deficiencies.

2. **Sex-chromosome Trisomy**

Example 1: Klinefelter's Syndrome (XXY)

This condition affects 1 in 1100 people. Individuals with this condition have 47 chromosomes in the body cells and are male in nature. The additional X chromosome is seen as the source of the individual‟s incomplete sexual development and the associated ambiguity.

Note:

The following are characteristics of Klinefelters Syndrome cases:

Intelligence is within normal limits although the IQ scores will invariably be on the lower end of the scale.
The individual is significantly taller than average.
Poor muscular and motor development.
Small testicular volume
Speech and language disorders.

Example 2: Trisomy XYY

Individuals with this condition have 47 chromosomes in the body cells and are male in nature. The prevalence of this condition is 1 in 1100

Note:
The following are characteristics of Trisomy XYY cases:
Mental defects leading to learning disabilities.
Unusual tallness.
A violent and antisocial personality.

Example 3 Trisomy XXX
Individuals with this condition have an extra X- chromosome and are female in nature. The prevalence of this anomaly is 1 in 1200

Note:
The following are characteristics of Trisomy XXX cases:

- Taller than average females
- Poor muscular and motor development
- Speech and language disorders
- Learning disability
- Neuro-maturational delay
- A timid/fearful personality

3. Autosomal monosomy
This condition has not been observed in man because the embryo cannot proceed beyond the early developmental stages.

Many fetuses with this chromosomal disorder undergo spontaneous abortion.

4. Autosomal trisomy
Example 1: Down's syndrome
This condition is also known as **Trisomy 21** and its occurrence rate is 1 in 800 babies. Mongolism arises whenever there is an extra chromosome to the twenty-first pair.

Note:
The following are characteristics of Down's Syndrome cases:
Severe mental retardation, exhibited through problems of comprehension, reasoning and socialization.
Poor motor co-ordination
Retarded expressive language.
Developmental delays in terms of the onset of sitting, standing and walking, and speech development.

Example 2: Trisomy D and E
Trisomy D and E involve an extra chromosome to pairs number 13 to 15

Note:
The following are characteristics of Trisomy D and E:

Trisomy D leads to:
Deficient forebrain development
Absence of olfactory tracts
Small or absent eyes

Trisomy E leads to:
Cardiac problems
Kidney (renal) defects

3.9.2 Translocation
This refers to the exchange of one part of a chromosome with another chromosome. Let us look at two examples;

Example 1: Down's syndrome
Parts of chromosome pair number 21 may get exchanged with those of adjacent chromosomes leading to severe mental retardation.

Example 2: Cri-du-chat
This is a condition where one end of chromosome pair number 5 will be lacking, leading to severe mental retardation. A newborn child suffering from cri-du-chat makes the cry like that of a kitten

3.9.3. Mosaics
These are individuals whose body cells contain different chromosome combinations, for example:

- XO/XX
- XO/XY
- XO/XY/XXY
- XX/XY

The first three examples are referred to as **Turners Mosaics** because of the XO chromosome constitution.

After looking at the chromosome anomalies and the resultant behaviour, it is essential that we look at the effect of the environment in the development of man.

3.10 The role of the environment in human development

I noted earlier in this lecture that it is not possible to completely isolate the impact of heredity from the environmental influences. In order to illustrate the powerful role played by the environment, I will use the results of twin studies.

Early studies on intelligence showed that siblings were more similar in intelligence than other randomly selected members of the community. However, these studies were criticized because they failed to take into account the quality of the home environment. Studies by Burke (1928) represented the beginning of the appreciation for the significant role played by the environment. For instance, Burke‟s studies on children in foster homes, and twins, led to the proposal that 80 percent of intelligence was contributed by heredity while the environment represented 20 percent.

Later studies by Newman, Freeman and Holziner (1937), involving identical twins showed that twins brought up in different environments had low correlations of intelligence Quotient (IQ).

Correlation measures of IQ

Identical twins reared together		Identical twins reared apart
Set 1	r = + 0.86	r = + 0.46
Set 2	r= + 0.88	r= + 0.46
Set 3	r= + 0.92	r = + 0.73

From the above table, we can infer that the environment has a significantly important influence on IQ

In order to isolate the identical twin effect, the same researchers studied unrelated children and the correlation levels were **r = + 0.25 to r = + 0.37**

The interaction between heredity and the environment determines the part of the genotype that will be expressed in the phenotype. For example, the study by Gottesman (1942) revealed that Orientals brought up on a foreign diet grew taller than their counterparts on a local diet.

Attributes like intelligence can be enhanced by schooling. Schooling enables individuals to realize their potentials and to make adjustments depending on their unique endowments.

All in all, the environmental influence is strongest after birth. In the pre-natal period, **teratogens** are considered to be powerful environmental agents. Teratogens are agents that affect the embryo or fetus negatively, for example, maternal use of drugs, maternal stress, rhesus- incompatibility and X-irradiation, among others.

We shall now look at the nature-nurture controversy, as we conclude this lesson.

3.11 The nature –nurture controversy

There are two views in the nature-nurture controversy: The **nature view** holds that we are wholly governed by our inmate, inherited structures. The **nurture view** emphasizes that we are completely the product of the environment.

Note:
In spite of these two divergent views, we are the product of the interaction between heredity and environment.

Question
Do you remember the implication of the following formula?

$$D = f (H \times E \times T)$$

3.12 Definition of key words

Alleles: The states in which genes exist. There are two allelic states – the homozygous and the heterozygous states.

Chromosomes: The microscopic bodies found in the nucleus of each cell. There are two types –X and Y

DNA: Deoxyribonucleic Acid. The cellular material that provides the basis for genetic action DNA replicates proteins.

Dominant gene: The gene that exerts more influence on the phenotype than another gene.

Fetus: The Unborn human organism form the 8^{th} week of conception until birth.

Gametes: The sex cells from either the male or the female parent

Genes: The ultra microscopic areas of a chromosome, responsible for the transmission of hereditary traits

Genotype: The genetic constitution of an individual

Meiosis: The process of cell division that results in halving of the total number of chromosomes from 46 to 23

Mitosis: The cell division process that enables the zygote to grow quantitatively. The daughter cells maintain 46 chromosomes.

Phenotype:	The explicit expression of certain genotype traits.
Recessive gene:	The gene whose influence is masked.
RNA:	Ribonucleic Acid. A cellular substance that helps in the transmission of genetic information and the manufacture of proteins
Zygote:	The single cell that results from the union of the gametes

3.13 Revision questions

Briefly explain the term „Non-disjunction.

Describe three characteristics of each of the following conditions

Trisomy XXY
Turners Syndrome
Downs Syndrome

Discuss the procedure you would use to study the relative influence of heredity and environment in the development of human traits

3.14 Further reading

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LECTURE IV

SENSATION AND PERCEPTION

4.1 Key Terms

Absolute threshold
Difference threshold
Perception
Perceptual adaptation
Sensation
Sensory adaptation
Extra-sensory perception

4.2 Introduction

We all know that our sensory organs (eyes, ears, the tongue, the surface of the skin and the nose) detect stimuli from the environment and interpret the relevant messages to which we react. However, not many people know that the process of perceiving is a very complex activity encompassing many other stages.

In this lesson, I will introduce the processes of sensation and perception, highlighting the way the above sensory receptors detect stimuli, and encode them into neural information that is then transmitted to the brain for interpretation.

I will also take you through some basic principles governing the way we sense the world we live in. After looking at factors influencing the way we perceive, I will end this lecture by covering the mysterious field of Extrasensory Perception (ESP). Let us now consider the objectives that we hope to achieve by the end of the lesson.

4.3 Objectives

By the end of this lesson, you should be able to:

Distinguish between sensation and perception
Explain the processes involved in sensation and perception
Distinguish between difference and absolute thresholds
Illustrate the process of sensory adaptation
Describe the basic principles of perceptual organization
Explain the process of perceptual adaptation.
Discuss the major factors influencing perception.

4.4 Sensation and Perception

Many people, including psychologists, find it difficult to tell the difference between sensation and perception. Nevertheless, I will enlighten you about the generally accepted definitions pertaining to the two concepts.

Sensation is the process through which signals from the environment are detected by the sensory receptors in the eyes, ears, tongue, skin and nose, are encoded into nervous impulses and then passed on to the brain.

Perception is the whole process of organizing and interpreting sensory information in addition to the way we respond.

> **Note:**
> Sensation is therefore a part of the perceptual process. Our ability to perceive enables us to obtain the information we need to survive.

4.5 Thresholds

Have you ever wondered why thieves are able to break into a house, communicate with each other and carry things away without waking up the occupants of a house? The answer to this is very simple. Human beings require a certain minimum stimulation of the hearing sense in order to perceive sound. This minimum stimulation is known as the **absolute threshold**. All our sense organs have an individualized absolute threshold.

As we sense various stimuli in the environment, we require the ability to detect small differences between these stimuli. For example, a tea taster must be able to detect minute differences in flavor between various qualities of tea. The minimum difference that can be detected with respect to our sensory system is referred to as **difference threshold** or **just noticeable difference**.

> **Note:**
> Sometimes, we can be affected by stimuli that are too weak for us to notice. For example, some rock music recordings are said to contain satanic messages in the background of the songs. Such messages may be consciously identified if the song is played backwards. All stimuli that are too weak for us to notice and yet is able to affect us are forms of **subliminal perception**.

Let us now turn to a perceptual experience that is very common in our homes. This is our ability to get used to unchanging stimuli.

4.6 Sensory adaptation

Have you ever entered a room that was freshly painted and therefore had the characteristic powerful odor of paint? I am sure that within minutes, you had forgotten about the unpleasant paint odor.

The above example illustrates a perceptual process known as **Sensory Adaptation**. This is usually defined as the diminishing sensitivity to unchanging stimuli.

Question:
Going by the above definition, why is it that when we look at an object continuously our eyes never forget the existence of this object?

The answer to this question is that our eyes are never constant. The pupil of the eye is perpetually contracting and enlarging (Myers, 1990).

We shall now turn to an analysis of the way we organize our perceptions.

4.7 Perceptual organization

In the first lecture, I introduced you to ideas by Gestalt psychologists. The term „Gestalt" means a „form" or a „whole". In order to help you understand this concept better, I will take you through the structures that we use to categorize various stimuli, resulting in meaningful perceptions. These structures are **Figure and Ground Perception** and **Perceptual Grouping**.

Figure and Ground Perception

In order to recognize an object, we need to first perceive this object as being separate from its surroundings. Consider this example. When we write some words on a piece of paper, the words are perceived as being distinct from the paper. The words assume the characteristics of a figure, while the paper becomes a mere background. This is referred to as **a Figure and Ground Perception**.

Perceptual Grouping

After having discriminated figure from ground, we then organize the figure into a meaningful form. This requires bringing some order in terms of grouping stimuli together. This ordering is governed by the following principles.

Proximity: This is the tendency to perceive stimuli that are near to each other as if they belong together.

Example:

XOXOXOXOXOXOXOXOXOXOXOXOXOXOX

OXOXOXOXOXOXOXOXOXOXOXOXOXOXO

XOXOXOXOXOXOXOXOXOXOXOXOXOXOX

OXOXOXOXOXOXOXOXOXOXOXOXOXOXO

In the above example, we perceive rows, because the principle of proximity creates the impression that the X‟s and the O‟s are related due to their nearness to each other.

Similarity: This is the perceptual tendency to group together similar stimuli.

Example:

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

OOOOOOOOOOOOOOOOOOOOOOOOOOOOOO

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

OOOOOOOOOOOOOOOOOOOOOOOOOOOOOO

In this example, similar shapes are grouped together in the perceptual process.

Continuity: We tend to perceive smooth continuous patterns rather than discontinuous ones.

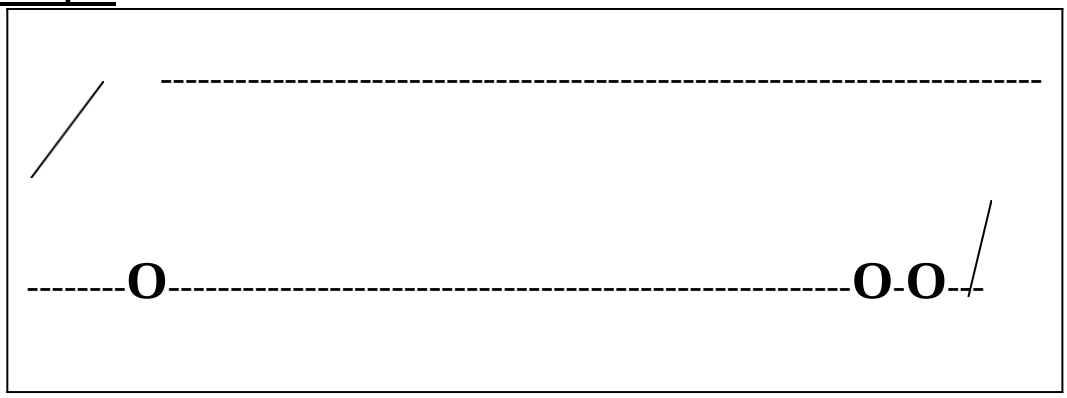
Example:

OXOOOOXXOOOOXXOOOOXXOOOOXXOOOOXX
OOXOOXOOXOOXOOXOOXOOXOOXOOXOOXOO
OOOXXOOOOXXOOOOXXOOOOXXOOOOXXOOO

In the above example, we perceive a continuous wave pattern made up of X‟s, due to the influence of the principle of continuity.

Closure: This is the perceptual tendency to fill in gaps thus enabling one to perceive disconnected parts as being complete.

Example:



In the example above, the principle of continuity enables us to perceive a bus.

4.8 Perceptual constancies

So far we have seen that the process of perception requires proper organization of various stimuli. Our next task is to see how we **recognize objects without being deceived by their shape, size, brightness, or color.** This is the subject usually referred to as **perceptual constancy**. I will now focus on the four main perceptual constancies.

Shape constancy: This is the tendency to perceive familiar objects as having a constant shape in spite of the viewing angle.

Example:
A rectangular door casts the image of a trapezoidal image on the retina when the door is open.

Size constancy: This it the tendency to perceive an object as having a constant size in spite of the object being far away from us.

Example:
We perceive a car as big enough to carry people, even when we see it from afar.

Brightness Constancy: This is the tendency to perceive objects as having consistent brightness even when their illumination varies.

Example:
White paper reflects 90 percent of the light falling on it, while black paper reflects only 10 percent in well-illuminated conditions. In bright sunlight conditions, the black paper may reflect 100 times more light than does the white paper indoors (McBurney & Collings, 1984), yet it still looks consistently black.

Color Constancy: This refers to the tendency to perceive familiar objects as having consistent color even when the illumination changes.

Example:
A yellow dress looks yellow when observed during the day or evening, when the amount of light diminishes, it looks white, but it is still yellow.

4.9 Perceptual adaptation

Anybody who wears prescription glasses will tell you that they felt slightly disoriented and dizzy when they first wore the spectacles. However, these feelings disappeared after a day or two. What really happened was **perceptual adaptation**. This is the ability to adjust to an artificially displaced or even inverted visual field. Another example is that of a person watching television while lying on the side of the bed. The person soon gets used to this distorted visual position.

After looking at this interesting concept, I will now turn to the factors that influence the way we perceive.

4.10 Factors influencing perception

You may wonder why two people occasionally appear to view the same object, situation or idea from different perspectives. The reason for this is that we are all subject to individual differences in the way we perceive. In this section, I will look at various factors that contribute to these perceptual differences. Some of the factors are as follows:

- **Characteristics of the stimulus object**

A stimulus object is anything that draws the attention of our sense organs. Objects that are vivid in terms of possessing a sharp distinction between the figure and background are easiest to perceive. Colorful objects as well as those with patterns are powerful stimulus objects. Conversely, objects that are dull- colored, vague and lacking in contour are easily ignored.

In class, teachers are encouraged to apply vividness, color and pattern to educational stimuli in order to enhance learning.

- **Culture**

This is a very crucial factor because we are all subject to both cultural and ethnic forces. It has been proposed that Africans perceive round objects better than those with straight lines, while Caucasians prefer the opposite of this.

Activity:

- Prepare a list of round objects from your culture
- Do you agree with the proposal that Africans perceive round shapes better than those with straight lines?

In the late sixties, Deregowski‟s study on Malawians revealed that the group involved perceived colored photographs better than the black and white pictures. The implication of this was that the Malawians lived in a colorful culture, hence their tendency to perceive the colored photographs satisfactorily.

Turnbull‟s study on the Pygmies of the Congo (1969) showed that the subjects under study had problems of size constancy. The pygmies were shown some buffaloes at a distance and asked to explain what they saw. They responded that they could see insects. The implication of these results was that pygmies lived in a heavily forested area where trees prevented long distance perception, hence these people did not have ample opportunity to develop size constancy.

- **Context characteristics**

The tem „context characteristics‟ refers to the setting in which perception occurs. This implies that a person may be exposed to a stimulus and the way he perceives this stimulus will depend on the circumstances under which it is presented.

Example:

12	**13**	**14**	**15**
A	**13**	**C**	**D**

In this example, the number **13** can also be viewed as a **B** depending on the context of application. The top line represents the number context, while the alphabetical concept is represented in the bottom line.

- **Selective Attention and Individual Values**

This is the tendency to focus on a specific stimulus and to ignore all the other competing stimuli. Usually, the stimulus that captures our attention most is the one that is most vivid, colorful or loud. In addition, stimuli containing patterns or emotional potential will enhance selective attention.

One example we can consider is that of a picnicker and a naturalist in a park. The naturalist will be able to perceive the sounds of birds and animals in the bush as opposed to the picnicker who will generally concentrate on conversation sounds. These two individuals will be in the same environment but will perceive different stimuli due to their special interests, needs and values.

- **Characteristics of the Perceiver**

As I mentioned earlier, all of us have individual differences which influence the way we appreciate various stimuli. For example, an individual‟s state of intelligence will influence his response to a stimulus. One illustration of this is the effect of an examination stimulus. Bright students view examinations as a challenge to prove their proficiency in answering questions, while the dull students look at examinations as a major threat.

Our state of mind can also influence the way we perceive. For example, a person who is very sick in hospital may not appreciate watching his favorite television program. A person who is intoxicated with alcohol will be prone to risky sexual behaviour because of the drink‟s potential to reduce inhibitions. In this case, risky sexual behaviour is transformed into an acceptable temptation.

I will complete this lecture by attempting to answer the following question: **Is there Perception without Sensation?**

4.11 Extrasensory Perception (ESP)

You must have read about people who are able to communicate using the thought modality alone, or those who are capable of influencing other people and objects physically from a distance. The explanations for these potentialities are not readily forthcoming due to the fact that these experiences lack room for scientific verification.

The field of ESP is nowadays left to experts popularly known as **parapsychologists**, who study the **paranormal**. The term paranormal refers to phenomena beyond the normal, as you can deduce from my examples above.

All in all, parapsychologists are in consensus that some individuals possess the ability to perceive without sensory input. This means that they are able to engage in sensation without the intervention to the five senses.

Parapsychologists have classified various phenomena as follows:

- **Telepathy:** Mind to mind communication, where one person sends thoughts to another, who may or may not possess the ability to respond. Telepathy also includes the ability to perceive another‟s thoughts.

- **Clairvoyance:** Perceiving remote events, such as sensing that a relative is sick in hospital

- **Precognition:** Perceiving future events, such as forecasting the death of a political leader.

Associated with ESP is **Psycho Kinesis**, which refers to the ability to perform a mental operation to influence a material body or energy system. A person with this gift can move objects using thoughts.

Activity:

- List some events that you have either experienced, read or heard about, which can be classified as paranormal phenomena.
- Assign these events to three categories identified above.

4.12 Summary

In this lecture, we have looked at the processes of sensation and perception, with special attention to concepts like; Thresholds, sensory adaptation, and constancy. We have also identified the principles and factors governing perception; and concluded the lecture with a look at Extrasensory Perception

4.13 Definition of Key Words

Absolute Threshold:	The minimum stimulation that a person can detect.
Difference Threshold:	The minimum difference in stimulation that a person can detect.
Perception:	The process of organizing and interacting sensory information
Sensation:	The process by which certain stimulus energies are detected and encoded.
Sensory Adaptation:	Diminished sensitivity to constant stimulation.

Extrasensory Perception: Perception without sensation.

4.14 Revision questions

What is absolute threshold, and why are we not influenced by stimuli below it?
What function does sensory adaptation serve?
How do perceptual constancies help us to organize our sensations into meaningful perceptions?
Describe the three principles of perceptual organization.
What types of extrasensory perception have been proposed by parapsychologists?

4.15 Further Reading

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LECTURE V

LEARNING

5.1 Key words

- Classical conditioning
- Extinction
- Learning
- Operant conditioning
- Reinforcement
- Stimulus discrimination
- Stimulus generalization
- Spontaneous recovery

5.2 Introduction

In the previous lecture, we looked at the processes of sensation and perception with a view to understanding the way human beings sense the world and respond to its myriad stimuli.

In this lesson, I will focus on salient issues pertaining to learning. You will find this lesson very crucial to the understanding of other people and your environment. After defining learning, I will look at experiments by Ivan Pavlov and B. F. Skinner, while at the same time introduce you to the above concepts. Since the issue of punishment is a very sensitive one in schools, I will devote a considerable amount of time addressing this subject. First, let us consider the objectives of this lesson.

5.3 Objectives

By the end of this lesson, you should be able to:

- Define the term „Learning"
- Explain the processes involved in both classical and operant conditioning
- Illustrate the processes of: Reinforcement, spontaneous recovery, stimulus generalization, stimulus discrimination and extinction.
- Discuss the consequences of punishment on the errant learner

5.4 Learning

According to Myers (1990), learning is a relatively permanent change in an organism"s behaviour due to experience. The implications of this definition are as follows:

- **Learning involves a relatively permanent change.** Meaning that the newly learnt behaviour should not suffer from extinction within the short-run period. Therefore, any temporary behaviour cannot be a form of learning.

- **Learning requires reinforced practice trials.** This implies that the organism involved in learning must have adequate reinforcement to enhance permanence of the new behavior.

There are many forms of learning, including:

- Classical and Operant Conditioning.
- Motor learning.
- Verbal learning.
- Perceptual Learning
- Attitude learning
- Concept learning

In this lesson, I will dwell on classical and operant conditioning because of their importance in all aspects of life.

5.5 Classical Conditioning

This is a type of learning in which an organism comes to associate different events. Thus, an organism will learn to respond to a previously neutral stimulus through association with a natural stimulus.

A **neutral stimulus** is any stimulus that is irrelevant under the prevailing conditions. For example, a dog that is presented with a piece of paper will find this stimulus irrelevant. The paper is therefore a neutral stimulus since it will not evoke any response in the dog.

A **natural stimulus** is any stimulus that does not require new learning for a response to be elicited. Using the example of the dog again, let us assume that the paper stimulus is substituted with a piece of meat. This time, the dog will respond by salivating and ingesting this pleasant stimulus. The association between meat, salivation and ingestion is a natural one.

Classical conditioning was pioneered by **Ivan Pavlov**, a Russian physiologist-cum-psychologist. That is why classical conditioning is also known as **Pavlovian conditioning**. This form of learning involves simple involuntary responses like salivation and fear responses, among others.

Pavlov's Experiment on Salivation

The objective of Pavlov‟s experiment on salivary response was to demonstrate how animals could be trained to respond to neutral stimuli (**NS**) in the same way as they did to natural stimuli.

Pavlov first harnessed a dog in such a way that its salivary response could be measured. He then introduced meat in the form of powder for ease of administration. He noted that the dog salivated each time this stimulus was presented. Since the meat powder was a natural stimulus, it was referred to as the **Unconditioned Stimulus (UC)**.

He then introduced a buzzer (electric bell) into the experimental situation. The buzzer was a **Neutral Stimulus (NS)** because it did not elicit any salivary response in the dog. In the experiment, Pavlov sounded the buzzer each time he presented the meat powder and the dog would salivate due to the presence of the meat powder.

After several sessions of pairing the neutral stimuli, Pavlov began to withhold the meat powder while sounding the buzzer. He noted that the dog salivated at the sound of the buzzer, implying that it had undergone classical conditioning since it was now responding to a previously neutral stimulus. At this stage of the experiment, the buzzer had become a **Conditioned Stimulus (CS)** while the salivary response was the **Conditioned Response (CR)**.

Summary of the classical conditioning stages:

1. Meat powder---------- Salivation
   UCS UCR

2. Bell---------- No Salivation
   NS

3. Bell X Meat Powder ---------- Salivation
   CS UCS UCR

4. Bell---------- Salivation
   CS CR

Note:
The association between the Conditioned Stimulus and the Conditioned Response is a learned one.

Classical conditioning is sometimes referred to as learning through stimulus substitution (CS for UCS)

Classical conditioning involves many responses other than salivation, for example, Fear Response and Galvanic Skin Response (GSR) – Goose pimple simulation

Activity:
Identify a class-related behavior that can be learnt using the classical conditioning procedure.

5.6 Instrumental (Operant) Conditioning

We have seen that classical conditioning involves linking simple, involuntary responses with neutral stimuli. How then do we learn more complex behaviours? The answer to this is through what psychologists call **operant or instrumental conditioning**.

Operant conditioning is a type of learning in which behaviour is strengthened if followed by reinforcement, or diminished if followed by punishment. It was pioneered by B.F. Skinner.

Operant conditioning is significantly different from classical conditioning because of the time the controlling stimulus (Unconditioned Stimulus) is introduced. For instance, in classical conditioning, the unconditioned stimulus comes before the response (whatever form it takes) while in operant conditioning the unconditioned stimulus is only presented after the desired behaviour.

B. F. Skinner's Experiments

B. F. Skinner was initially an aspiring writer before developing interest in psychology. He is today regarded as a leading authority in modern behaviorism. For his pioneering studies with rats and pigeons, he developed the now famous **skinner-box**. The box is essentially a sound-proof chamber with a bar that can be manipulated to release a food or water regard, and devices that electronically record the rate of bar-pressing or key-pecking (Myers, 1990).

In his experiments, Skinner used a technique known as **shaping**. Shaping involves using rewards such as food to guide an animal‟s natural behaviour in the desired direction.

> **Note:**
> **Shaping:** A class teacher can use this method by continually rewarding small improvements until the desired goal is achieved.

Let us now turn to some important features of both classical and operant conditioning.

Features of classical and operant conditioning

i) Both forms of learning are strengthened by the use of **reinforcement** or **reward**. The reinforcer may be the presentation of something pleasant, like food to a dog, or the removal of some unpleasant stimulus, like electric shock. The effect of reinforcement is to increase the possibility of re-occurrence of a response that it accompanies.

ii) **Extinction** is another common feature in both forms of learning. Extinction is the process where the conditioned response rate declines due the continued presentation of the conditioned stimulus without reinforcement. For example, in classical conditioning, the sounding of the buzzer for a long period without presentation of the meat powder will lead to the reduction in the rate of salivation. In operant conditioning, pressing of the bar in the skinner-box

without the presentation of food or water will lead to the reduction in the rate of **bar-pressing**.

ιιι) **Spontaneous recovery** in both classical and operant conditioning involves the reappearance of the conditioned response, that is, the extinct behaviour without any additional reinforcement after a period of rest.

ιϖ) **Stimulus generalization**, which is a common feature in operant and classical conditioning, involves an organism‟s tendency to respond to all stimuli that resemble the conditioned stimuli. For example, the dog in Pavlov‟s experiment occasionally salivated to sounds similar to those of a buzzer.

ϖ) **Stimulus discrimination** involves the ability of an organism to distinguish between those stimuli that are rewarded and those that are not. For example, the rat in the skinner-box would know that the only stimulus that will led to reward is the bar and not the food receptacle, and would therefore have learnt to discriminate between various stimuli.

5.7 Principles of Reinforcement

So far, I have only referred in passing to the reward concept. I will now focus on this concept to enable you to see exactly how reinforcement strengthens the response it follows.

Although many people view reinforcement as being synonymous with rewards, there are actually only two kinds of reinforcers; positive and negative. A **positive reinforcer** is a pleasant stimulus which accompanies the desired behaviour. For example, food is typically used as a positive reinforcer for animals, while attention, approval and money are positive reinforcers for most people.

A **negative reinforcer** is the termination of an aversive stimulus. For example, if someone stops nagging you, the withdrawal of nagging words is negative reinforcement.

Reinforcers are further differentiated into primary and secondary categories. **Primary reinforcers** are the stimuli that satisfy us directly, for example food or termination of pain. **Secondary reinforcers** satisfy us indirectly since they get power from the primary reinforcers. For example, money is useless unless we use it to buy food and clothes.

Reinforcement can be presented as per the following schedules:

- **Continuous reinforcement schedule:** This involves reinforcing a response every time it occurs. In this schedule, learning occurs rapidly, but when the reinforcer is withdrawn, extinction is equally rapid. For example, if you put some coins in a telephone unit and the money is detained without the call getting connected, you will give up immediately.

In real life, continuous reinforcement is rare. A salesman for instance, does not make a sale with every potential customer. This represents **partial** or **intermittent reinforcement**. This process of only rewarding a response part of the time leads to slower acquisition of the response. But the advantage is a slower extinction rate.

- **Fixed interval schedule of reinforcement** involves rewarding responses only after a certain period has elapsed. For example, if mail is usually delivered at a certain time, we should not expect to be reinforced at other times.

- **Varied interval schedule of reinforcement** involves reinforcing at unpredictable time intervals. For example, when we need to use a „matatu", we can never really be sure when one will arrive.

- **Fixed ration schedule** entails reinforcing responses only after a specified number of responses. For example, people on piecework basis are paid after they accomplish the pieces of work assigned to them.

- **Varied ratio schedule** involves reinforcing responses after an unpredictable number of responses. For example, people who gamble are highly motivated because they stand to win at any subsequent response.

After looking at the various reinforcement patterns, I will end this lecture by discussing salient issues pertaining punishment.

Differences btn

5.8 Punishment

Punishment can be defined as any event that decreases the behaviour that it follows. When it is swift, strong and consistent, punishment can be a powerful instrument for modifying behaviour. However, no matter how effective it is in restraining unwanted behaviour, punished behaviour is only suppressed, but not forgotten. Therefore, the punished behaviour may reappear in settings where punishment is unlikely.

The opponents of punishment assert that punishment increases aggression in the one who is punished (Strauss & Gelles, 1987) as a way of letting off the excess negative energy associated with the punishment stimulus. They also say that it leads to fear and the development of negative attitudes towards the person administering the punishment. This is especially serious when it happens in the learning environment, as the learner may fear the teacher to the point of becoming a truant.

All in all, even if punishment succeeds in suppressing the unwanted behaviour, it often fails to guide the culprit towards the desired behaviour. Moreover, those people who are punished too often soon develop apathy since they feel that punishment is unpredictable and unavoidable.

It is therefore necessary to consider the following points before administering punishment:

- The success rate of punishment will depend on the **factors sustaining the undesired behaviour**. For example, a person who steals food because of hunger

will probably need to have his poverty status addressed since this is what sustains the stealing habit.

- The **intensity of punishment** should always be stronger than the drive behind the undesired behaviour. In general, if behaviour is associated with the satisfaction of a physiological need, the punishment stimulus will probably be too weak.
- The **time lapse** between the undesired act and punishment must be as short as possible so that the culprit may be able to form an association between the behaviour and the punishment (contingency).
- Punishment must be **fair and consistent**. This means that the same mistake should attract the same punishment at different times and that there should be no favoritism.

The current trend in Kenya is that corporal punishment is outlawed in schools. We should now join Skinner in emphasizing on positive and negative reinforcement rather than punishment in order to maintain discipline in our school.

5.9 Summary

In this lesson, we have looked at classical and operant conditioning principles and concepts, in addition to addressing the salient issue of reinforcement. We have also looked at the sensitive area of punishment.

5.10 Definition of Key Words

Classical conditioning: A type of learning in which an organism comes to associate natural and neutral stimuli.

Extinction: The diminishing of a response when a conditioned stimulus is not followed by an unconditioned stimulus.

Learning: A relatively permanent change in behavior as a result of reinforced practice.

Operant conditioning: A type of learning in which behavior is strengthened if followed by reinforcement.

Reinforcement: The process by which consequences increase behaviors.

Stimulus discrimination: The ability to distinguish between those stimuli that are rewarded and those that are not.

Stimulus generalization: The tendency for an organism to respond to stimuli similar to the conditioned stimuli.

Spontaneous recovery: The re-appearance of a conditioned response after extinction, without additional reinforcers.

5.11 Revision Questions

What is classical conditioning and how does it demonstrate learning by association?
What are the processes of shaping, extinction, spontaneous recovery, generalization and discrimination?
What are the basic types of reinforcers?
How does punishment affect behaviour?

5.12 Further Reading

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Intelligence

LECTURE VI

MOTIVATION

6.1 Key words

▪ Affiliative motives ▪ Drives ▪ Homeostasis ▪ Incentives ▪ Motivation	▪ Needs ▪ Physiological needs ▪ Prestige motives ▪ Psychological needs ▪ Self-actualization

6.2 Introduction

In the previous lecture, we looked at the process of learning from the conditioning perspectives. We also noted that reinforcement is an essential ingredient in the learning process.

In this lecture I will explore motivation, focusing on the categories of human motives, and addressing the interplay between biological influences and external stimuli. Along the way, I will look at the characteristics of motivated acts, placing emphasis on the motivation cycle. I will then address the issue of primary and secondary motives, and highlight the significance of socially oriented motives. In the last part of this lecture, I will dwell on Abraham Maslow‟s contribution to the understanding of motivation, and discuss some factors influencing motivation. First, let us look at some of the objectives that we need to achieve under this lesson.

6.3 Objectives

By the end of this lecture, you should be able to:

Define the term „motivation‟.
Illustrate the motivation cycle
Describe the characteristics of motivated acts.
Distinguish between physiological and psychological needs
Explain how prestige and affiliative motives can be used to enhance learning in schools.
Describe Maslow‟s hierarchy of human motives

6.4 Definition of Motivation

The term „motivation‟ refers to the needs or desires that serve to energize behaviour and to direct it towards a goal (Myers, 1990). Motivation is therefore the driving force behind all our actions, other than the reflex behaviours. This definition implies that all motivated actions must have this driving force, which must also goal directed. For example, the desire for academic excellence gives us the impetus to work hard in order to pass examinations.

Like intelligence, motivation is a hypothetical concept. It is for this reason that we infer motivation from behaviour we observe.

Let us now look at some perspectives in the field of motivation.

6.5 Motivation Perspectives

We have always wondered why we behave as we do. Some theorists propose that we might be governed by **biological instincts**. To qualify as an instinct, behaviour must have a fixed pattern, be characteristic of a whole species and develop without practice (Tinbergen, 1951). Such behavior is common in other species, but not in humans.

Other theorists propose the idea that **biological needs** create an aroused state that drives an organism to satisfy its needs. A need is a tissue deficit, a physical deprivation such as lack of food or water. Food or water deprivation will arouse an organism to correct this imbalance. This aroused state is called a **drive**, and it prompts an organism to reduce the drive by say, eating or drinking. The physiological aim of drive reduction is called **homeostasis**.

Ideas by the second group of theorists are more readily accepted today by psychologists, and for this reason. I will look briefly at the homeostasis, a concept that was introduced by the latter group.

6.6 Homeostasis

As I mentioned above, when we eat food or drink water, our objective is to reduce a state of need. This physiological goal of drive reduction is what I referred to as homeostasis. **Homeostasis** is the tendency to maintain a balanced or constant internal state (Myers, 1990). This definition implies that there exists a certain optimal internal state of functioning in every organism.

An example of homeostasis is the body‟s temperature control system, which works automatically. Other homeostatic activities require deliberate effort, for example, the search for food.

Let us now look at some features of motivated behavior.

6.7 Characteristics of Motivated Behaviour

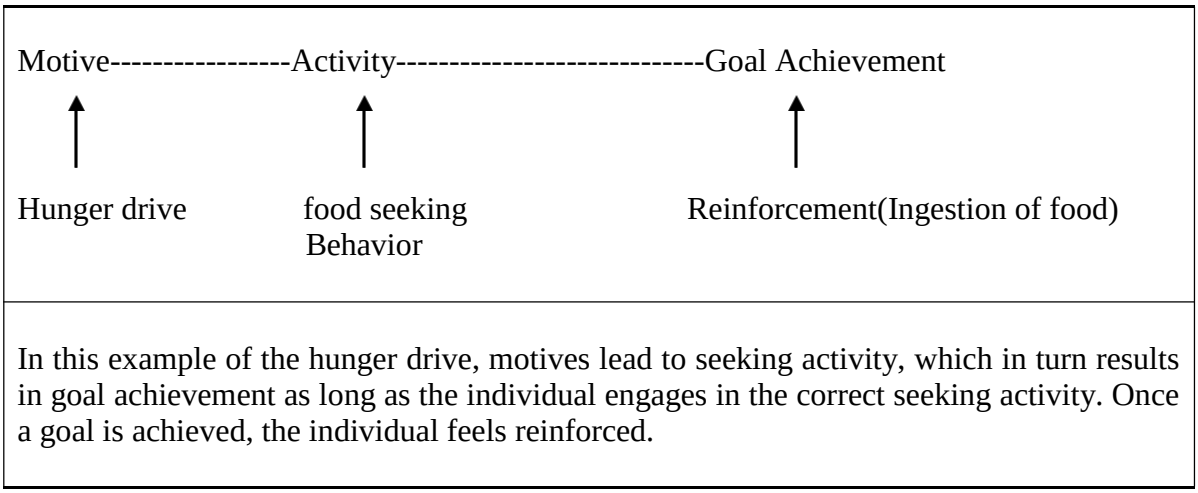
- The source of motivation is the need that has to be satisfied for an organism to achieve internal equilibrium. The satisfaction of a need constitutes reinforcement because this action is rewarding in itself.

- When a goal is attained, the motivated behaviour is terminated. For example, after we sit the final examination, we are not likely to continue studying since the goal has been achieved.

- Motives are internalized, hence we can only infer them from our behaviour. This means that we are not able to tell accurately what motive a person has by just looking at their behaviour or facial expression.

6.8 The Motivation Cycle

The basic motivation cycle can be illustrated as follows:



In this example of the hunger drive, motives lead to seeking activity, which in turn results in goal achievement as long as the individual engages in the correct seeking activity. Once a goal is achieved, the individual feels reinforced.

6.9 Issues in Motivation

- There are two main perspectives in motivated behavior: the **energizing** and the **directional** perspectives. The energizing or activation perspective represents the difference between a state of action and that of inaction. For example, when we wake up after a period of sleep, sleep is the state of inaction while wakefulness is the action phase. Another example would be the difference in energy states between relaxation and strenuous activity. The directional perspective involves the aspect of influencing an organism‟s behaviour in a particular direction. For example, a hungry animal will search for food, while a person in pain strives to escape a specific stimulus.
- Motives direct behaviour in two main ways. One is by causing an external stimulus to win over competing stimuli. For example, a need to go to work competes with the desire to rest at home on a Friday.
- Motives compel individuals to seek external objects/goals not present at the time. For example, a hard working student will always be aware of his goal of achieving a first class degree.
- In any activity, there must be a definite motive. Motives can be classified into two categories: inborn (unlearned) motives and acquired (learned) motives. **Inborn motives** are those that are acquired naturally beginning in early childhood, for example, the need for food, water, shelter and oxygen. **Acquired motives** are those that are developed through the interaction of an individual with a given environment. For example, the need for social approval is learnt from interacting with other people.

I will move on and look at the different types of motives.

6.10 Primary and Secondary Motives

There are two types of motives: the primary and secondary motives.

6.10.1 Primary Motives

Primary motives are also referred to as primary needs, physiological needs, biological needs and tissue needs. They originate from within an organism and are influenced by the biological requirements of an organism.

Primary needs motivate the behaviour of an organism in directions that lead to their satisfaction. For example, a hungry animal is motivated to look for food, which is necessary for survival. Prolonged failure to satisfy some of the primary needs can result in impaired health, or death.

All primary needs are inborn, meaning that they arise from the organisms inherited structures. Primary needs include the need for water, food, oxygen, rest, asleep, shelter, warmth when cold, coolness when hot, the need to relieve the sex drive, pain and bowel (and bladder) tensions.

The existence of the above needs creates an imbalance in the individual. The state of imbalance is known as lack of **homeostasis**. Primary needs cannot be satisfied permanently. For example, when we have a meal, the state of satisfaction is temporary, since the hunger drive will be renewed in a short while.

6.10.2 Secondary Motives

Secondary motives are those drives that an individual learns through interaction with agents in the environment. They are also referred to as learned motives, acquired motives and psychological needs. They are not basic to the survival of an organism. Examples include the need for fame, prestige, power, material possessions, money, greater knowledge, self-esteem and social approval.

Secondary needs are important to man because they involve interpersonal relations with other people. These needs are frequently overwhelmed by the physiological needs as well as obstacles in the environment. All in all, their satisfaction is essential to an individual‟s healthy development. Frustration of the secondary motives may result in emotional disturbances as well as physical illness because of lack of homeostasis.

6.11 Social-oriented motives

The phrase „socially oriented motives‟ refers to those motives characteristically found in social group settings. These include affiliative and prestige motives. The social groups in which these motives are found include the peer groups, the family, religious groups and political groups. Within which these groups, an individual strives to be liked, loved, admired, respected and envied.

Socially oriented motives are classified in to two broad groups: **Affiliative** and **prestige** motives.

6.11.1 Affiliative Motives

Affiliative motives represent the desire for love and belonging. Some examples of these motives are as follows:

- Desire to be with other people (gregariousness).
- Preference for social interaction with people having common interests
- Desire to have intimate contact with one‟s family.

Affiliative motives are developed from early childhood and are modified as time goes on. They play the following roles:

- They are helpful in the development of character. For example, through interaction with other people, a child is able to know which behaviour is socially acceptable and which is not.
- Affiliative motives also influence moral learning at home and at school. A child who behaves well is commended, one who errors is reprimanded. Therefore, children will do their best so as to get commendation from parents, teachers and peer group members.
- Affiliative motives enhance language development. Through interaction with other people, a child develops language, an essential mode of communication.
- Affiliative motives enhance individual‟s level of aspiration. For example, children at school work better with the teacher that they like. Such a teacher should know when to commend or reprimand and when to use incentives. All these mould a child‟s attitude towards school, and therefore his aspirations.

6.11.2 Prestige Motives

Prestige motives are those motives aimed at enhancing the degree to which an individual is admired, respected or envied. They are also known as achievement motives, superiority motives and esteem motives.

Prestige motives are tied to an individual‟s cultural environment. They encourage one to strive to achieve a certain goal and to be recognized for it. Prestige motives are responsible for the competitive spirit found in any society in areas like fashion, business and education.

6.11.3 Relevance of Prestige and Affillative Motives in a Learning Environment

Prestige motives

- Prestige motives encourage the competitive spirit found in any educational setup. Teachers should therefore place their students in a competitive situation as often as possible with a view to improving the quality of written and oral work.
- Competitiveness should be varied so that all students meet with success occasionally.

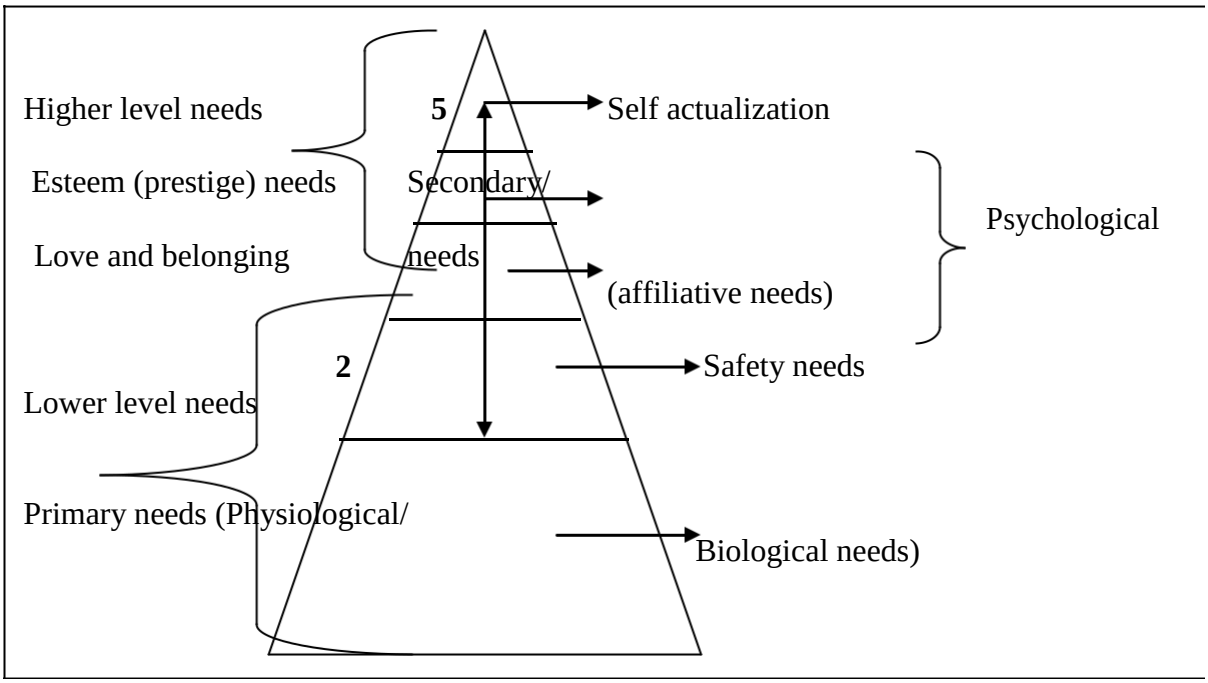
Affiliative motives

- Students should be encouraged to identify with one another and be loyal to the class as a group. The teacher should be perceived as a member of the group.
- The teacher should foster the affiliative spirit by delegating authority and responsibility in class and including class members in the planning of classroom activities.

I will now turn to a discussion of the way we prioritize our needs. I will focus on ideas by Maslow (1970).

6.12 Maslow's Hierarchy of Needs

Abraham Maslow developed a schedule to illustrate the way human needs could be classified in a hierarchical order. This order reflected the priority given to the various human needs.



At the base of the above hierarchy are the physiological needs that must be satisfied before those of the next level, and so on, up to the highest level.

According to Maslow (1970), the five levels of the hierarchy have the following features:

- Level 1 represents the **physiological needs**, which are biological in nature and are unlearned. These needs must be satisfied before an individual can satisfy the needs pertaining to the next level. The physiological needs are: Need for food, water, oxygen and relief from pain, among others.
- Level 2 encompasses **safety needs**, which are learned through an individual‟s interaction with agents in the environment. Some of the safety needs include the need to save money, insure property, acquire job security and live in an atmosphere of peace.

- Level 3 addresses **love and belonging needs**. For example, the desire for gregariousness and identification with others, in addition to the need to give and receive friendship and affection.
- Level 4 covers the **esteem needs** that are aimed at enhancing a person‟s position in a group or society. Examples of esteem needs include the need to achieve success, competence and recognition in areas like business, politics, and academics.
- Level 5 entails **self-actualization** or **self-fulfillment**. This need occurs in only a small proportion of the society, according to Maslow (1970). Self-actualization aims at developing the full potentialities of an individual, in terms of creativity, self-expression, creativity, spiritual cleanliness, and community service. Some of the people who may have reached this level which transcends ordinary experience include:
    - Mother Theresa (Community Service).
    - Mozart (Music)
    - Jesus (Religion)
    - Mahatma Gandhi (Politics)
    - Martin Luther King (Civil Rights)
    - Dos Satos Pele (Sports)

6.13 Summary

- In this lesson, we have looked at the motivational process, focusing on the motivation cycle, physiological and psychological motives, and socially oriented motives.
- In addition, we have addressed the main issues raised by Abraham Maslow in his theoretical hierarchy of human motives.

6.14 Definition of key words

Affiliative motives:	The desire for acceptance, love and belonging
Drive:	motivating impulse which prompts an organism to achieve a specific goal.
Incentives:	Motives for acting in a certain way, often equated to drives.
Motivation:	The process of providing incentives with a view to achieving a specific goal.
Needs:	A feeling of deprivation or lack of something
Physiological needs:	The tissue (Biological) requirements of an organism.
Self-actualization:	The most advanced human need representing self sacrifice.
Socially oriented motives:	Love and belonging, and esteem (prestige) needs.

6.15 Revision questions

Define the term motivation.
Illustrated the motivation cycle
Distinguish between physiological and psychological motives
Explain the relevance of socially oriented motives in a learning environment.
Illustrate Maslow‟s hierarchy of human needs.
Identify four agents of motivation in your environment.

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LECTURE VII

FRUSTRATION AND CONFLICT

7.1 KEY TERMS

▪ Apathy ▪ Compensation ▪ Conflict ▪ Displaced aggression ▪ Fantasy ▪ Frustration ▪ Identification	▪ Intellectualization ▪ Projection ▪ Reaction formation ▪ Regression ▪ Sublimation ▪ Substitution ▪ Suppression

7.2 Introduction

In our study of motivation in the previous lecture, we saw how people strive to achieve various goals in order to gratify their complicated biological and psychological needs. Sometimes, we reach our goals with relative ease, at other times; we experience difficulties in goal achievement because of obstacles that often arise.

In this lesson, I will address the issue of frustration and conflict by first identifying the sources of frustration, then move on to address the subject of conflicts. I will end the lesson by looking at some of the defense mechanisms that we resort to when we get frustrated in the process of goal achievement. Our guiding objectives are as follows.

7.3 Objectives

By the end of this lecturer, you should be able:

Explain the three sources of frustration
Discuss the four different types of conflicts
Describe the short-term and long-term defense mechanisms

7.4 Definition of Frustration

Everyday day in our lives, we go through experiences in which we are unable to achieve our objectives. The feelings we develop as a result of this are known as **frustration**. Psychologists define frustration as the blockage of motives by obstacles. The obstacles lie between our needs and our goals. Frustration may also result from delay or interference with our goal-directed behaviour.

Frustration may be threatening or non-threatening. For example, a faulty light bulb may lead to the mild inconvenience of looking for a spare one, while losing money to thieves may be threatening, if one wanted to use the money to pay a hospital bill.

Let us now look at the common sources of frustration.

7.5 Sources of Frustration

In our lives we frequently meet the following sources of frustration:

- Environmental obstacles
- Personal obstacles
- Conflicts

7.5.1 Environmental Obstacles

Our physical environment may frustration through serious obstacles like earthquakes, tornadoes, famine and floods, among others. Some petty obstacles provided by the environment include traffic jams, disturbance by barking dogs at night, uneven side walks and rain at picnic sites.

The social environment provides obstacles like: rules and regulations that are perceived as being too strict; poor working conditions, racial prejudice and tribalism.

7.5.2 Personal Obstacles

An individual may suffer from frustration if some personal limitation prevents the satisfaction of various motives. These limitations may be real or imagined. Some of the limitations are:

- lack of skills in games
- lack of intellectual potential
- lack of economic wealth
- excessive fatness or shortness
- short sight/long sight, blindness
- unusual skin pigmentation (Albinism)
- Paralysis or other physical disability
- Unattractiveness
- Shyness
- Chronic illness

7.5.3 Conflicts

Every day, we all come across many situations in which we must make decisions, or select an alternative. Our inability to decide on the next course of action is called a **conflict**. If the state of conflict persists, we often develop frustration.

There are four main types of conflicts:

Approach - approach Approval – avoidance Avoidance – avoidance Double approach – avoidance

The mechanism underlying each of the above conflicts is discussed in detail in the following section.

7.6 Types of conflicts
Psychologists have classified conflicts into the following categories:

- **Approach – Approach Conflict**

This type of conflict is also known as **conflicting attraction**. It results from the existence of two or more equally attractive goals. These goals are **mutually exclusive**, that is, we must choose one at the expense of the other.

For example, a person may receive an offer of scholarship to study in the United States of America, while at the same time an opportunity may arise locally, in the form of a job with very good prospects. In this kind of conflict, the period of indecision is dependant on the degree of goal equivalence, in that the longer the period of indecision, the greater the amount of stress and frustration. Most individuals will move from one goal to the other in an attempt to evaluate them. This process is called **vacillation**.

In order to escape this conflict, an individual must do the following:

- A decision must be made promptly regarding one of the alternatives, making sure that no feelings of frustration are left behind.
- In some cases, it is possible to satisfy one goal at once, leaving the other goal open for satisfaction at a later date.

- **Approach – Avoidance Conflict**

This conflict occurs when a person is attracted to a goal that has a negative aspect attached to it. For example, a journalist may enjoy his work, but may fear the prospect of being injured while covering a story during university students‟ riot. A person with a strong sexual drive may be repulsed by the possibility of infection with the AIDS virus.

An individual needs to make a decision promptly to minimize stress. The decision will involve acceptance of the consequences of one‟s decision.

- **Avoidance – Avoidance Conflict**

This conflict occurs when an individual is faced with two unpleasant alternatives. In this case, it is impossible to avoid one alternative without experiencing the other. Some people resort to **defense mechanisms** to postpone making a decision, simply because all the alternatives are unpleasant. One example is that of a person who has been admitted to the university to pursue a course he does not like. The alternative is to pursue the course of his choice in a less prestigious institution.

Note:
Defense mechanisms are the reactions people develop when they wish to avoid making decisions. For example, some people may fantasize that the issue does not exist.

- **Double Approach – Avoidance Conflict**

This type of conflict involves two or more alternatives, each of which has both attractive and repulsive qualities. For example, a person may get an offer of a highly paying job abroad but is not allowed to go with his family. The alternative is to stay with his family and continue with the unattractive local job.

An individual must make his choice after careful analysis of the consequences of his decision. This conflict is difficult to cope with because one is never sure that the correct choice has been made.

Let us now discuss the behaviours people engage in to escape decision-making.

7.7 Defense mechanism

We are sometimes forced to use delaying tactics in order to avoid making decisions. These tactics are the defense mechanisms. In this section, I will discuss the short-term and long-term defense mechanisms.

7.7.1 Short-term Defense Mechanisms

- **Restlessness and Tension**

The emotional reactions associated with restlessness and tension includes whimpering, sighing and complaining. These are immediate symptoms of frustration. Should the amount of stress within the individual escalate, other symptoms exhibited include trembling, clenching of fists, smoking, chewing gum, nail biting and thumb sucking.

- **Aggression and Destructiveness**

They are of two types:

- Direct aggression: Frustration may lead to destructiveness as well as hostile attacks on all persons and things that are seen causing frustration. Direct aggression involves kicking out, knocking over or breaking and destroying objects.
- Indirect aggression: There are two forms of indirect aggression: displaced aggression and scope-goating. **Displaced aggression** involves aggression gains innocent persons or objects rather than the actual cause of frustration. For example, a frustrated employee may harass his family instead of his domineering boss. **Scope-goating** involves placing blame on an innocent person for one‟s shortcomings. For example, a student blames his teacher for his low grade.

- **Apathy:** Apathy is a state manifested through the following:

- Indifferences
- Inactivity
- Inattentiveness
- A general don‟t care attitude

Prisoners resort to apathy when they realize that aggression against detention is futile behaviour.

- **Fantasy:** This is the tendency to resort to unrealistic solutions. Fantasy usually involves escapism into the dream world by both adults and children. In extreme cases, individuals may lose ability to distinguish between reality and the fantasy world.

- **Stereotype:** This is the tendency to resort to repetitive, fixed behaviour. This behaviour is repeated despite its failure to solve problems in previous efforts, for example, thumbing in children.

- **Regression:** It involves a return to primitive modes of behaviour that were present at a younger age. It is often characterized by an attempt to return to a more desirable past stage of development. For example, crying for attention.

7.7.2 Long Term Defense Mechanisms.

- **Rationalization:** This involves logical reasons or excuses for our behaviour. Rationalization frequently involves impulsive and irrational behaviour. In rationalization, people substitute good reasons for true reasons. For example, a person who has not been invited to a party may say that he would not have attended it anyway.

- **Projection:** This is an unconscious mechanism that protects individuals from acknowledging some desirable traits. It involves assignment of undesirable traits to other people. For example, a student may justify failing examinations by blaming the teacher who marked his paper, for poor grading.

- **Reaction formation:** It is a tendency to conceal a motive from oneself by adopting an opposite motive. For example, a father may show excessive love to a child he does not like in order to cover up his real feelings.

- **Dissociation:** It is a mechanism that disrupts the unity of thinking, feeling and acting. One form of dissociation is compulsive behaviour that is characterized by actions that are not well-coordinated. A twitching arm may substitute for hitting out in anger. Dissociation keeps away feelings of guilty by automatically suppressing undesirable acts.

- **Substitution:** It involves substitution of approved goals for unapproved ones. There are two forms of substitution, *sublimation* and *compensation*.

  - Sublimation: This is a process where socially unacceptable motives find expression in a socially acceptable manner. For example, the desire to express aggressions can be channeled to sports or occupation like boxing, and rugby. Sexual energy can be channeled to art and music‟s

- Compensation: This is a process an individual strives to make up for failure in one activity by making an effort in another activity. For example, a student who is poor in sports may focus his energy into academic work.

- **Repression:** This is a process where stressful things are conveniently forgotten. The unwanted motives are not permitted to enter the consciousness level. In repression, a person does not know that he has kept something way from the conscious level. One example is amnesia.

- **Intellectualization:** This is an attempt to gain detachment from an emotionally threatening situation. For example, doctors cannot be emotionally involved with patients.

- **Suppression:** The process of deliberate self-control. It involves keeping impulses or desires in check. It also involves consciously keeping aside painful memories in order to concentrate on other tasks.

7.8 Summary

We have looked at the three sources of frustration: environmental obstacles personal obstacles, and conflict. W have also addresses the principles underlying the four types of frustration. At the end of the lesson, we identified different types of defense mechanisms or reactions to frustration and conflict.

7.9 Definition of Key words

Apathy: Absence of feeling or emotion; or indifferences.

Compensation: Tendency to cover a weakness by exaggerating a more desirable characteristic.

Conflict: Opposition between contradictory impulses or wishes.

Displaced Aggression: Expression of aggressive feelings towards a neutral person or Object

Fantasy: A form of creative imagination activity.

Frustration: The blockage of an organism‟s path towards a goal

Identification: A process by which an individual behaves like another does.

Intellectualization: The tendency to neglect the emotional aspect and focus on the cognitive aspect.

Projection: Assignment of negative to other people.

Reaction Formation: Irrational action in the opposite direction with respect to impulses that are being expressed.

Repression: Thrusting emotions and memories out of the conscious level without being aware of it.

Sublimation: Deflection of negative energy in a socially acceptable way.

Suppression: The process of diminishing memories from the conscious level voluntarily.

7.10 Revision Questions

Define the terms „frustration" and „Conflict"
Describe the three sources of frustration
Describe the mechanism behind the four types of conflicts
Define the term „defense mechanism" and describe two short-term and two long-term defense mechanisms.

7.11 Further Rereading

Floyd, F. L. (1988). **Psychology and life**. New Jersey: Scott, Forssmann and Company.

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LECTURE VIII

ABNORMALITY

8.1 KEY WORDS

▪ Amnesia ▪ Anxiety neurosis ▪ Delusions ▪ Dissociative reactions ▪ Hallucinations ▪ Hypochondriasis ▪ Hysteria ▪ Manic depressive reactions	▪ Multiple personality ▪ Neurasthenia ▪ Neurosis ▪ Obsessive compulsive reactions ▪ Paranoid reactions ▪ Psychosis ▪ Schizophrenia

8.2 Introduction

All of us will agree that anybody who is too depressed to get out of the house is suffering from a psychological disorder. But what about those who are generally angry or fearful without any topical reason? I have raised these issues so that you can see how difficult it is to draw the line between normality and abnormality.

In this lecturer, I will define psychological disorders in addition to classify various disordered personalities into the following categories: neurosis and psychosis.

8.3 Objectives

By the end of this lecture, you should be able to:
Classify psychological into neurosis and psychosis categories.
Describe the characteristics of individuals experiencing psychological disorders.
Discuss ways of helping psychologically disturbed people.

8.4 Defining Psychological Disorders

The term "Psychological disorder" refers to any behaviour that is a typically disturbing, maladaptive, and unjustifiable. Psychological disorders are associated with abnormal behaviours because the latter represent all traits that deviate negatively from the societal norms, including substance abuse and sexual deviations.

In order to help you to internalize the concept of psychological disorders, I will now take you through the two broad categories of neurosis and psychosis.

8.5 Neurosis

Neurosis is a mild form of a mental disorder that requires medical intervention. This condition usually results from inadequate adjustment responses, leading to a personality that is either too exaggerated or disorganized. Neurosis may be severe to the point of incapacitating a person or it may be mild and unnoticeable to the individual. 1 in 20

people experience neurosis of the mild type, which does not require hospitalization (Floyd, 1988).

In general, neurotic are unhappy individuals whose reaction patterns are inadequate for dealing with many life situations. Some examples of conditions that are classified under neurosis are as follows:

- **Anxiety Neurosis:** This is characterized by a general feeling of worry and apprehension. Some people develop what is known as **free-floating anxiety**, where they feel afraid but cannot pinpoint the real cause. Anxiety neurosis is often accompanied by tenseness, sweating and nausea.

- **Evasion of Growth:** This is the process where the neurotic tends to think of himself as inadequate and unworthy of love and praise. The individual is therefore unable to fulfill his potentialities and will eventually repress his individuality by acting like some person he admires, for example a parent, national hero or a friend. This is known as **vicarious** (indirect) **living**, which in turn makes the person feel emptier. Such an individual becomes non-committal in life and will probably not be able to keep a job for long.

- **Phobias:** This is the irrational fear of certain objects, people or situations. Phobias are usually developed when free floating fear settles on a particular object, situation or people, leading to panic attacks when these stimuli present themselves. Some examples of phobias are as follows:

    - Acrophobia: Fear of high places or flying
    - Agro phobia : Fear of open places
    - Castro phobia: Fear of enclosed places
    - Hydrophobia: Fear of water

- **Hysteria:** This is appearance of physical symptoms that have no organic origin. For example, hysteria may be **associated with uncontrolled laughing or crying.** Some people may develop **temporary paralysis as a consequence of this condition. Hysteria is usually expressed when individuals are under severe stress,** which may be brought about by pressure to achieve new or very advanced goals. **For example, some teacher-trainees on teaching practice may be hysteria on noticing the presence of the supervisor.**

  Hysteria can also be expressed in terms of loss of sensitivity to touch and pain, or even blindness. That is why hysteria is often referred to as a **conversion reaction** because it involves conversion of stress into the body disturbances mentioned above.

- **Obsessive – Compulsive Reactions:** The term „Obsession" means that a person develops persistent, irrational thought that are usually unpleasant and

cannot be banished voluntary. For example, such an individual will keep on wondering whether he locked the main door to his house at night, and these recurrent thoughts will interfere with sleep. Obsessive thoughts are harmful because the individual will not be able to concentrate on other more proactive thoughts.

Closely associated with the „Obsession" is „compulsion"; this term means that a person develops a ritualistic behaviour, or a pre-occupation with regard to irrational thoughts. A compulsive person will display behaviours like waking up many times at might to check whether the already locked door is indeed locked.

Note:
All of you will display obsessive tendencies at one time or the other. For example, we may find ourselves looking at the mirror too often. This does not mean that we are neurotic. The main guide to judging whether our behaviour is neurotic or not is to ask the question.

Is this behaviour interfering with my life and my relationship with others?

The two concepts: „Obsession" and „Compulsion" are usually combined to make the concept „Obsessive-compulsive reactions". This is because obsessions and compulsions usually occur together.

- **Neurasthenia:** This refers to the presence of feelings of fatigue and unpleasant physical sensations like ringing in the ears and heart palpitations. Neurasthenia originates from long-lasting emotional frustration, which drains a person"s energy.

- **Hypochondriacs:** This is the **tendency to show excessive concern to one's health**. The hypochondriac is therefore extremely alarmed about every minor bodily sensation. For example, a headache can be easily interpreted as the symptom of a tumor. Hypochondriacs frequent health centers and are avid readers of medical literature. They also brag about their imaginary medical milestones.

- **Dissociative Reactions:** This term refers to the sudden repression of entire episode of one"s life, from the consciousness level. Some of the common example of dissociative reactions are:

    - Amnesia, which involves loss of memory.
    - Fugue, which in Latin means „to flee", and is exhibited through a person wandering off to another place unconsciously.

- Multiple Personality, in which a person develops two or more distinct personalities and each personality, is not aware of the existence of the other.

Note:
Multiple personality is not synonymous with split personality. The person with a split personality is simply out of touch with reality as is exhibited in Schizophrenia.

In this section, I have highlighted the characteristics of people suffering from various forms of neurosis. We have already seen that such people do require medication, but in an outpatient basis. Let us now turn to psychosis, another category of psychological disorders, which is more severe than neurosis.

8.6 Psychosis

This is a mental illness that is severe that the individual loses touch with reality. Psychotics must be placed under institutional care to facilitate the management of this state.

Some forms of psychosis develop suddenly, while others develop gradually. For example, **reactive schizophrenia** develops without warning, while **process schizophrenia** develops slowly and the individual is aware that his state of mind is getting progressively worse.

Psychotics do not exhibit denial of reality or denial of the existence of conflicts as in neurotics. Many psychotics are not able to distinguish between fantasy and reality, and that is why they engage in weird behaviour.

Psychosis results from either organic causes or functional causes. Organic causes include problems in the Central Nervous System (CNS), while functional cusses include the effects of stress.

Let us look at some symptoms of psychotic behaviour.

8.6.1 Symptoms of Psychotic Behaviour

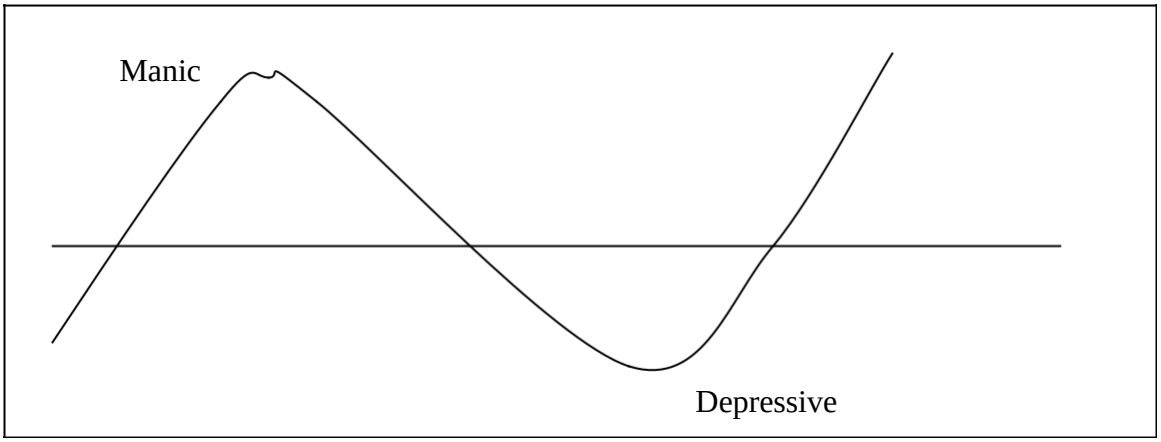
- **Hallucinations:** These are sensory impressions of external objects in the absence of appropriate stimuli with respect to the tactile, auditory, olfactory and taste receptors.

- **Delusions:** They are strong beliefs opposed to reality. For example;
  - Delusions of Grandeur: Of success, power
  - Delusions of Reference: Misunderstanding chance occurrences
  - Delusions of Persecution: Perceptions that enemies are out to do harm.

Emotional distortion: Exaggerated reactions with respect to emotions and behaviour.

8.6.2 Example of Psychosis

• **Manic-depressive reactions:** These are extreme changes of mood from strong excitement to extreme sadness.



- High mental/Physical energy
- Elation, restlessness
- Laughter, aggression
- Low energy
- Sadness
- Suicidal tendencies

• **Schizophrenic reactions:** the term schizophrenia means „out of touch". The individual experiencing schizophrenia is not in touch with reality in his mental functioning. Such a person will display – catatonia, or aggressive behaviour and severe emotional traits.

• **Paranoiac reactions:** A person experiencing paranoia normally exhibits delusions of grandeur, reference and persecution in addition to hallucinations, and exaggerations of emotions. Many paranoid people look perfectly normal.

8.7 Summary

Personality disorders are very common in any society and should therefore be well understood. This will help us to avoid the practice of attaching negative labels to people whom we perceive to possess abnormal qualities.

In this lesson, we have looked at the two categories of personality disorders: neurosis and psychosis, and identified the associated conditions in each of these categories.

8.8 Definition of key words

Amnesia:	Loss of memory, brought about by stress or trauma
Delusions:	False beliefs that accompany psychotic disorders
Dissociative reactions:	Disorders in which conscious awareness becomes separated from previous memories.
Hallucinations:	False perception of stimulation of sensory receptions.
Hypochondriasis:	An anxiety disorder in which a person misinterprets normal physical sensations as symptoms of a disease
Manic Depressive Reactions:	Cyclic mood changes from high energy (manic) to low energy (Depressive) phases
Multiple personality disorder:	A condition in which a person exhibits two or more personalities.
Obsessive-compulsive reactions:	An anxiety disorder in which a person is troubled by unwanted/repetitive thoughts (obsessions) and/or actions (compulsions)
Phobic disorder:	An anxiety disorder in which a person is troubled by persistent irrational fears of specific objects or situations.
Psychosis:	Severe mental illness which is associated with loss of touch with reality
Schizophrenia:	A group of psychotic disorders characterized by disorganized thinking, disturbed perceptions, and inappropriate emotions.

8.9 Revision Questions

What are the major characteristics of a neurotic person?
Describe six types of neurosis
Identify the three types of dissociative disorders.
What are the major characteristics of a psychotic person?
Describe two types of psychosis.

8.10 Further Reading

Baron, R. A. (1995) **Psychology**. Boston: Allyn and Bacon

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