**STRESS AND WELLBEING**

**SUMMARIES**

* Stress is a psychological and physical response to internal or external sources of tension (stressors) that challenge a person’s ability to cope.
* These stressors can be positive or negative, and environmental, psychological or social in nature. When a person is stressed, their body experiences autonomic arousal that is known as the fight-or-flight response. This is the physiological reaction of an organism preparing to cope with the threat of a predator and is caused by perceiving a situation as threatening. This state of physiological arousal is controlled by the sympathetic branch of the autonomic nervous system.
* In the fight-or-flight response, adrenalin and noradrenaline are released into the blood stream, thereby increasing the heart rate which in turn increases the respiration rate. Pupils dilate and glucose is released from the liver, allowing greater energy to deal with the stressor. Functions such as digestion are suppressed. When the threat is no longer present or the person is no longer stressed, the parasympathetic nervous system, a branch of the autonomic nervous system (responsible for maintaining balance in day-to-day functioning), returns the body to normal.
* Stress can be the result of either good or bad circumstances. In order to differentiate between the two, the term ‘eustress’ was coined to refer to the perception of good psychological stress like winning a prize at school or finding out that you and your family are going on a holiday to Paris, while ‘distress’ was used to refer to the perception of bad psychological stress such as failing an exam.
* On the basis of his observations of animals Selye developed the general adaptation syndrome. The model was the first to describe stress from a biological perspective.
* (GAS) is a three-stage physiological response to stress that occurs regardless of the stressor encountered.
* Both models describe patterns of involuntary biological processes (‘bodily changes’) that occur in response to a stressor. The changes occur in much the same way in all individuals.
* **ALARM PHASE**- You first becomes aware of the enormous amount of stress caused by the stressor.
* You experiences a short period of shock. You ability to deal with the stress falls below normal level. You  may experience dizziness, loss of muscle tone and blood pressure and body temperature may also drop. - The shock stage is immediately followed by countershock. Your body increases its resistance to the stressor with the release of adrenaline into bloodstream. The sympathetic nervous system activates the fight-flight-freeze response.
* **RESISTANCE PHASE-** Your ability to deal with the stressor rises above normal. - Cortisol is released to help you continue to deal with the stressor and repair the damage to the body. Over a prolonged period of time stress hormones are weakening the immune system, causing vulnerability to illness. At this stage you may be suffering from a cold or infection. - Research has also found that stress has a negative effect on the barrier of skin, resulting in water loss and a reduced ability for the skin to repair itself. As a result, skin appears drier and this increases skin aging. - This stage is also known as the ‘energy conservation stage’. You invest all energy on stressor and withdrawal may occur.
* **EXHAUSTION** - The body can no longer cope. Resistance drops and you enter the exhaustion stage. - Your resources are depleted and you are physically and psychologically exhausted. -This makes you more vulnerable to serious illnesses, such a heart problems, high blood pressure, ulcers and other stress related disorders.
* Lazarus and Folkman’s transactional model of stress and coping incorporated the cognitive component of stress. Stress is regarded as a ‘transaction’ between the person and the environment, where the person’s individual interpretation of the stressor determines how they deal with the situation. The person goes through primary appraisal (initial recognition of the potentially stressful situation) then secondary appraisal (considering one’s options). Both stages involve emotional forecasting (predicting what feelings the situation will produce). The person will then use problem-coping strategies such as seeking further information or emotion-focused strategies such as talking to friends and family to reduce their stress. This occurs during the secondary appraisal process.
* Social, cultural and environmental factors can either help to protect the person’s resilience to stress or exacerbate it.
* As health professionals now take a biopsychosocial approach to understanding and managing stress in their clients, methods such as biofeedback, meditation and physical exercise have proven useful. Another crucial factor that has been recognised to act as a buffer for stress is social support. People with strong and supportive networks of family, friends, neighbours and community members are better able to deal with stress than those who are alone and unsupported.
* Coping with stress - A specific method (behavioural or psychological) that we use to manage or reduce stress caused by a stressor
* Strategies include: **Context-specific effectiveness:** There would be a ‘match’ between the **coping strategy**, the **situationally specific demands**  of the stressor and **relevant personal characteristics** of the individual involved
* **Coping flexibility:** Coping flexibility is considered to be an **adaptive personality attribute** that allows us to adjust our thoughts, feelings or behaviour according to changing circumstances
* The strategies people use to cope with difficult or stressful circumstances in their lives have been organised into different categories. One classification system distinguishes between *approach* and *avoidance* strategies.
* This means that the individual’s focus and their actions are either **towards** or **away from** the stressor.
* The **aim** of both of these is to reduce stress levels and increase the ability to cope, but the way they do that is different.
* **EXERCISE -** Commonly recommended as an effective coping strategy when experiencing stress as it has physical and psychological benefits. But, it won’t be effective for someone who hates exercise or who has a medical condition that could be worsened by exercise.

**THE NEURAL BASIS OF LEARNING**

**SUMMARIES**

* As learning takes place, neurons become more responsive to neurotransmitters and there is an increase in the strength of the synaptic connections between neurons.
* This involves change in the presynaptic neuron so that it becomes more prepared to release neurotransmitters, and change to the postsynaptic neuron which becomes more readily excited by the neurotransmitter.
* The postsynaptic neuron changes increase the number of dendrite connections for receiving the neurotransmitter which has been released from the neighbouring presynaptic neurons.
* Plasticity of the brain refers to the way the brain can be modified.
* Developmental plasticity refers to the development and consolidation of neural pathways in babies, children and adolescents, including proliferation, migration, circuit formation, circuit pruning and myelination.
* Adaptive plasticity refers to the plasticity of parts of the adult brain and also the process of reorganisation.
* A young brain has more plasticity because it is packed with a greater number of neurons.
* Developmental plasticity is thought to enable growing children to readily adapt and learn from their circumstances and environment. It also assists in helping the developing brain to cope with injury by reorganising neural connections and using ‘spare’ neurons before pruning takes place.
* Certain periods in development are particularly suited to learning certain things. These periods are referred to as sensitive periods because they are the best or optimum times for a developing individual to learn specific things.
* Glutamate is responsible for the different forms of synaptic plasticity which include LTP and LTD
* LTP the long lasting strengthening of synaptic connections of neurons, resulting in enhanced/more effective functioning of neurons whenever they are activated, improving ability of 2 neurons to communicate at the synapse. Leads to changes in per and post synaptic neuron
* LTD is the opposite to LTP, and serves to selectively weaken specific synapses. This is necessary as, if allowed to continue increasing in strength, synapses would reach a ceiling level of efficiency, which would inhibit the encoding of new information. Important for clearing out old memory traces.

**CLASSICAL CONDITIONING**

**SUMMARIES**

* Many behaviours can be learnt through a very simple learning process, known as classical conditioning, discovered by Ivan Pavlov in the early twentieth century.
* In his work with dogs, Pavlov experimented by associating various sounds with food and found that after a few trials the dogs could be conditioned to salivate when the sound occurred.

**Definition of the Key Elements of the learning theory**

* Unconditioned Stimulus – any stimulus that consistently produces a naturally occurring, automatic response.
* Unconditioned Response – is the response that occurs automatically when the UCS is presented. It is a reflexive response that is predictably caused by the UCS.
* Conditioned stimulus – is the stimulus that is neutral at the start of the conditioning process and does not normally produce the unconditioned response. Through repeated association of the UCS and CS, the organism will produce the same or a similar response to the CS.
* Conditioned response – is the learned response that is produced by the CS. This response occurs when the organism has associated the UCS with the CS to produce the same response.
* Neutral Stimulus – this is anything that does not normally produce a predictable response.
* Extinction will occur if the conditioned stimulus (CS) occurs many times without ever again being paired with the unconditioned stimulus (UCS). The strength of the response will gradually reduce until there is no conditioned response (CR) when the CS is presented.
* Spontaneous recovery is said to have occurred if, after a pause of some time during which the CS is never presented, re-introduction of the CS will again cause a low level of the CR.
* After conditioning has occurred, the subject may show the CR on presentation of a stimulus that is similar, but not identical, to the CS. (Pavlov discovered that after a dog had been conditioned to salivate in response to the sound of a bell, it would also salivate when a buzzer was sounded even though the buzzer had never been paired with the UCS). This is a demonstration of stimulus generalisation.
* If the stimulus that is similar to the CS is frequently presented but never paired with the UCS, there will soon be no response. If the CS is still occasionally paired with the UCS, the response will occur only with the CS, not with a similar stimulus; stimulus discrimination has now occurred.
* Acquisition, maintenance, extinction and spontaneous recovery may be illustrated with a learning curve.
* In humans, many reflex responses can be conditioned to occur as a result of a previously neutral stimulus. An example is your mouth watering at the sight of a photograph of your favourite meal.
* Phobias are intense, irrational, and persistent fears of specific objects or situations. These are often acquired by classical conditioning.
* Classical conditioning is applied in behavioural therapies such as dealing with phobias through graduated exposure. This therapy involves a person being taught relaxation techniques such as breathing relaxation or progressive muscle relaxation, followed by the gradual exposure to increasing levels of the feared object or animal over several sessions.
* One of the most famous (and infamous) cases in the area of classical conditioning was the research conducted by John B. Watson with ‘Little Albert’. This experiment contravened many ethical principles that are in place today.

**OPERANT CONDITIONING**

**SUMMARIES**

* Operant conditioning is a form of learning in which behaviour becomes controlled by its consequences.
* Skinner developed the system of teaching and learning referred to as operant conditioning. He referred to the three-phase model as involving:
* the discriminative stimulus (or antecedent condition)
* the behaviour
* the consequences.
* This is known as the D-B-C or (A-B-C) of operant conditioning.
* Skinner trained animals to perform voluntary behaviours by rewarding the response with food; after only a few training trials, the animals would perform the behaviour every time.
* Skinner invented a device called the Skinner box, which has:
* a means of giving a signal (a light or buzzer)
* a means of recording a response (a bar, button, lever or touch-pad)
* a means of providing a reward (food) or punisher (mild electric shock)
* a means of automatically recording that the response had been made (a cumulative recorder).
* With the Skinner box, results of research can be very robust and generalisation of the results is appropriate.
* Reinforcers and punishers are elements of operant conditioning.
* A reinforcer is a stimulus that strengthens or increases the likelihood of a response (behaviour). There are two types of reinforcers:
* positive reinforcers: rewards that strengthen a response by providing a pleasant or satisfying consequence
* negative reinforcers: rewards which strengthen a response by removing an unpleasant consequence.
* A punisher is a stimulus that weakens or decreases the likelihood of a response (behaviour). There are two types of punishers:
* punishment (sometimes called positive punishment), which occurs when a behaviour is weakened because it is followed by a negative experience
* response cost, which occurs when a behaviour is weakened because something desirable is removed.
* Side effects of punishment include frustration, aggression, feelings of helplessness, displacement of anger onto the person doing the punishing.
* Effective punishment needs to be brief, immediate and linked to the undesired behaviour in the mind of the person (or animal) being punished. It is only effective if a positive behaviour can be developed to replace the ‘bad’ behaviour.
* Extinction is when the conditioned response disappears over time after reinforcement has ceased.
* Spontaneous recovery is the reappearance of an extinguished response after a rest period.
* In operant conditioning, the terms ‘generalisation’ and ‘discrimination’ refer to the antecedent stimulus (activating event):
* generalisation is where a behaviour occurs as a result of an antecedent stimulus that is similar (but not identical) to the original
* discrimination is where the organism learns to avoid responding to a antecedent that is similar (but not identical) to the original.

**OBSERVATIONAL LEARNING**

**SUMMARIES**

* Social learning theory suggests that it is possible for people, especially children, to learn through observing the behaviour of others.
* Observational learning occurs when someone uses observation of another person’s actions and the resulting consequences to guide their future actions. Because the person being observed is referred to as a model, observational learning is often called modelling.
* Observational learning is dependent on the processes of attention, retention, reproduction, motivation and reinforcement. Learners play an active role in the learning process. They must:
* pay attention in order to observe the modelled behaviour
* mentally represent and retain what has been observed
* convert these mental representations into actions (i.e. reproduce them).
* Reinforcement influences the learner’s motivation to perform the learnt behaviour.
* Observational learning has a cognitive component evident in the attention and retention processes. However, social learning theory does not attempt to explain the nature of children’s cognitive processing when learning is taking place.
* Operant conditioning can occur through observational learning but the likelihood of the learnt behaviour being reproduced by the observer will be greater if there is a prospect of a reward or favourable reinforcer for doing so.
* Bandura’s Bobo doll experiments with children demonstrated that it is not always necessary for a learner to engage in behaviour for learning to occur, and that this learning can be latent until there is sufficient motivation (reinforcement) to demonstrate the behaviour. These experiments demonstrated that children would copy aggressive behaviour modelled by another person, especially if the model was similar to them in some way (for example age and in terms of gender) and not punished for the antisocial behaviour.
* Bandura’s Bobo Doll experiments informed debate on the effect of both live role models and television role models on the learning of children.