

PYC1501 BASIC PSYCHOLOGY

Cognition: Problem solving (P1)

Problem solving is often regarded as one of the highest forms of thinking. They are two phases to successful problem-solving. First you need to discover the general properties of the correct solution. This general solution is an herbal idea of what is required to solve the problem but without specific detail. Once you have a general solution, you can work on the functional solution with sufficient detail to guide further action to solve the problem.

Steps in the process of problem solving

1. Identify the problem and define it clearly

Problem-solving starts with the recognition that there is a problem and this is followed of the problem. The way you recognize and define a problem influences the way you go about solving it.

2. Explore various strategies

Strategies for solving the problem:

Trial and error approach

The trial and error approach to solving a problem is called the mechanical approach, because it involves applying a set of rules or discovery by route. Trial and error thinking involves trying all possibilities more or less randomly.

Heuristic strategies

An understanding approach. The heuristic approach increases the odds of success, but does not guarantee a solution.

- Try working back from the desired goal to the current situation.
- Identify the way that the current situation differs from your desired goal and identify the steps that you need to take to reduce the differences.
- Adopt an analogical approach by thinking of a similar problem and consider whether the solution to the similar problem will work for your present problem.
- Make a list of your assumptions of Christian and systematically challenge or test each one, this may suggest ideas for solving the problem.

3. Explore possible solutions

several possible solutions may have emerged from the previous phase of problem solving and each one needs to be considered. You may need to ask what the particular solution would bring about or how it would change the problem situation, what are the advantages and disadvantages.

4. Evaluate and learn from the solution

Happened at potential solution you try gives rise to another problem, but you can again deal with each one until you find a satisfactory solution. You should assess each solution to find out whether it has solved the problem efficiently.

Insight- sometimes, an answer to a problem appears suddenly and we wonder why we didn't see the solution before. This is called gaining insight into a problem.

Restricted thinking

Mental set or fixation - tendency to evaluate the problem situation in a particular way and to stick to that evaluation.

Emotional barriers- sometimes we are unable to solve the problem because our emotions get in the way of thinking clearly.

Learned barriers- we may think that something can only be done in one way because that is the way we have learned to do things. There are other ways of problem solving in addition to the old ways.

Perceptual barriers- sometimes we tend to see only one aspect of the problem and ignore others.

Cultural barriers- a cultural values may lead us to believe that reason and logic are the best means of solving problems and that fantasy and they are waste of time. In this way, we do not explore the various ways of problem solving.

Cognition: Reasoning (P5)

Reasoning is one form of thought. Reasoning can be defined as a process of goal -directed thinking that draws conclusions from a set of facts. When we reason, we compare different bits of information.

The structure of reasoning

A premise

Is the statement from which the conclusion is inferred? The premise provides the evidence that supports your conclusion.

A conclusion

When you reason, the viewpoint you adopt proclaim you make is the conclusion.

Reasoning based on formal rules of logic

Deductive reasoning

Deductive reasoning refers to the process of drawing a conclusion that follows logically from two or more statements or premises. Deductive reasoning is based on the logical ruled that if the premise is true, then the conclusion is true (and cannot possibly be false).

Inductive reasoning

inductive reasoning uses available evidence to generate a conclusion about the likelihood of something. Inductive reasoning, the conclusion is based on the premise, but the premises do not guarantee the conclusion. The premises only provide some support for the likelihood of probability of the conclusion.

Analogical reasoning- means that you infer patterns of relations between things.

Differences between formal and informal reasoning

Formal reasoning	Informal reasoning
The premises are stated explicitly.	The premises are more implied than explicit.
The problem that is being reasoned about is generally not personally relevant.	Usually has personal consequences for everyday life. This can lead to weaknesses in reasoning. (1) we may accept a premise as true without thinking carefully about its accuracy (2) we may accept a conclusion because it agrees with our personal viewpoint without thinking carefully about the evidence on which it is based.
The structures and rules of formal reasoning are more obvious than informal everyday reasoning.	
Usually one correct solution.	Several possible solutions because of the practicalities of everyday life.

Fallacies

Conclusions are sometimes based on fallacies or misleading arguments. People may use fallacies when they want us to change the way we believe. Fallacies use irrelevant premises to support a conclusion, as if those premises are relevant. Different forms of fallacy:

- Playing on someone's sympathies to get something done.
- Trying to discredit an issue by discrediting the person who supports the issue.
- Relying on the characteristics of a certain group to gain support for a particular conclusion.
- Using a false analogy - this means implying that things that are similar actually identical.
- Using a slightly changed version of someone else's point of view as a basis for your reasoning.

Critical reasoning

To prevent misunderstandings, it is important that we should be able to evaluate the information we receive, that we should reason correctly and that we should make good judgments. This is what is meant by the term "critical reasoning". Critical reasoning means that you look at all the options and various explanations for something and do not merely accept one point of view or the explanation that suits you. Critical reason helps you to cope better with situations in daily life. Using critical reasoning helps you gain greater insight into things, to be better informed, to be open-minded and to make good decisions.

The following are steps you can take to improve your critical reasoning ability.

1. **Identify the problem**
2. **Keep an open mind**
3. **Remember the differences between language and reality**
4. **Use open ended-questions**
5. **Avoid over- generalisations**
6. **Be empathetic**
7. **Obtain relevant information**
8. **Use informal knowledge**
9. **Develop collective thinking**

Cognition: Thinking (P12)

Thinking is the internal representation of a problem or situation. When we are thinking, we make use of certain mental structures or systems of symbols.

Images

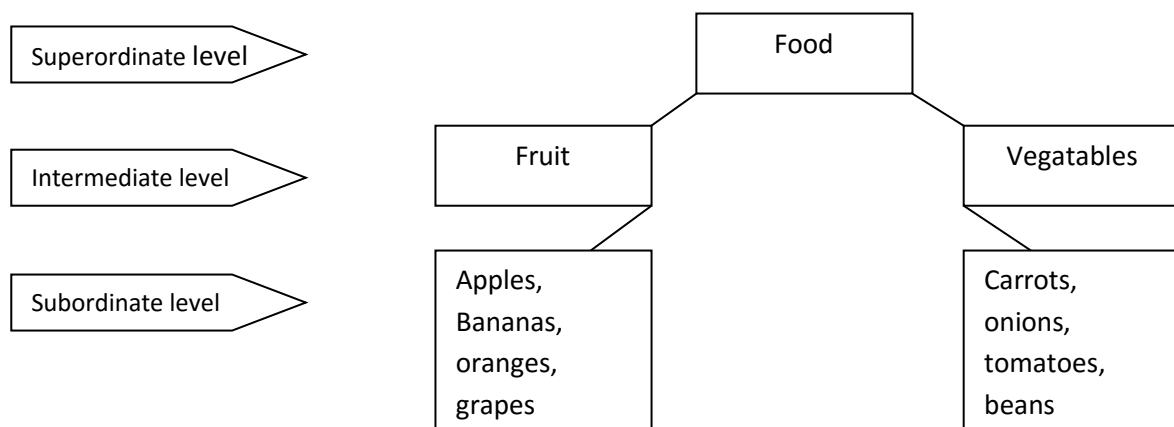
Images are the symbolic representation of objects and their characteristics. An image is a mental representation that has picture like qualities. We can also form auditory images, based on a person's voice for example. Image plays an important role in our thoughts and can even help us to think more effectively.

Concepts

A basic process in thinking is to categorize experiences. The categories we form as mental representations of groups of related items are called concepts. They are the building blocks of thinking and they help us to organize knowledge in systematic ways.

Hierarchical organization of concepts

To make sense of the world, people tend to organize related concepts into a hierarchy, which means in an organized way. A conceptual hierarchy made up of at least three levels: A superordinate (or top) level, an intermediate (or middle) level and a subordinate (or bottom) level. Things that have common attributes fall on the same level.



Conceptual rules

We rely on conceptual rules to decide whether something belongs to a certain concept. Formal conceptual hierarchies are based on exact definitions or agreements about attributes in an objective sense. This type of definition is called the **denotative** meaning of a concept. Informal conceptual hierarchies are based on subjective will personal experience and emotion. Personal meanings of concepts are called the **connotative** meanings of concepts.

Conceptual errors

Syracuse of concepts can lead to errors of thinking. If we oversimplify a complex category, this can result in the formation of stereotypes or rigid ways of thinking. Problems also created by 'all-or-nothing' or one-dimensional thought. All or nothing thought may lead to the classification of something as absolutely right or wrong, whereas we know that they can be states in between when something can be partially right or partially wrong.

Prototypes

Another way of thinking is by forming prototypes, or ideal models of concepts.

Language

Most thinking relies a great deal on language. Language can be defined as a system of symbols to represent.

Inner speech

One way in which language influences thought is seen in our use of inner speech. In a speech consists of keywords and phrases, not complete and grammatically correct sentences. In a speech is an example of the way in which language plays a role in thought. Saying words to yourself out loud.

Language and thought

Although there is a relationship between language and thought, we must remember that language and thought are not identical. There is evidence that thinking can take place without language.

Emotion (P35)

Definition of the concept of emotion

According to Coon, emotion means "to move"

A combination of physiological arousal (e.g.: heart rate, blood pressure) combined with perceptual-cognitive processes (e.g.: thinking and subjective experience) and observable behavioural expressions (such as crying).

Components of information:

physiological arousal, cognitive processes, behavioural expression.

Physiological component

- Lie detector
- Bodies response to an emotion
- Arousal increase - sympathetic system - may be strong enough to cause a heart attack in old people or someone with heart problems.
- Parasympathetic system steps in, heart slows down, pupil size return to normal, blood pressure drops.
- Parasympathetic response slower. After strong shock, parasympathetic may overreact causing response called parasympathetic rebound. This leads to low blood pressure, dizziness, fainting and even sudden death.

Cognitive-perceptual component

Emotions are highly personal- emotional experience depends on the way you act as an individual and interpret a situation. Interpretation of the event is just as important as the event itself. Driving - what one thinks of driving, the context of driving, past experience of driving and present needs.

Behavioural component

Emotions are expressed in body language and nonverbal behaviour. Body gestures and facial expression are used to show a variety of basic information. Some facial expressions are found only in specific cultures. Sticking tongue out - Africa, disrespect or teasing-**China**-gesture of surprise.

Theories of emotion

Schachter's two-factor theory of emotion

Cognitive appraisal theory

Physiological arousal is the process whereby people become aware of situations and feelings through conscious thinking. Arousal that involves physiological and psychological arousal is called psycho-physiological arousal.

Schachter's two-factor theory of emotion

Per Schachter, emotions occur when we apply a particular label to general physical arousal - experience of emotion therefore depends on two factors.

1. Autonomic arousal 2. Cognitive interpretation of that arousal.

Study is done-injection is given to heighten arousal-increase blood pressure etc.

People that are in happy place = happy. People in sad place = sad. If a lion by you and seems aggressive, you interpret the arousal as fear. If he offers paw, you interpret arousal as happy, amazed, relieved.

The theory is criticized by people who say emotions occur without first experiencing physiological arousal.

Stimulation -> Arousal + Label/Appraisal -> Emotion + Behaviour

Cognitive appraisal theory

The components of physiological arousal and cognitive processes are not equally important in the interpretation of emotion. The way we think about (or make cognitive appraisal of) a situation results in emotion. Lion -1-perceive stimuli and categorize it according to the concept you're familiar with. 2- primary appraisal occurs, based on previous experiences, threatening or not. Knowledge tells you that lions are dangerous. 3- the emotion is differentiated. The type of emotion experience, depends on interpretation of the situation. Determine threatening you will experience fear if not threatening, no fear. 4-physical arousal or bodily changes e.g. feeling of fear, shaking knees, increased heart rate, impulse to run away.

Stimulation -> Primary Appraisal -> Differentiation of emotion-> Physiological arousal

Second appraisal coping strategies, thinking again and acting - think of running from lion and then realising you won't run fast enough.

Classification of emotions

Primary and secondary emotions

Robert Plutchick, Eight primary emotions. fear surprise, sadness, disgust, anger, anticipation, joy and acceptance. This leads to generation of other emotions. Different cultures categorise emotions in different ways. Primary emotions are shared by people throughout the world, regardless of culture.

Criteria to identify primary emotions.

1. They must be evident in all cultures.
2. They must contribute to survival.
3. They must be associated with a distinct facial expression.
4. They must be evident in non human species.

Secondary emotions are emotions that are found in some cultures but not all.

Most people do not agree with Plutchick. People agree there are 6 basic emotions, happiness , surprise, fear, sadness, anger and disgust.

Positive and negative emotions

Positive emotions are pleasurable and rewarding. Positive emotions create the urge to be creative and explore, to seek new experiences and to grow. Positive emotions encourage personal growth and social connection. A capacity for having positive emotions is a basic human strength and may lead to the development of emotional intelligence.

Negative emotions are experienced as unpleasant. Unpleasant emotions bring upon physiological arousal. When physiological arousal is prolonged or unresolved, negative emotions may contribute to the development of physical illnesses such as headaches, stomach ache and ulcers, and psychological problems such as anxiety and depression.

Emotions vary in Intensity

At low levels of psycho-physiological arousal, the emotions experienced are of low intensity. In this case quality of the experience is neutral, it is not clearly pleasant or unpleasant. These emotions are annoyance or boredom. At high levels of psycho-physiological arousal, the emotions experienced are of high intensity. The quality of the emotion can clearly be seen as pleasant or unpleasant. These emotions include joy anger or fear.

Internally and externally expressed emotions

Factors influencing the interpretations of emotions

- Gender and emotions
- Cultural differences in emotional experiences
- The context of emotion

The concept of Emotional intelligence

Emotional intelligence is a combination of skills including, empathy, self control, self awareness, sensitivity to the feelings of others, persistence, and self motivation. Emotional intelligence provides the link between feelings, character and moral values. Examples of people with high emotional intelligence: to motivate and keep on trying in the face of frustrations, to control impulses and delay gratification, to regulate moods and not allow emotions to interfere with the ability to think, to recognise emotions in others, and to hope. Results of low emotional intelligence can be withdrawal from others, feeling anxious or depressed, or having attention or thinking problems. In severe cases low emotional intelligence can result in socially unacceptable behaviour such as cheating, lies, arguing a lot, being mean, demanding attention, being destructive, being stubborn and moody or being quick tempered.

The relation between emotions and motivation

The term motivation refers to an internal state that activates and gives direction to our thoughts, feelings, and actions. Morris and Maisto define a motive as a specific need or desire that arouses the organism and directs its behaviour towards a goal. Motivation and emotion are linked in 3 ways.

1. Both motives and the arousal of emotions activate behaviour.
2. Motives are often accompanied by emotions.
3. Emotions typically have motivational properties of their own.

Human Nervous system: Impulse conduction (P65)

Parts of a neuron

Dendrites- receives messages from surrounding parents. The dendrites surround the cell body, also called the soma. Inside the cell body or soma is the cell nucleus. The nucleus can be described as the control center of the cell because it controls all metabolic activities in the cell. The summit can also send it send messages, in the form of nerve impulses.

Axon- thin fibre connected to the soma, enclosed in a white fatty sheath called myelin, which insulates the axon. When it is insulated with my myelin, it can conduct impulses much faster than axons that are un-myelinated.

Types of neuron

Sensory or afferent neurons

These are neurons that carry messages from the environment to the spinal cord and brain. Information is detected by the senses and then carried to the spinal cord and brain. Information does not any come from outside environment but also from some of the organs inside of the body.

Motor or efferent neurons

These neurons conduct messages from the spinal cord and brain to the muscles and glands.

Nerve tract- term used to describe a bundle of axons in the brain and spinal cord. A bundle of axons in parts of the body outside the brain and spinal cord is called a nerve.

Impulse conduction

Is the basic form of sending information in the nervous system. Nerve cells are specially adapted for impulse conduction.

Impulse conduction in the nervous system is made up of two main processes:

Electrical- the nerve impulse begins in the first segment of the axon and travels down the axon to the terminals because of electrical events at the cell membrane.

Chemical- the passage of the nerve impulse from one Axon to another is a chemical process. There is a small gap between the structures of one neuron and another, and chemical processes determine whether the impulse will be conducted across the gap to another neuron or not.

The nerve impulse

Each neuron is like a small biological battery that stores potential energy. The fluid inside and outside the cells contain small chemical particles, called ions. Some ions are negative and some positive.

Resting membrane potential

Before and impulse can fire(or be conducted), they must be a condition of readiness in the neuron. This condition of readiness is called the resting membrane potential. The resting membrane potential is an electrical charge, brought about by the difference between the positive and negative ions outside and inside the cells. When these the resting membrane potential, the neuron is ready to receive information in the form of electrical impulses(or messages) and to conduct the impulses to and from the brain and the body.

Action potential

When the electrical charge is strong enough to exceed the threshold, the resting membrane potential is changed into an action potential.

Refractory period

Immediately after the impulse has been conducted, the neuron is not ready to send another impulse until the resting potential has again been restored. This period during which the neuron is not ready to fire is called the refractory period. There are two types of refractory period:

An absolute refractory period- no impulses can be generated, even with intense stimulation.

A relative refractory period- when an impulse can be generated but only with a very intense stimulus.

The refractory period ensures that impulses go in one direction only. Also prevents the nervous system from over stimulation by regulating the relation between stimulus intensity and impulse frequency.

Characteristics of impulse conduction

Action potential is a special kind of electrical charge: **it is in all or nothing event**. This means that the stimulus is either strong enough to result in impulse conduction or it is not strong enough to result in impulse conduction.

Three points to note about the nature of impulse conduction:

Strength and speed- although the strength and speed of impulse conduction is constant in a particular neuron, it can vary with nerve fibers of different sizes. Larger the nerve fiber, the stronger the impulse and the faster it will be conducted.

Frequency- if the stimulus is very intense, there is a shorter time space between the firing of each impulse. This means that the frequency increases.

Effects of myelination- action potential travel faster along axons that are myelinated than along unmyelinated axons. This is because the myelin sheath insulates the axon but there are gaps or nodes between the sheets.

The impulse is conducted by jumping from node to node (this is called saltatory conduction).

Much faster and uses less energy than unmyelinated sheets.

Neurotransmitters

Serotonin

- Found in the brain, digestive tract, and blood.
- Involved in sleep wake cycle and temperature
- Seasonal depression
- Inhibition of violence, appetite, pain suppression and mood
- Low serotonin levels can cause depression
- Prozac (fluoxetine), works by stopping reabsorption of serotonin back into neuron, so keeps it active in synaptic gap for longer

Dopamine

- Involved in good mental health
- Too little Dopamine cells often results in Parkinson's disease
- With increasing levels, side effects of confusion and even psychosis can result, often resembling schizophrenic-like symptoms.

Acetylcholine

- Released by cells in the brain and spinal cord as well as by the parasympathetic nervous system
- Effects can be seen in poison
- Involved in memory
- Acetylcholine-producing cells often destroyed in Alzheimer's disease - common in elderly people and affects memory, language and personality

Norepinephrine

- Also called noradrenalin
- Released by the Brain Cells and Sympathetic Nerves As Well As Adrenal Glands
- Has an excitatory effect
- The Lack of Non-Adrenaline Is Associated with Depression, and Excess with Mania

GABA (Gama-aminobutyric acid)

- Involved in inhibitory neurotransmitters, helps to control aggression and eating

Adrenaline (Epinephrine)

- Is released by the sympathetic nerves and adrenal glands. It increases heartbeat and the contraction of blood vessels, skeletal muscles and heart muscles. It also speeds up metabolism and the release of glucose in the blood

Endorphin

- Endorphin is a neurotransmitter involved in the experience of pleasure and the suppression of pain

Drugs

Agonist- have similar effect of some neurotransmitters

Antagonist - blocks the action of some neurotransmitters

Human Nervous system: Structure and function (P76)

The human nervous system is made up of two main parts – the central nervous system and peripheral nervous system.

The CNS = brain and spinal cord.

The PNS = neurons and organs that lie outside/beyond the brain and spinal cord. It has two main parts – the somatic nervous system and autonomic nervous system.

The Central Nervous System

The brain is protected by the skull and three strong membranes. Outer membrane = dura mater, thick and strong. Middle membrane = arachnoid, thick but more flexible. Inner membrane – pia mater, soft and flexible.

Spinal cord is protected by vertebrae.

The Spinal Cord

Spinal Nerves

The spinal cord acts like a cable that connects the brain with other parts of the body. The spinal cord is made up of columns of white matter, which are bundles of axons, with myelin. Where these axons leave the spinal cord, they form nerves. There are 30 pairs of nerves on each side of the spinal cord.

Reflexes

Not only does the spinal cord carry information to and from the body, it also produces basic forms of behaviour, called reflexes which are stereotyped responses. Eg: Touch a hotplate, immediately pull hand away = stereotyped response.

The Brain

The space between the skull and the brain is filled with fluid called cerebrospinal fluid. By floating in the fluid, the brain is protected from being bumped around and injured. The brain is also protected by the blood-brain barrier that keeps out certain harmful substances.

The outer layer of the brain is called the **cerebral cortex**. It has a wrinkled appearance, because the surface of the cortex has bumps and grooves (also called fissures). Cerebral cortex is composed of grey matter.

The brain consists of two parts, called **cerebral hemispheres**. The two hemispheres are connected by a thick band of fibres called the **corpus callosum**.

The left side of the brain mainly controls the right side of the body and the right side of the brain mainly controls the left side of the brain. This is called contralateral control. Some parts of the body are controlled by the same side of the brain, this is called ipsilateral control.

The left hemisphere is involved mainly with the logical organization and analysis of information and processing information sequentially. The left hemisphere is regarded as the language or verbal hemisphere. The right hemisphere is to produce information holistically (as a big picture) and simultaneously (all at once). The right hemisphere is considered more creative rather than logical and is concerned with spatial nonverbal abilities.

The Lobes of the Brain

The Occipital Lobes

Lie at the back of the brain and are the primary visual area of the cortex, that is, in the area where visual input is interpreted. Responsible for combining visual stimuli into meaningful patterns. The integration of sensory experience takes place in the occipital lobes.

The Parietal Lobes

Made up of somatosensory cortex. The word somatosensory refers to bodily sensations, such as touch, temperature, pressure and pain. The parietal lobes receive input about these sensations, and information from muscles and joints, which tells the brain about the body's position in space. Can coordinate movements in space.

The Temporal Lobes

One of the main functions of the temporal lobes is the perception of sound. Auditory information is projected to the temporal lobes, where it is registered and interpreted. The temporal lobes allow us to understand spoken words and other sound patterns, such as music or rain on the roof. The left temporal

lobe is regarded as the language centre of the brain and damage to this area can negatively affect the ability to understand what is heard and to use language effectively. The right temporal lobe is concerned with more nonverbal sounds but also plays some role in speech.

The Frontal Lobes

The most recently evolved part of the brain. The frontal lobes regulate complex mental activities and behaviours. One of the main functions of the frontal lobes is the control of voluntary motor movement, including the production of speech. Motor area of the frontal lobe ensures smooth performance of a sequence of motor skills that make up complex actions like talking, typing or playing tennis. An important function of the frontal lobe is to maintain attention and concentration through optimal arousal of the cortex, to apply abstract thinking, reasoning and planning, and to regulate emotions and behaviour. Damage to certain areas of the frontal lobe can cause changed behaviour, referred to as personality change.

Major Structures of the Brain

Neocortex is the outside layer of the brain. Below the neocortex are a number of structures that make up the subcortex:

The Hindbrain

Oldest part of the brain.

Medulla oblongata

Is an extension of the spinal cord and consists of grey matter (cell bodies) surrounded by white matter (nerve fibers). Groups of neurons in the medulla oblongata act as reflex centers for processes that ensure survival, such as breathing and heart rate. On the front of the medulla oblongata they are two bumps, called pyramids, formed by the crossing of motor nerve tracts that maintain the brain's contralateral control of the muscles. Inside the Medulla oblongata is a network of cell bodies called the reticular formation, which extends upwards into the midbrain. The reticular formation stimulates the brain, keeping it active and alert but also prevents it from over-stimulation by regulating input. In this way, it maintains an optimal arousal level so that the brain can function properly.

Pons

Is the structure that acts as a bridge between the medulla and the other brain structures. The pons also regulates sleep and wakefulness.

Cerebellum

Sometimes called the small brain, because it looks like a miniature cerebral cortex. The main function of the cerebellum is to coordinate motor movement. It does this by regulating posture, balance in muscle tone and muscle coordination. By integrating and comparing information received from the body, it allows the necessary adjustments to be made so that movements initiated by the brain are carried out in a coordinated sequence.

The Midbrain

The Tectum

Contains two structures: one is the reflex centre for vision (controlling eye blink and size of pupil) called the superior colliculus, and the other is the reflex centre for hearing (controlling adjustment to volume and startle response to sound) called the inferior colliculus.

The Tegmentum

Mainly involved in the regulation of motor movement.

The Forebrain

Thalamus

Consists of a collection of nerve nuclei, and its main function is to act as a relay station for sensory information. That is, incoming sensory information is received by the thalamus and send on to the appropriate structures or areas of the cortex for integration and/or interpretation of the information.

Hypothalamus

Lies below the thalamus and has many nerve nuclei that are involved in the functions such as regulating (1?) The internal environment of the body (such as temperature, water intake, sexual activity, heartbeat, blood pressure and digestion), (2) states of sleep and wakefulness (3) emotions.

Basal ganglia

Three large groups of neurons that regulates slayer, smooth movements (like walking). Axons from some of the neuron's project to the major areas of the cerebral cortex and the midbrain.

The Limbic system

Is made up of several structures that regulates motivated behaviour, emotions and memory:

Hippocampus = memory

Amygdala = plays a role in the experience of fear and anger, as well as relaxation, and is linked to the emotional aspects of memory

Septum= is regarded as the brain's pleasure and reward centre

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The Peripheral Nervous System

The Somatic Nervous System

has two components: one is sensory and the other is motor. Conducts information from the sensory receptors in the body to the central nervous system (sensory or afferent nerves), and from the central nervous system to the skeletal muscles in the body (motor or efferent nerves).

The Autonomic Nervous System

Controls processes that regulate our internal organs and glands, so that the body functions evenly.

Provides homeostasis/state of balance. The autonomic nervous system also has two divisions : parasympathetic and sympathetic.

Sympathetic nervous system	Parasympathetic nervous system
Pupils of the eye dilate to let in more light	Pupils contract to limit the amount of light that enters the eye

Structures in the lungs expand to absorb oxygen	Decreased lung action
The heart pumps for stamp blood pressure rises	Reduce blood pressure and heart rate
More blood reaches the muscles to increase the supply of oxygen and glucose	Some muscles relax
Less blood is available to the skin and digestive organs said that more blood is available for the brain and skeletal muscles	Blood supply to the skin restored
Digestion is inhabited	Increased digestive processes

Sympathetic dominants- state of chronic tension, characterized by dilated pupils, sweaty hands, shallow breathing because of tension in the chest muscles, poor concentration, and inability to relax and sleep, every excitement and emotional intensity.

Parasympathetic dominance- and arouse, appearing lethargic and poorly motivated. Such a person may have respiratory and digestive difficulties.

Normal- moderate tension reactions would be appropriate and concentration, and drive motivation would be good.

Intelligence and creativity (P141)

Biological intelligence

Sir Francis Galton

He concluded that success runs in families because intelligence is passed from one generation to another through genetic inheritance.

Intelligence as one general factor

Charles Spearman

Intelligence was based on one factor.

Specific factors or S-factors

Multiple factor theory of intelligence

Thurston

He identified seven factors that he thought represented primary mental ability:

- verbal comprehension
- general reasoning
- word fluency
- memory
- number ability
- spatial ability
- perceptual speed

Believe that these factors were independent of each other.

Multiple intelligences

Gardner

Defiance intelligence in terms of mental skills or ability, suggested that they are eight different intelligences:

- musical intelligence

- bodily-kinaesthetic intelligence
- logical-mathematical intelligence
- linguistic intelligence
- spatial intelligence
- intrapersonal intelligence
- interpersonal intelligence
- naturalistic intelligence

Information processing approach or cognitive processing approach

Cognitive perspective focuses on how people use their intelligence rather than how much amount of intellectual ability they have.

Triarchic theory of intelligence

Robert Stenberg

Theory that intelligent behaviour should be viewed as part of the situation or contexts it occurs in and not seen as something we can infer from a test result. Based on three aspects:

Componental intelligence

experimental intelligence

contextual intelligence

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Learning (P168)

Learning is formally defined as "a relatively permanent change in behaviour due to experience".

Associative learning

The essence of associative learning is the pairing or association of stimulus and response.

Classical Conditioning

Called classical conditioning refers to the type of learning that takes place when a response usually elicited by one stimulus is then associated with a different stimulus that normally would not lead to that response.

Ivan Pavlov and his dogs.

An unconditioned stimulus

This is a stimulus that causes the subject to respond in a specific way before any learning has taken place.

E.g. the food

An unconditioned response

This is the response to an unconditioned stimulus. E.g. dogs automatically produce saliva

A conditioned stimulus

This is a stimulus that initially is neutral, but through association (that is, being paired with an unconditioned stimulus), it may produce the desired response when presented without the unconditioned stimulus. E.g. the bell

A conditioned response

This is the response that follows the conditioned stimulus. Salivating after hearing the bell, without any food present.

Extinction - The disappearance of a previously learned response.

Spontaneous recovery- refers to the reappearance of a response which seems to have been extinguished.

Higher order conditioning - means that the conditioning goes one or more steps further than the original conditioning.

Stimulus generalisation- which refers to the tendency to respond to a similar but not the same stimuli.

E.g. matches can also be candles, fires, and lighters.

Stimulus discrimination- this means that the person can discriminate or detect differences among similar stimuli and only respond to a specific stimulus.

Operant conditioning

In operant conditioning, the learning that takes place depends on the consequences of the response that the person makes. For example, learning may take place because a certain type of response is rewarded or punished.

Skinner- The rat in the box.

Reinforcer = reward

A comparison of classical and operant conditioning

	Classical conditioning	Operant conditioning
Type of response	Automatic, reflex	Voluntary
Reinforcement	Conditioned stimulus is associated with an unconditioned stimulus, and the reinforcement occurs before the response	Reinforcement occurs after the response
Activity of learner	Passive	Active
Nature of learning	The neutral stimulus becomes a conditioned stimulus through Association with an unconditioned stimulus	The likelihood of a response is influenced by the consequences or reinforcement that follows

Partial reinforcement- gambling

Fixed Ratio schedule- fixed number of responses must be made in order to obtain reinforcement

Variable ratio schedule - because the reinforcement is less predictable, there is a greater resistance to extinction (people attempted to play just in case they might win again)

Fixed intervals schedule- refers to the passage of time, so reinforcement according to a fixed intervals schedule is reinforcement that is produced for the first correct response to a certain amount of time as possible.

Variable intervals schedule- after different interval times, you don't know how many times you'll have to try

Schedules of reinforcement do not work in the same way with punishment. The effectiveness of punishment depends on timing, consistency, and intensity.

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Cognitive learning

Cognitive learning is the result of thinking and other cognitive processes.

Cognitive maps

Perceptual motor skills

Perceptual motor skills or sensory motor skills are based on motor movements that are guided by perception.

Intellectual skills

Intellectual skills are learned, and we never stop learning.

Metacognition- knowledge of your own cognitive mental processes.

Discovery learning- skills gained by insight and understanding

Social learning

Refers to the way we learn through interacting with other people.

Operant social learning- punishment and reward

Observational learning- learning by watching and imitating the behaviours of others and observing the consequences of those actions.

For essential components to observational learning:

- **Attention**-must pay attention to the models behaviour on the consequences of that behaviour
- **Retention** - another word for attention is keeping or saving. You must save a mental representation of what you have observed, in order to be able to use it in a later stage.
- **Reproduction**- you must be able to reproduce the observed behaviour that you have stored in a memory.
- **Motivation**- you will only reproduce behaviour you have observed if you're motivated to do so, if the response to your behaviour will be worthwhile.

Memory (P184)

Memory is an active process that stores, organizes, and retrieves information. Memory involves three important phases, (1) encoding, or getting information into the memory, (2) storage, or keeping things in our memory, (3) retrieval, or joint information from the memory store.

Encoding

Before information can be processed in memory, the brain has to include the information in order to work with. Encoding refers to the process of forming a memory card. Attention is a very important aspect of remembering. They are different strategies to improve our memory by making encoding more effective. The first of these is elaboration, or linking one fact to other bits of information. Second, another way of improving encoding is through using visually imagery. You can create pictures of visual images of the things you want to remember. Third, encoding is easier when you can make the information personally the meaningful.

Storage

Sensory memory

Information is kept in its original sensory form for a very brief time (a fraction of a second). We do not remember everything that we see and hear (sensory memory). Information is held in sensory memory just long enough for part of the information to be selected for longer storage.

Short-term memory

Short-Term memory is a temporary store for small amounts of information. We keep information in short-term memory for about 20 seconds. Research has shown that we can process approximately 7 bits of information efficiently at one time. There is the kind of short-term memory called working memory that helps us cope with new situations and to solve problems. Various components of working memory:

- A phonological loop - verbal information or sound
- A visuospatial sketchpad - this allows you to manipulate visual images
- The executive control system - the executive system controls, monitors, and regulates the information needed for reasoning and problem solving
- Long-Term knowledge store - drawing information from long-term memory use

Long-term memory

Long-Term Memory Is the Store Where Information Is Held for Long Periods of Time. Capacity of long-term memory is believed to be unlimited, and we can remember an outstanding amount of information. Information stored in long-term memory is permanent. When we can't remember something it's retrieval problems.

Declarative memory

The declaration of memory system refers to the stored explicit, factual information. E.g. names places facts and events are stored in declarative memory. Also called **explicit memory**. Answers the question what? Two types of declarations of memory: **Semantic memory** refers to the store of general knowledge, such as who is the president of the country. Semantic memory is not related to the specific time when the information was learned. **Episodic memory** refers to remembering events and personal experience that are related to specific times such as when Nelson Mandela was released from prison.

Non-declarative memory

Non-Declaration of memory deals with actions, perceptual motor skills, conditioned responses, and in implicit memories. It is also called the **procedural memory** system. Answers the questions how? Memory for procedural or perceptual motor skills is mostly unconscious in the sense that we are not consciously aware of it. For this reason it is also called **implicit memory**.

Retrieval

Retrieval describes the process of getting stored information out of memory. Retrieval is made easier when you have queues of stimuli that help us to access our memory. Tip of the tongue phenomenon refers to the temporary inability to remember something, although we are sure you know the information.

Forgetting

forgetting refers to the process of being unable to retrieve the information we have stored in the memory.

Ineffective coding

Sometimes we think we have forgotten something when in actual fact we never remembered it. This happens when we have not paid sufficient attention. The material is then not coded, always not coded efficiently.

Decay

We forget memories over time. The physiological mechanisms that are responsible for memories (called memory traces) fade away or decay. When memory is not retrieved for a long time it becomes weaker.

Interference

One reason we forget information is that there is competition from other material that interferes with the memory process.

Retrieval failure

Sometimes you remember things that you couldn't before. This may be because the situation you're in provides a good Q what you want to remember.

Motivated forgetting

Sometimes we want or need to forget something, in other words, we have internal motivation to forget something.

Improve your memory

1. Re-citation
2. Rehearsal
3. Selection
4. Organization
5. Whole learning
6. Serial position
7. Cues and strategies
8. Over-learning and review
9. Spaced practice
10. Sleeping and eating

Personality and health (P201)

Cardiac personality - referring to people at high risk of heart disease

Those who have a high risk are called Type-A personalities, and those who are unlikely to have a heart attack are called Type- B personalities.

Type-A individuals strive hard for success in everything they did. Obvious signs of Type-A are time urgency and chronic anger or hostility. They are very competitive and achievement oriented. They generally believe that with enough effort, they can do anything, and they push themselves very hard. They generally don't trust people. They hurry everywhere, do several things at one, see everything as agent, and get impatient, frustrated, and angry with people who do things slowly or stand in their way. They also tend to bottle up their emotions inside and don't express them outwardly.

Hardy personality - usually resistant to stress. (1) A sense of **personal commitment** to themselves, their work and their families, and other stable values, (2) that had a sense of **control** over their lives and they work, (3) they tended to see life as a series of **challenges** rather than a set of problems. Happiness is related to your hardiness. It is not just an a reaction to circumstances but is a general personality characteristic.

Strategies for reducing hostilities

1. Be aware of your angry, hostile, and cynical thoughts by recording them in a journal or diary. Note what happened when you felt this way and what actions you took, and review this at the end of each week.
2. Admit to someone that you have a problem with excessive anger and hostility.
3. Interrupts the hostile thoughts whenever they occur.

4. When you have the source, try to work out for yourself why they are irrational or unreasonable.
5. When you're angry, try to put yourself mentally in the other person shoes.
6. Learn to laugh at yourself. Humour can diffuse anger.
7. Learn how to relax.
8. Practice trusting other people.
9. Make an effort to listen carefully to other people.
10. Learn to make your point without being aggressive
11. Don't let small irritations getting your way, and pretend that today is the last day of your life.
12. Try to forgive people rather than blame them. We all have shortcomings.

Personality concepts (P204)

Personology

The study to better understand human behaviour.

Our behaviour is influenced by many factors:

- biological factors
- environmental stimuli
- interpersonal situations
- cultural and social factors
- psychological and spiritual factors

Carl Jung proposed a theory that people are either introverts or extroverts.

Self-concept

your self-concept consists of all your ideas, perceptions and feelings about who you are. We build our self-concepts from our daily experiences and revise them in the light of our new experiences.

Self-esteem

self-esteem refers to the way we evaluate ourselves. A person with high self-esteem is usually confident, proud and self-respecting. A person with low self-esteem is very critical of the self, insecure and lacks confidence.

Personality theories (P208)

Trait theories

Concerned with describing people in terms of traits than explaining the origins of traits.

Allport's trait theory

Gordon Allport believe that the best way to understand and predict people's behaviour was to find out what they value. **Cardinal traits**- are those that are so important to an individual that they dominate that individual's life. Very few people have Cardinal traits. Mahatma Gandhi is an example. **Central traits** - are more common, these are important traits that infants and organize most of our behaviour. The desire for power is an example. **Secondary traits** - much more specific and are less important as a description of a person's behaviour. E.g. a food preference.

Cattell's source traits

Raymond B Cattell, he wanted to learn how traits were linked, and began to study visible aspects of personality or surface traits. Some traits appeared to give us often that they seem to represent a more

basic trait or underlying personality characteristic, he called this source trait. Developed a list of 16 source traits that provide a description of the person's personality.

The Five-Factor Model of personality

personality can be understood in terms of five innate, universal dimensions, which are stable over time and have important consequences across the lifespan. These five traits are a reduction of Cattell's 16 source traits or personality factors. The so-called big five personality traits are **Neuroticism, Extroversion, Openness, Agreeableness, Conscientiousness**. It is believed that we all possess these traits each to a different degree, and that the combination of traits describes the personalities.

Factor 1: **Extroversion**, how introverted or extroverted a person is

Factor 2: **Agreeableness**, how friendly, nurturing, and caring company to being called, in different, spiteful, or self-centered.

Factor 3: **Conscientiousness**, how self-discipline, responsible, and achieving as opposed to irresponsible, careless, and undependable.

Factor 4: **Neuroticism**, how negative or having upsetting emotions as opposed to being calm, even-tempered, and comfortable.

Factor 5: **Openness**, how intelligent, imaginative, and open to new ideas as opposed to being conventional and lacking in curiosity and creativity.

The psychoanalytic approach

Psychodynamic theories try to probe under the surface of the personality to examine what makes us behave the way we do. The central theme of Freud's theory is that behavior is the outcome of the wishes, desires, and feelings that people are unaware of, in other words, their so-called unconscious. According to Freud's theory, people have three types of primitive unconscious instincts:

Sexual instincts- these influence experiences and behaviors that generate pleasure

Ego instincts- these influence experience and behaviors associated with preservation of the self.

Hostility instincts- if it works aggressive experience and behavior.

In Freud's view, these instincts are innate. They generate tension and energy that cause the person to behave in the way that releases the tension. There are two principles that regulate this instinctual energy:

The pleasure principle- direct energy in the direction of immediate gratification of needs, wishes, and desires.

The reality principle- enables the person to delay the immediate gratification of needs so that greater pleasure may be experienced later on.

The psychoanalytic approach sees personality as a dynamic system directed by three mental structures, the id, ego and superego:

- The id processes innate biological impulses and urges. These impulses are unconscious, irrational, and self-serving. They demand immediate gratification. E.g. the uncontrollable desire for food, sex or to hurt someone.
- The ego refers to the executive part of the self that regulates the expression of the id's instinctual energy. The ego is in touch with reality and can foresee the consequences of behavior. The ego is part of the system of thinking, planning, and problem-solving. It has conscious control of the self.
- The superego refers to the conscience. The superego is like a judge or censor. If somebody does not adhere to society standards for acceptable behavior, the superego allows the person to experience guilt feelings and anxiety.

According to Freud, most behavior holds the activities of all three systems.

Personality structure

The id is made up of innate biological instincts and works on the basis of the pleasure principle, that is, it looks for expression of pleasure seeking urges. The id provides energy for this cycle personality. The energies called libido, which underlies if it's to survive, as well as our sexual desires and pleasure seeking. Thanatos- produces aggressive and destructive urges
part of the superego is regarded as the conscience.

Development of personality

According to Freud's theory, the core of an individual's personalities formed before the age of six years, and a series of psychosexual stages. The oral stage occurs during the first year of life. During this stage most of the child's pleasure comes from the stimulation of the mouth e.g. breast-feeding.

The behaviourist approach

The behaviorist approach to personality emphasizes that personality is no more less than a collection of learned behaviors. According to this approach, personality, like other learned behavior, is acquired through plus: operant conditioning, learning through observation, reinforcement, extinction, generalization and stimulus discrimination. Behaviorist reject the idea of personality traits. The psychological situation- refers to a person's particular interpretation or understanding of the situation.

An expectancy- refers to your anticipation that whatever you do will lead to a reinforcement.

Reinforcement values- means that people attach different values to various activities or rewards.

Self reinforcement- refers to praising or rewarding yourself for having made a particular response. Can be seen as a behavioristic equivalent to the superego.

Behaviouristic view of development

Behaviorists agree with Freud's sixth year of life. But for different reasons, instead of looking for psychosexual urges and fixations, they see childhood as a time for active drives, powerful rewards, and punishments, as well as frustrations. **Identification** refers to a person's emotional attachment to someone they admire. Identification encourages imitation or decide to act like that might person. According to behaviors, many male-female traits are as a result of children's attempts to imitate the same sex parent with whom they identified.

The humanistic approach

Humanism focuses on human experience, problems, potential, and ideals. Focuses on the unique qualities of humans, in particular their freedom and potential for growth. The humanistic's rejected trait theory as being too rigid, psychoanalytic theory as being too pessimistic and learning theory has been to mechanical. Humanists see people as creative beings capable of free choice. They see people as conscious and rational beings who can control their innate impulses. According to the humanistic approach people should be understood and studied as holistic beings. To humanist a person is the product of all the choices he or she has made. To understand a person you need to appreciate a personal and subjective experiences.

Carl Rodgers person-centred theory

The best bondage point for understanding behavior is from the internal frame of reference of the individual himself. Fully functioning person- somebody lives in harmony with his or her deepest feelings and impulses. Fully functioning people are open to experiences and they trust their own inner feelings and intuition. Rogers believes that becoming fully functioning is most likely to occur when a person receives a great deal of love and acceptance from others.

Incongruent- days big gap between the self and reality.

Ideal self- ideal self is the image of the person you would like to be.

The great the gap between the way you see yourself in the way you would like to be, the more tension and anxiety you are likely to experience. In order to develop your potential, you have to accept information about yourself as honestly as possible and be realistic about what you can become.

Maslow and self-actualization

Another Humanistic Theorists, Abraham Maslow, referred to the process of fully developing personal potential as self-actualization. Self-actualizer is someone who is living creatively and fully using his or her potential. Self-actualization is a process that requires hard work and patience. Self-actualizing persons have healthy personalities. The characters open and spontaneous, have a clear perception of reality, appreciate the world around them, are independent, are sensitive to the needs of others, and have a good interpersonal relationship.

Develop your potential

Read page 200

The biological approach

We have an inborn behavior tendencies that differ from one person to another. Personalities determined by one's genes. Adoption studies and twin studies.

African perspective

Importance of a Community. I am because we are and since we are therefore I am.

Sensation and perception (P295)

Sensory systems

There are five sensory systems that provide us with information necessary for survival and adaptation.

The visual system- allows us to see. Light activates the visual receptors in the eye where it is converted into nerve impulses that send information to the brain for interpretation in the occipital cortex.

The auditory system- allows us to hear. Sound waves are received by the auditory receptors in the ear and are encoded before being sent along the auditory pathway to the brain. The messages are interpreted in the temporal lobe.

The proprioceptive system- provides people with information about their movements and orientation in space. Kinaesthetic information comes from the muscles, tendons, and joints. Vestibular information comes from the ear and provides information about head movements.

The somaesthetic system- provides information about the environment immediately outside the skin, relating to touch, pressure, and heat, cold, and pain.

The chemical system- allows us to experience taste and smell. The receptors for taste are the taste buds on the tongue that determine tastes such as sweet, sour, salty, and bitter. The sense of smell (also called

olfactory sense) depends on the activation of receptors in the nose by chemicals in the air. The olfactory nerve sends information directly to the olfactory bulb at the base of the brain.

Sensation- the process of receiving sensory information.

Perception- the process of interpreting and making meaning from sensory information. Perception refers to a higher level of information processing.

Receptors

Certain cells that are specially adapted to receive information from the environment are called receptors. Receptors differ in their sensitivity. A stimulus needs to have a certain amount of intensity if it is going to lead to a sensory experience. There is a critical point, called the **absolute threshold**, which determines whether the stimulus is intense enough. If the stimulus is below the threshold, it will not generate a response. The intensity of a person's subjective sensory experience is referred to as the psychological intensity of the stimulus. There has to be a certain amount of difference between two stimuli in order for the difference to be detectable or noticeable. The size of the increase in intensity that results in a noticeable difference, also referred to as just-noticeable difference is called the **differential threshold**.

Transduction and generator potentials

Environmental stimulation comes in various forms of stimulus energy (such as light energy or sound energy). In order to be processed by the nervous system, stimulus energy has to be transformed to electrical energy, because that is what the firing of impulses in the nervous system is based on. **The function of the receptors is the transformation of one form of energy to another, called transduction or conversion.** Receptor cells are like all nerve cells in that they have a cell nucleus and a membrane surrounded by ions. **The resting potential in receptor cells is called the receptor potential. Whereas other neurons convert the resting potential into action potential when they are stimulated, receptor cells convert receptor potential into generator potential** when they receive the kind of stimulus they are most sensitive to. **An action potential is an all-or -nothing event, but a generator potential is a graded potential (like a postsynaptic excitatory potential)** because the energy comes from the stimulus. The receptor cell transmits the generator potential across the synaptic cleft to a sensory neuron, which can then send the information to the brain if sufficient stimulation is received. **If a receptor cell keeps on receiving stimulation, the generator potential decreases to prevent overstimulation. This decrease is called adaptation.** Adaptation occurs in receptor cells and is different from habituation, which is a decrease in the frequency of firing in neurons.

Monitoring- the orienting reaction (OR)

The next step in the process of perception is monitoring the available information. Monitoring starts when the receptors receive stimulus energy. The energy is changed into electrochemical impulses, and the brain responds by comparing the incoming information with information stored in the memory. Monitoring ensures that changes in the internal and external environment are brought to the person's attention. In this way, the person organizes and selects information, and this influences any conscious experience, action, or response that follows. One of the effects of monitoring is the orienting reaction.

The OR is a state of arousal that follows any sudden change in environmental stimulation. There are several indicators that the OR is taking place:

- *Bodily signs*: increase muscle tone and movement of the eyes, head and body towards the stimulus.
- *Vegetative signs*: brief decrease in heart rate, held breath, contraction of blood vessels in the limbs, decreased salivation, and enlarged pupils.
- *Sensory signs*: provided by increased sensory sensitivity.

The purpose of these changes is to allow the person to obtain as much information as possible about the environment in a short space of time. If the person's response to a stimulus increases, sensitisation has occurred. However, if the person realizes that the stimulus is not important, OR responses will decrease. The stimulus keeps on occurring, the person does not stay in a heightened state of responding but becomes habituated to the response. **Habitation** is a basic form of learning and tells the person that the stimulus can be ignored or that certain responses can be stopped.

Habitation refers to the disappearance of ORs after repeated stimulation by the event that initially triggered the OR.

The stimulus that initiated the OR reappears in a slightly different form this is called **dishabitation**.

Perceptual organization

Once sensory information has been received, it is processed further so that attention is given to relevant or important information rather than irrelevant or less important information. This process is called **perceptual organization**.

Laws of perceptual organization

There are laws to determine what aspect of incoming information is relevant and what is not relevant. This kind of organization is spontaneous and takes place on low levels of awareness. The factors that influence perceptual organization are as follows:

The characteristics of the stimulus - according to the nature of the stimuli, some are regarded as more important than others and this influences the way we perceive them.

The state of the nervous system- the nervous system has to be in a state of readiness to perceive information.

The individual person's characteristics and past experience- we interpret the information we receive in terms of our own experiences.

Figure and ground

When we perceive information we organize it into a meaningful **figure** (relevant info) against the less meaningful **ground** (irrelevant info). Focusing on one thing apart from another.

E.g. smell of meat opposed from the wood-burning in the braai

E.g. somebody's voice opposed from the music

E.g. Robben Island opposed from the sea

Contour, closure, and grouping

Contour- refers to the boundary or other feature that separates figure from ground.

Closure- refers to our tendency to complete something spontaneously so that it has meaning.

Grouping - refers to the tendency to group stimuli in a pattern or shape in a way that is most likely to help you interpret the stimuli. Four types of perceptual grouping:

Principle of proximity - tendency to group elements that are placed together as though they represent a figure

Principal of similarity- tendency to group elements that are similar in color, shape, or text as though they represent a figure

Principle of symmetry- tendency to group elements in a way that creates a symmetrical or balance figure

Principal of continuity- tendency to perceive stimuli in such a way that elements that are continuous form a figure.

Spatial organization

Spatial organization explains why we see the world in three dimensions (height, width and depth) the actual image on the retina is flat.

Perceptual constancy

The world is viewed as a fairly constant and unchanging place, and this is a function of perceptual constancy. Perceptual constancy means that we see things as having a particular size, shape, color and brightness, irrespective of changing conditions. Perceptual constancy spontaneous and we are seldom aware of it. Four attributes:

- Constant size
- Constant shape
- Constant Brightness
- Constant colour

Perceptual constancy is actually a perceptual error, and that the perceptions are not the same as retinal information, but they are necessary for effective functioning because they provide our worlds with some stability.

Illusions

Illusions are a form of mistaken perception. An illusion is not a vision of something that does not exist. The object of stimulus does exist, but we perceive an illusion because the object attributes are combined and perceived incorrectly.

Recognition

After perceptual organization of information into figure and ground, the relevant information is given a meaningful name or description, based on the individuals are knowledge and experience.

Attention

Paying attention occurs at a high level of awareness. Until this point, the selection and organization of information takes place at a lower level, either below on the threshold of awareness. When you pay attention, you consciously decide on what should be dealt with.

Determinants of attention

External Determines

- More intense stimuli- strong stimuli such as loud noise or bright lights
- Size – large stimuli like an advertisement board rather than small stimuli
- Distance – things that are close are more likely to catch our attention that things in a distant
- Change, movement, and contrast- respond to unusual stimuli
- Repetition - this may lead to habituation, but repetition can be used to establish an idea, followed by something different to hold attention.
- Complex stimuli- generally more interesting than simple one

Internal Determines

Your tension will be attracted by something that is important or inherently interesting to your personality.

Perceptual set- notice something that is of interest to you.

Intersubjectivity of perception

Shared or agreed meanings of the way events in the world are interpreted. Such as in South Africa we call a traffic light a robot. In other countries they do not.

States of consciousness (P322)

A recording that measures brain activity is called an electroencephalogram (EEG)

Different Brain Waves

Delta- High

Theta - Middle

Alpha- Middle

Beta- Dead

S-sleep

During S-sleep, the wave patterns are synchronized (high amplitude and low frequency) and this is called restful sleep, that occurs in four phases.

Phase 1- state of drowsiness or light sleep. The person can still be easily aroused but the bodies relax, heart rate slows and breathing is deep and regular.

Phase 2- follows approximately 10 minutes later, this is deep asleep, and the wave frequencies are mixed, as indicated by the presence of sleep spindles, which are sporadic increase in frequency. They may also be K-complexes.

Phase 3- deep sleep, person is very relaxed and autonomic activity slows down.

Phase 4- sleep is very deep sleep, more than half of the EEG consists of Delta activity, and it is very difficult to arouse the person out of sleep. People working up during this stage, they are confused, their speech is slurred, and their motor co-ordination is poor.

D- sleep

Wave patterns are desynchronized (low amplitude and high-frequency). This is the type of sleep when dreaming most often takes place. During D-sleep there are rapid eye movements, inundated eyes are closed. Muscle tone is very low during D-sleep and the sleeper is unable to move. Although when waking up from this sleep they are instantly awake and know what is happening around them.

According to the cognitive theory: REM sleep allows the brain to withdraw from the outside world and recognize the millions of bits of information collected during the day. The information is not lost, merely re-organized in a more meaningful way.

According to the neurobiological perspective : REM sleep is suggested as the mechanism for cleaning up the networks by deleting unnecessary information. For this reason it is thought that people should not be encouraged to remember dreams is that it should contain information that the brain wants to get rid of.

Sleep disorders

Insomnia

Inability to sleep, this may refer to difficulties falling asleep at night, waking the middle of the night and being unable to get back to sleep, waking very early in the morning without having slept enough.

Narcolepsy

Overwhelming need to sleep. Can happen at any time and lasts for few minutes.

Catalepsy

When you are awake but are unable to move. It is usually triggered by an intense emotional experience or sudden movement. Another symptom of catalepsy is sleep paralysis that occurred just before falling asleep or waking in the morning. Person is awake but unable to move, but the paralysis ends when they are touched or called. During the paralysis they may have a sort of treatment, called hypnagogic hallucinations.

Sleep apnoea

Breathing difficulties during sleep. People with this condition wake-up gasping for breath and then go back to sleep. The problem is that sleep is frequently disrupted and the person experiences a form of sleep deprivation.

Hypnosis

Hypnosis is based on increased suggestibility of the person or patient, and therefore they have to be willing to participate. Hypnosis generally produces relaxation, concentration, and temporary change in behavior. Changes a person's emotional components. Posthypnotic suggestion, this refers to the suggestion to do or experience something in particular often coming out of the hypnotized state. Research studies indicate that most of the new memories produced under hypnosis are false.

Effects of psychoactive drugs

Stimulants

Increase alertness, boost energy and activity, and produce a pleasant feeling. They activate motivational centers and reduce activity in inhibitory centers of the brain.
Amphetamine, cocaine, caffeine, nicotine.

Depressants

The main effect of depressants is to decrease arousal levels.
Alcohol and tranquilizers. Also opiate drugs: Morphine, heroin and codeine.

Hallucinogens

Drugs that bring about distorted sensory experiences. People who take hallucinogens have intense sensory experiences and can enter a dreamlike state.

LSD, marijuana, ecstasy, MDMA.

Ecstasy has been placed in a group called **entactogens** because of their unique effects that lie between those associated with hallucinogens and stimulants.

Negative effects on attention, concentration, and performance.

Inhalants

Bring intoxication through being snuffed. Glue, cleaning fluid and paint.

Stress : The effects of stress (P330)

The **Yerkes-Dodson law** states that performance increases as arousal increases. But this is any true when stress increases to a moderate level of arousal. At this level of arousal, performance reaches

an optimal level. When arousal is increased beyond this level, performance does not increase further-it starts to decrease.

Performance is low when arousal level is low. The person is under stimulated and therefore he or she finds it difficult to concentrate. As arousal levels increase, the person becomes more alert, and reaction speed and concentration improves until performance reaches an optimal level of efficiency at moderate levels of arousal. If arousal levels are increased beyond this level, the person becomes over stimulated, physically as well as psychologically. He or she becomes overly tense and loses concentration. At high levels of arousal, performance starts to drop to the same low levels associated with lower levels of arousal.

Respond specificity

People tend to have a specific response pattern in reaction to a stressor. Because certain people respond to stressors with a specific physiological reaction pattern, they develop specific weaknesses in these systems. Thus, specific bodily functions deteriorate in the presence of stresses, and eventually the physical symptoms appear that are related to particular system such as the stomach or the heart. Link between stress and psychosomatic diseases such as high blood pressure, migraine headaches, ulcers, and asthma is well-documented. Less severe complaints, such as backache and indigestion may also be stress related.

Burnout

Effects economically active individuals. Burnout develops over months and years. If the condition is allowed to continue without treatment, the individual can become seriously incapacitated. Burnout occurs when people are subjected to too much stress for too long period of time. When this happens, people begin to complain that they feel emotionally drained, empty, and alienated from the people around them. The feeling of alienation causes a sense of unreality, leaving people without hopes and aspirations and they work. They experience feeling of inadequacy because they feel that they have achieved nothing, and that they are unable to do something about it. Together, these feelings may lead to a decline in performance levels, which causes more stress, and repeats a vicious circle. One can reduce the chances of but not by trying to become more realistic in one's expectations regarding work and job satisfaction. Allowing colleagues, friends, and family, and share negative aspects of your work experience with them. Value at the value of your work that you do. Archer software than the things you do now will be as important to you in a few years time as they are now [the life-and-death taste]. Make sure that you take time out. Restrict your exposure to work related interactions and issues. This is nine as the race [restricted environmental stimulation therapy].

Stress: The process of stress (P333)

The general adaption syndrome

Hans Selye model of the stress process is known as the general adaption syndrome (GAS). The model is important because it suggests that there is a pattern in the way in which people react to stresses, regardless of the nature of the stressor. Therefore, although some stresses may cause more stress than others, the process of stress remains the same. The general model considers stress as a three-phase process. These three phases are

1-the alarm and mobilisation phase-we become aware of the presence of a stressor. The first reaction is to be alarmed. Wave experience shop, and our ability to cope with the stress of drops below normal levels of coping. The body reacts by releasing a hormone that help us to mobilize against the stressor. As a result our ability to cope increases to the levels that exceed our normal level of coping. If the stressor persists we move into the resistance phase.

2-the resistance phase-people try to deal with the stressor. The carpet levels remain higher than normal. If the stresses dealt with successfully, it disappears, but if we failed to cope, we ultimately reach the point of exhaustion.

3-the exhaustion phase-ability to cope declined sharply and quickly drops below our normal level of coping. If the situation continues, we finally reach the point where the negative consequences of stress begin to show. We may become physically ill, find it difficult to concentrate, and suffer from a heightened degree of irritability.

The contextual model of stress

1. An event does not have a universal meaning independent of the situation in which it occurs, or independent of the person who perceives saving. In other words, an event gains its meaning when it is deceived by somebody in a particular situation stop this means that one person may perceive any event is a stressor, while it may not be experienced as stressful by another person. It also means that a person may experience an event to stressful on the occasion but may not see it as a stressful in another situation.
2. Community share beliefs and meanings. This means that communities may sure interpretations of the stressfulness of certain events. The individual members of the community are likely to see an event to stressful if the event is viewed as the stressor by the community as a whole.
3. When an event is perceived as a stressor, the person or community, assigns a positive or negative value to the event, depending on the situation in which the event occurs. Positive stresses associated with life enriching events. The outcome of these events are beneficial to the individual the community, given the current circumstances. They get to stresses associated with life-threatening events. The outcome of these events are harmful or detrimental in the situation in which the person or the community finds itself.
4. Event skin meaning through deception. Therefore the process of perception is a key factor in the contextualization of any event. We have to indicate how an event is perceived and appraise if we wish to describe the process of stress.

Jordan describes the contextual stress model as a process consisting of five phases.

Phase 1: encountering potential stresses

universal events -affects the majority of people in society or in the world

personal events-affects a person or community

micro events-effects a person on an everyday basis

Phase 2: performing a primary appraisal

an event is perceived as positive, negative, neutral, or ambiguous.

Phase 3: experiencing stress

the feeling of stresses associated with heightened psycho-physiological arousal. We feel physically and emotionally tense.

Phase 4: performing a secondary appraisal

in the case of the negative event, the stress will increase further and become even more negative if the person thinks that he or she will not be able to cope. However, if the person feels that he or she will be able to cope, the stress will diminish and become less negative.

Psychological hardiness-refers to the tendency to commit ourselves, and aptitude for challenges, and the ability to take control of the situation. People with high levels of psychological hardness seem to be more resistant to stresses, and are able to handle stress Morrissey than those with lower levels of hardiness.

Learned resourcefulness-refers to the ability to try various approaches to find a way to work through a difficult situation. People learn to act in a helpless manner when they are constantly subjected to situations in which they feel they have no control. If this carries on for prolonged periods of time, they begin to feel empathetic and despondent.

Phase 5: applying coping strategies

problem-solving strategies- accept responsibility and think things through. They deal with matters, and adaptive behavioural in rational ways.

Avoidance strategies-do not take personal responsibility but try to find excuses for their lack of coping by blaming external factors. They do not react rationally, but prefer emotionally-based arguments in an attempt to lower the experiences of stress.

Social support strategies-advice from others

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Sympathetically dominated- higher basic tension level

Parasympathetic dominated- lower basic tension level

High degree of autonomic homeostasis-physical arousal is smooth and steady, and therefore you are likely to experience less emotional tension than somebody with a low degree of autonomic homeostasis (labile nervous system)

Psycho physiological arousal= the connection between physical and emotional tension