Structure & function of the nervous system

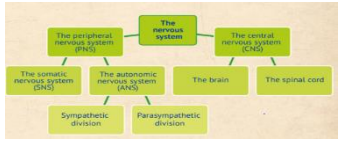
Key Term	Definition
ANS	Autonomic nervous system – it is 'automatic' as the system operates involuntarily. It has 2 main divisions: the sympathetic and the parasympathetic nervous system.
CNS	Is made up of the brain and spinal cord. Where all complex commands and decisions are made.
Nervous system	Consists of the central nervous system and the peripheral nervous system.
PNS	Peripheral nervous system transmits info about voluntary activity, communicating between the CNS and the rest of the body. Coordinates some reflex responses.
SNS	Somatic nervous system – transmits into from sense organs to the CNS. Receives info from the CNS that directs muscles to act.
Fight or flight response	Is the immediate physiological response of an animal when confronted with a threatening or stressful situation. The sympathetic division of the ANS causes the release of adrenaline. This makes the body physiologically aroused and prepares the body to be able to fight the threat or run from it.
The James-Lange theory	Is a theory of emotion which suggests that our experiences of physiological changes comes first, which the brain then interprets as an emotion.
Emotion	A strong feeling or mood that has important motivational properties, it drives an individual to behave in a particular way.
Excitatory	Some neurotransmitters such as adrenaline (also a hormone) generally increase the positive charge of the next neuron, making it more likely to fire.
Inhibitory	Some neurotransmitters, such as serotonin, generally increase the negative charge of the next neuron, making it less likely to fire.
Neurons	Are cells that communicate messages through electrical and chemical signals throughout the nervous system. 3 different types: sensory, relay and motor.
Neurotransmitter	Is a chemical that is released from the synaptic vesicles. These send signals across the synaptic cleft from one neuron to another. Neurotransmitters can cause excitation or inhibition of the net neuron in the chain.
Synaptic transmission	Is the process by which neighbouring neurons communicate with each other. Neurons send chemical messages across the gap (the synaptic cleft) and separates them.

Structure of the NS

The nervous system has 2 jobs:

1. Collect and respond to information in environment
2. Control working of different organs and cells in body, inc. brain.

Subdivisions:



Functions of the NS

- **CNS** – brain & spinal cord. Brain divided into 2 hemispheres; left & right. Right controls left. Left controls right. Centre of conscious awareness, decision making takes place here. Brain stem at the base of the brain: controls many basic functions e.g. sleep & reflexes. Brain stem connects brain to spinal cord. Spinal cord carries messages between brain and rest of body.
- **PNS** – means on the 'outside'. PNS supports actions of CNS. Done through millions of nerve cells called neurons. PNS divided into ANS & SNS.
- **ANS** – is automatic as it acts involuntary. Coordinates vital functions such as breathing, heart rate and digestion. Involved in body's response to stress. Has 2 parts: **SYMPATHETIC & PARASYMPATHETIC**.
- **SNS** – controls voluntary movements of muscles. Only exception are reflexes that are not under voluntary control. Takes in info from sensory organs.

ANS

ANS control homeostasis: maintains a balanced internal state e.g. body temperature at 37'.

No conscious control because functions are vital to life e.g. heartbeat.

Sympathetic NS – physiological arousal, triggered when stressed and leads to fight or flight.

Parasympathetic NS – opposite to sympathetic; rest and digest.

Flight or fight

Brain detects threat – hypothalamus identifies a threat (stressor). Sympathetic NS kicks in – fight or flight.

Release of adrenaline: ANS changes from parasympathetic to sympathetic. Adrenaline released into bloodstream.

Fight or flight – Immediate & automatic. Physiological changes due to adrenaline release, e.g increase in HR. Body gets ready to confront (fight) or run (flight.

Once threat has passed – parasympathetic kicks in.

James-Lange Theory of Emotion

Physiological arousal first

Hypothalamus arouses sympathetic NS. Adrenaline released leading to physiological arousal (fight or flight).

Emotion afterwards

Brain interprets physiological arousal. Causes emotion. E.g. fear.

E.G.

Meet bear in forest. Sympathetic arousal: muscles tense, HR increases. Interpret as fear.

No physical changes = no emotion

Speaking in front of class, no increase in HR means you don't experience any sense of fear.

Evaluation:

1. Emotions do come after arousal; e.g. with phobias.
2. Challenged by Cannon-Bard theory – Some emotions occur at the same time as physiological arousal.
3. Extra: James-Lange theory may be too simple. Challenged by 2 factor theory, we need social cues to label emotion (Schachter & Singer).

Structure & function of the nervous system

Key Term	Definition
Hebb's theory of learning & neuronal growth	An early theory of 'plasticity' in the brain which suggests that learning causes synaptic connections between groups of neurons to become stronger. The groups of neurons are called cell assemblies, and the neuronal growth that occurs between these will create more efficient learning in the brain.
Cerebellum	The 'little brain' at the base of the brain above the spinal cord that coordinates movement with sensory input (sensorimotor) and also has a role in cognition.
Cerebral cortex	The very thin layer of brain tissue that gives the brain its pinky-grey appearance. Highly folded and complex in humans, which is what separates our brain from that of animals. It is the main centre of the brains conscious awareness.
Localisation	Refers to the theory that different brain areas are responsible for specific functions and behaviours.
Interpretive cortex	Is an area of the temporal lobe of the brain where interpretations of memories are stored, i.e. the emotional component of the memory.
Cognitive neuroscience	Is the scientific study of how biological structures, such as areas of the brain, influence or control mental processes.
Neurological damage	Any event, such as illness or injury which can result in neuron damage in the brain may lead to a loss of function or change in behaviour.
CT scan	A computerised tomography scan uses X-rays and a computer to create detailed images of the inside of the body, including the brain. The result is cross-sectional photographs.
Fmri	A functional magnetic resonance imaging scan uses radio waves to measure blood oxygen levels in the brain. Those areas of the brain that are most active will use most oxygen and 3D images of this activity are shown on a computer screen
PET Scan	Positron emission tomography scan is a scan that allows live brain activity to be observed. An injection of the radioactive substance is given to the patient. Those areas of the brain that absorb most glucose are usually represented in red on a computer screen.
Episodic memory	Describes memory for personal events. Includes memories of when the events occurred and of the people, feelings and sequence of what happened.
Semantic memory	Store for our knowledge of the world. Includes facts and our knowledge of what words and concepts mean.

Neuron structure & function

Neuron and electrical transmission
Types of neuron:
1. SENSORY – From PNS to CNS. Long dendrite, short axon.
2. RELAY – connect sensory to motor. Short dendrite, short axon.
3. MOTOR – From CNS to muscles/glands. Short dendrite, long axon.

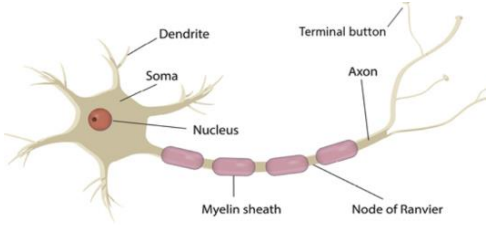
Structure of neurons
Cell body: Nucleus containing DNA.
Axon – Carries signals, covered in myelin sheath which helps and protects.
Myelin sheath – fatty covering of axon with gaps (nodes of Ranvier), insulation and speeds signal.
Terminal buttons – end of axon, part of synapse.
Electrical transmission: how neurons fire.
Resting state: negative charge.
When firing, the charge inside the cell changes which increase its action potential.

Synapses and chemical transmission
The synapse
Where neurons communicate with each other; terminal button at presynaptic neuron + synaptic cleft + receptor sites on postsynaptic neuron.
Release of neurotransmitters
Electrical signal causes vesicles (in presynaptic terminal button) to release neurotransmitter into synaptic cleft.
Reuptake of neurotransmitter
Neurotransmitter in synaptic cleft attaches to postsynaptic receptor sites. Chemical message turns into electrical message. Remaining neurotransmitter is reabsorbed.
Excitation and inhibition
Excitatory neurotransmitter increases postsynaptic neuron's charge, more likely to fire. Inhibitory neurotransmitter increases negative charge, less likely to fire.
Summation
More excitatory then inhibitory signals means that neuron fires, creating an electrical impulse.

Hebb's theory
The brain is plastic
Synaptic connections become stronger the more they are used.
Brain can change and develop.
The brain adapts
Brain changes in response to new experiences, at any age.
Learning produces an engram
Learning leaves a trace called an engram. This can be permanent if we rehearse learning.
Cell assemblies and neuronal growth
Groups of neurons that fire together.
Neuronal growth occurs as cell assemblies rewire.

Evaluation

1 -Hebb's theory is scientific
Objective basis gives theory validity and credibility.
2 -Real-world application
Stimulating school environment can increase neuronal growth.
3 -Extra – reductionist theory.
Reduces learning to neuronal level. Ignores higher levels, e.g. Piaget's idea that accommodation is a key part of learning.



Structure & function in the brain

Structure & function of the brain
2 hemispheres, 4 lobes:
Top layer of brain is the cerebral cortex, divided into 4 lobes:
1. **Frontal lobe**: contains motor area at the front of the brain. Controls thinking, planning and motor area controls movement.
2. **Parietal lobe**: contains somatosensory area. Behind frontal lobe. Is where sensations are processed.
3. **Occipital lobe**: contains visual area. At back of brain, controls vision.
4. **Temporal lobe**: contains auditory/language area. Behind frontal lobe and below parietal lobe. Auditory (sound) area, related to speech and learning.

Cerebellum: receives information from spinal cord and the brain. Coordinates movement and balance; attention and language too.

Localisation of function in the brain
Specific brain areas do specific jobs.
Motor area: Damage to the left hemisphere affects the right side of the body and vice versa.
Somatosensory area: most sensitive body parts take up most 'space'. Damage means less ability to feel pain.
Visual area: Damage to left hemisphere affects right visual field o**f** each eye and vice versa.
Auditory area: damage can lead to deafness.
Language area**:** usually in left hemisphere only. Broca's area: damage leads to difficulty remembering and forming words. Wernicke's area: damage leads to difficulty understanding and producing meaningful speech.

Penfield's study of the interpretive cortex
AIM
To investigate the function of the temporal lobe using the Montreal procedure.
METHOD
Operated on patients with severe epilepsy. Could stimulate areas of the brain in a conscious patient who reported the experience.
RESULTS
Temporal lobe stimulation; experiences and feelings (hallucinations)associated with those experiences including déjà vu.
CONCLUSION
Area of brain called interpretive cortex stores the personal meaning of previous events.

EVALUATION
1. Precise method: he could stimulate the exact same area of the brain and have verbal reports from awake patients.
2. Unusual sample: All p'ts had severe epilepsy so their behaviour may not reflect people with 'normal' brains.
3. Extra – mixed results in later research: the interpretative cortex may not always respond as Penfield had concluded.

An introduction to neuropsychology

Cognitive neuroscience
Aims to create a detailed map of localised functions in the brain.

Structure & function of the brain relates to behaviour
Frontal lobe and motor area: movement.
Temporal lobe and amygdala: processes emotion and aggression.

Structure & function of the brain relates to cognition
Different types of memory are in different areas of the brain.

Cognitive neuroscience and mental illness
Low serotonin affects thinking (e.g. suicidal thoughts) and behaviour (low mood, depression).

Neurological damage
The importance of localisation: damage to specific areas of the brain affect certain areas/behaviours.

The effects of stroke
When brain is deprived of oxygen areas of the brain die leading to effects on behaviour, unless other areas take over localised functions.

Effects of neurological damage on motor ability
Damage to motor area can lead to problems with fine and complex movement. Damage to the left hemisphere affects the right side of the body and vice versa.

Effects of neurological damage on behaviour
Broca's aphasia; problems producing speech.
Wernicke's aphasia; problems understanding speech.

Tulving's gold memory study

AIM
To investigate if episodic memories produce different blood flow patterns to semantic ones.

METHOD
6 p'ts injected with radioactive gold. Repeated measures used with 4 episodic and 4 semantic memory trails. Monitored blood flow using PET scan.

RESULTS
Different blood flow in 3/6 pt's. Semantic memories in posterior cortex. Episodic memories in frontal cortex.

CONCLUSION
Episodic and semantic memories are localised. Memory has a biological basis.

EVALUATION
1. Objective evidence – evidence from brain scans is difficult to fake, producing unbiased evidence.
2. Problems with the sample – 6 p'ts inc. Tulving and conclusion based on just 3 of the p'ts.
3. Extra – Are there different types of memory? Episodic and semantic memories are hard to separate. Which may explain inconclusive evidence.

SCANNING TECHNIQUES

	EVALUATION
CT SCANS Large doughnut shaped scanner that rotates. Takes a lot of X rays of brain which are combined to give a detailed picture.	**Strength**: Quality is higher than traditional X rays. **Weakness**: High levels of radiation and only produces still images.
PET SCANS Patient injected with radioactive glucose. Brain activity shown on computer screen.	**Strengths**: Shows brain in action and localisation of function. **Weaknesses**: Expensive and may be unethical because of radiation.
fMRI SCANS Measures changes in blood oxygen levels. Displayed as a 3 D computer image.	**Strengths**: Superior as produces clear images without use of radiation. **Weaknesses**: Expensive and have to stay very still.

Unit 1 Development Knowledge Organiser

Key Term	Definition
Autonomic functions	Automatic, refers to functions in the body which we do not consciously control e.g. heartbeat, digestion and fear
Brain stem	Develops early because it controls vital autonomic functions, passes info from the brain to and from the body
Cerebellum	The 'little brain' at the base of the brain above the spinal cord the coordinates movement with sensory input (sensorimotor) and also has a role in cognition
Cognition	Refers to thinking and mental processes
Cortex	It is the outer covering of the brain where mental processing takes place
Nature	Refers to genetic influences
Nurture	Refers to other influences, how you were raised, your experiences and the environment
Thalamus	Key hub of info in the brain, relaying sensory and motor signals to the cortex
Womb	Part of the woman's body where the baby develops
Accommodation	Learning that takes place when we acquire new info that changes our understanding of a topic to the extent that we need to form one or more new schemas
Assimilation	Learning that takes place when we acquire new info which does not radically change our understanding of the topic
Schema	Mental framework of beliefs and expectations that influence cognitive processing, we are born with some schemas but the develop in complexity with experience of the world
Conservation	The ability to realise that quantity remains the same even when the appearance changes
Egocentricity (egocentrism)	The child's tendency to only be able to see the world from their own point of view
Concrete operational stage	7-11years, Beginning to use adult logic but only when working with physical objects, logical thinking
Formal operational	11+, Child now fully able to think logically and with abstract ideas,
Pre-operational stage	2-7years, Child's thinking lacks internal consistency, they are not using adult logic, lack of conservation and egocentrism
Sensorimotor	0-2 years, Child focused on learning coordination, object permanence
Fixed mindset	Achievements are due to innate abilities
Growth mindset	Basic abilities can be developed through effort, regard failure as a challenge
Praise	To express approval of someone else and or what they have done
Self-efficacy	A person's understanding of their own capabilities, high self-efficacy influences motivation
Learning style	A person's relatively consistent method of processing and remembering info
Verbaliser	A person who prefers to process info through words and sounds
Visualiser	A person who prefers to process info in terms of pictures or diagrams

Brain stem – highly developed at birth, connects brain to spinal cord, autonomic functions

Cerebellum – matures late, near top of spinal cord, co-ordinates sensory and motor

Thalamus – deep inside the brain in each hemisphere, info hub receives info and then sends signals around the brain

Cortex – very thin and folded cover, thinking and processing, frontal, visual, auditory, motor areas in each hemisphere

The roles of nature and nurture

Nature is inherited

Nurture is environmental influences

Smoking during pregnancy can lead to smaller brain

Infection – German measles in the womb can lead to hearing loss

Voices – babies learn to recognise mother's voice

Interaction between nature and nurture – brain forms due to nature but the environment has a major influence, even in the womb

Theory – changes in thinking over time. Children think differently from adults

Logical thinking develops in stages.

Schemas – mental structures containing knowledge, schemas become more complex through assimilation and accommodation

Assimilation – adding new info to an existing schema

Accommodation – receiving new info which changes our understanding so a new schema is formed

Evaluation:

Research evidence - many studies have been conducted to test Piaget's theory, which has helped improve our understanding of how children's thinking develops

Real-world application – theory has helped change classroom teaching so it is now more activity based

The sample – Middle-class Swiss children were used so the theory may not be universal

Conservation

Although appearance changes, quantity stays the same.

Piaget showed that younger children cannot conserve using the naughty teddy study

McGarrigle and Donaldson KEY STUDY

Aim – the 'naughty teddy' study aimed to see if a deliberate change in the row of counters would help younger children conserve

Method – children age 4-6year, two rows of counters, teddy messed up one row, then asked if the rows were the same

Results – deliberate change – 41% conserved, accidental change – 68% conserved. Older children did better than younger ones

Conclusion – Piaget's method doesn't show what children can do, this study does show there are still age-related changes

Evaluation:

The sample – primary school sample from one school so comparison between groups may not be valid

The change was not noticed – children may appear to conserve because they simply didn't notice the change as they were distracted by the teddy

Challenges Piaget – study shows that Piaget confused young children with his style of questioning

Egocentrism

Seeing the world from one's own point of view

Three mountains task tested this and showed egocentrism up until the age of 7

Hughes' Study KEY STUDY

Aim: policeman doll study aimed to create a test that would make more sense than Piaget's

Method – 3 ½ yr olds – 5yr olds were asked to hide a boy doll from two policemen

Results - 90% could hide the boy doll away from the two policemen

Conclusion – children age 4years are mostly not egocentric. Piaget underestimated abilities but was right that thinking changes with age

Evaluation

More realistic – task made better sense to the children and they were given practice so they understood, more realistic test of abilities

Effects of expectations – unconscious cues from the researcher may have influenced the children's behaviour

Challenges Piaget – shows Piaget's task confused the children

Stages of cognitive development

Sensorimotor 0-2yrs – learn to coordinate sensory and motor info, object permanence develops

Pre-operational 2-7yrs – can't think in a consistently logical way, egocentric and lack conservation

Concrete operational 7-11yrs – at age 7 most children can conserve and show less egocentrism, logical thinking applied to physical objects only

Formal operational – 11+yrs children can draw conclusions about abstract concepts and form arguments

Evaluation:

Underestimated children's abilities – some types of thinking develop earlier than Piaget proposed

Overestimated children's abilities – suggested that children age 11+ are capable of abstract reasoning but most can't cope with Watson's card sorting task in abstract thought

Basic idea is correct – does show children's thinking changes with age so theory is valid

Application in education

Readiness – only teach something when child is biologically ready

Learning by discovery and the teacher's role – children must play active role, not rote learn, teachers should challenge schemas

Individual learning – children go through same stages in same order but at different rates

Application to stages

Sensorimotor – stimulating sensory environment

Pre-operational – discovery learning rather than written work

Concrete operational – physical materials to manipulate

Formal operational stage – scientific experiments to develop logical thinking

Evaluation:

Very influential – positive impact on UK education

Possible to improve with practice – thinking can develop at an early stage if given enough practice

Traditional methods may be good – direct instruction is a better teaching method in some subjects

Effects of learning on development			
Dweck's mindset theory	**The role of praise and self-efficacy**	**Learning styles**	**Willingham's learning theory**
The set of assumptions we have (mindset) affects success Success is due to effort not talent **Fixed mindset** – effort won't help because talent is fixed in the genes, focused on performance **Growth mindset** – can improve with effort, enjoy challenge, focused on learning goals **Dealing with failure** – Fixed mindset – give up As failure indicates lack of talent Growth mindset – opportunity to learn more and put in more effort A Continuum – not simply one or the other, depends on the situation **Evaluation:** **Research support** – Dweck found that children taught growth mindset had better grades and motivation **Both mindsets involve praise** – praising effort still leads to doing things for approval so can discourage independent behaviour Real-world application – in business, sport, relationships, seeing failure as a lack of effort rather than talent motivates future effort	**Positive effect of praise** – it's a reward, makes people feel good so the behaviour is repeated **Praise effort rather than performance** – praising effort enables control, praising performance is demotivating **Self-efficacy** – understanding your own abilities, increases of decreases future success **Effect of self-efficacy on motivation** – greater effort, persist longer, greater task performance and more resilience if high self-efficacy **Evaluation:** **Praise destroys internal motivation** – praise can have the opposite effect, less interested if previously rewarded **Low self-efficacy lowers performance** – research into the stereotype effect shows performance on an IQ test is lowered if reminded of race **Practical applications** – students criticised for effort performed better on a test than those previously praised	How people differ in the way that they learn. Matching teaching to learning should improve learning **Verbaliser** – focus on words, processing by hearing info and talking about it **Visualiser** – processing info by seeing spatial relationships using diagrams, mind maps, graphs **Kinaesthetic learners** – learning by active exploration, making things, physical activities **Evaluation:** **Change from traditional methods** – teachers have adopted a varied approach benefitting their students learning **No supporting evidence** – no good quality studies which challenges the claim that learning styles improve performance **Too many different styles** – Coffield identified 71 different types so it's difficult to work out preferred type of learning style	Educational ideas should be evidenced based Cognitive psychology and neuroscience can be used to improve learning **Praise** – praising effort should be unexpected, praise before a task let to less motivation **Memory and forgetting** – forgetting occurs due to a lack of cues, practise retrieving information from memory **Self-regulation** – self-control (delay gratification marshmallow test) linked to high academic performance **Neuroscience** – brain waves in dyslexics are different, this could benefit progress by receiving help earlier **Evaluation:** **Evidence-based theory** – based on scientific evidence giving the theory greater validity **Real-world application** – positive impact on education as an alternative to learning styles **Application of neuroscience** – dyslexia cannot be diagnosed by brain waves as it is not just linked to one thing

Key Term	Definition
Alternative hypothesis	States a relationship between variables, it is called alternative as it is an alternative to the null
Dependent variable (DV)	The variable the researcher measures
Hypothesis	Clear, precise, testable statement
Independent variable (IV)	The variable that is varied (changed) in the experiment
Null hypothesis	Statement of no relationship
Variable	Any 'thing' which can vary or change within an investigation
Extraneous variable (EV)	Any variable except the IV which could have an effect on the DV – they need to be controlled!
Randomisation	Using chance such as tossing a coin or picking names from a hat – to control for effects of bias when designing a study
Standardised procedures	Using exactly the same methods and instructions for all participants in a research study
Field experiment	Experiment which takes place in a natural setting
Lab experiment	Experiment which takes place in a controlled environment
Natural experiment	IV occurs naturally (e.g. age, ethnicity etc.) and therefore is not manipulated by the researcher
Qualitative method	Data expressed in words
Quantitative method	Data expressed in numbers
Counterbalancing	ABBA used in repeated measures design, half p's do condition A and then B, the others do B and then A
Experimental design	Different ways p's can be organised in relation to the conditions
Independent groups	2 groups, different p's in each
Matched pairs	2 groups, Pairs of p's matched in terms of variable relevant to the study e.g. IQ, age, gender, one of each pair takes part in a condition each
Repeated measures	1 group, all p's take part in both conditions
Order effects	In a repeated measures design, an EV arising from the order in which conditions are presented
Opportunity sample	Taking p's who happen to be there at the time
Random sample	Produced by using a random technique in which every member of the target population has an equal chance of being selected
Sample	A subset of the target population which aims to be representative of that population
Sampling method	Method used to produce a sample
Stratified sample	Selecting p's in a proportion to their frequency in the target population
Systematic sample	Selecting every nth person
Target population	Group that the researcher is interested in studying

Key Term	Definition
British Psychological Society (BPS)	Code of conduct every professional psychologist in the UK has to follow
Ethical issue	Where there is conflict between the rights of p's to be safe and the goals of the research to produce valid data
Closed question	One that has a fixed range of responses e.g. yes / no
Interview	Interaction between interviewee and interviewer – usually done face to face
Open question	Respondents can provide their own answer rather than selecting from a list
Questionnaire	Set of written questions
Categories of behaviour	When a target behaviour is broken down into units than can be observed e.g. aggression into number of kicks
Inter observer reliability	Extent to which there is agreement between two or more observers involved in observations of a behaviour
Observation studies	Observer watches or listens to participants engaging in whatever behaviour is being studied
Correlation	Used to investigate the relationship or association between two variables called co variables
Scatter diagram	Type of graph that represents the strength and direction of a relationship between co-variables in a correlation
Case study	An in-depth investigation of a single individual, group, institution or event
Reliability	Concerns the consistency of measurement
Validity	Concerns whether a result is true, valid research represents something that is real
Primary data	Information obtained first hand by the researcher
Qualitative data	Information expressed in words and not numbers
Quantitative data	Information expressed in numbers
Secondary data	Info gathered by someone other than the researcher before the current investigation
Descriptive statistics	Use of graphs, tables and summary statistics to identify trends
Mean	Mathematical average – add all numbers in a data set up and divide by the number of scores in the data set
Median	Middle value in a data set
Mode	Most common value in a data set
Range	Simple measure of dispersion in a set of data, lowest score is subtracted from the highest score
Bar chart	Type of graph in which the frequency of each variable is represented by the height of the bar
Frequency table	A table is a systematic way of representing data so it is organised in rows and columns
Histogram	A type of graph where the frequency of each category of continuous data is represented by the height of the bar
Normal distribution	A symmetrical spread of frequency data that forms a bell-shaped curve. The mean, median and mode are all the same point – the highest peak

Key Term	Definition
Schema	A mental framework of beliefs and expectations that influence cognitive processing. We are born with some schemas but they develop in complexity with experience of the world.
Sapir-Whorf hypothesis	This theory believes that the language a person speaks has a great influence on the way they think and perceive. The weak version says that language affects what we perceive and remember. The strong version says that language determines thought, and we are unable to think about things we do not have the words for.
Animal communication	The exchange of information between animals within the same species using a variety of signals. Some of these signals are vocal (involve sound) but some are visual or involve smell.
Language	A communication system unique to humans. It consists of a set of arbitrary conventional symbols through which meaning is conveyed. These symbols can be combined in such a way that an infinite number of novel messages can be produced.
Eye contact	When two people look at each other's eyes at the same time. Eye contact has a number of roles in communication such as regulating the flow of conversation, signalling attraction and expressing emotion.
Non-verbal communication	Exchanging information without using words. It includes eye contact and facial expression as well as more general body language.
Verbal communication	The use of words as a way of expressing your thoughts and how you feel.
Body language	The way in which attitudes and feelings are communicated to others through unspoken movements and gestures.
Closed posture	Having arms and / or legs crossed is a closed posture which suggests that the person is in disagreement with what is being said, r is possibly annoyed.
Open posture	A relaxed posture (without arms and / or legs being crossed) is an open posture which suggests someone is listening in a social interaction and is in agreement with what is being said.
Postural echo	A similarity or mirroring of body positions by people in a social interaction. Postural echo tends to suggest that two people are getting on well and are friendly towards each other.
Culture	Refers to the beliefs or expectations that surround us. We are not conscious of living in a culture, just as a fish is not aware that it lives in water, yet it powerfully influences us.
Gender	A person's sense of male or femaleness, including attitudes and behaviour of that gender.
Personal space	An invisible portable 'bubble' that surrounds each individual. The size of the bubble depends on who we are with.
Status	Relating to the social or professional position. For example, a headteacher may have a higher status than a normal teacher in a school.
Adaptive	Any physical or psychological characteristic that enhances an individual's survival and reproduction and is thus likely to be naturally selected. Such characteristics are passed on to future generations.
Evolutionary theory	Explains how species have adapted to their environment over millions of years. Behaviours that increase chances of survival and most important, successful reproduction, are naturally selected and passed onto the next generation.
Innate	Literally means 'inborn', a product of genetic factors.
Neonates	The name given to new born babies.
Sensory deprived	Describes an anima or human who does not have a particular sensory ability, such as hearing or seeing.
Emoticon	This word is a combination of 'emotion' and 'icon'. It is a non-verbal way of expressing mood or emotion within written communication such as a text or an email.

Language and thought

Piaget's theory

We learn through developing schemas (mental structures)

Language depends on thought – thought and understanding comes first, then language

Young children - can have language without understanding but they will not be able to use it effectively

Development of language
Sensorimotor 0-2 years – children start to speak
Pre-operational stage 2-7years – they talk about things not present
Concrete operational 7-11years – children develop their own ideas

Evaluation

Supporting evidence – the order of children's two word phrases shows understanding

Language comes first - Sapir-Whorf hypothesis challenges Piaget suggesting that sometimes language comes first

Schemas – these cannot be scientifically measured

The Sapir-Whorf Hypothesis

It is not possible to think about something you have no words for

Thinking depends on language – language comes first, thought afterwards

Strong version – language determines thought – if you have no words for an object or idea then you can't think about it

Weak version – language influences thought – words helps to 'carve up' the world. You can still imagine things with no words for them

Which version is better? Weaker version is preferred; we have limited memory for things we have no words for

Evaluation

Differences are exaggerated – Inuit culture may have only two words for snow not twenty-seven, English has four

Thoughts come before language – if there is lots of snow then this changes the way we perceive the environment

Restricted and elaborated code – working-class children use restricted language which affects their ability to think, explaining lowers intelligence (Bernstein)

Our view of the world

1) Variations in recall of events
Native Americans: The Hopi

Hopi don't distinguish past, present and future, which affects the way they think about time.

Language affects recall of events
Memory for pictures is affected by labels given (Carmichael et al)

Evaluation

Limited sample – only one individual from the Hopi studied
Ambiguous materials – Carmichael's study not reflective of everyday life because less ambiguity

2) Variations in recognition of colours
Native Americans: The Zuni

Zuni have only one word for shades of orange and yellow and in a research study, had difficulty distinguishing them

Language affects recall of colour
Berinmo people had difficulty recalling colours as they only have five words for colour (Robertson et al)

Evaluation

Difficulties with cross-cultural understanding – participants from other cultures may misunderstand the task or fail to communicate their answers correctly

Opposite results – Dani people had no problem matching colour despite having only two words for colour (Rosch and Oliver)

Human and animal communication

Von Frisch's bee study (key study)
Changed the way scientists thought about animal communication

Aim – to describe the dances of honey bees to understand their communication

Method – put food close to hive (10-20 metres) and far away (up to 300 metres).
Observed bees 6000 times over 20 years

Results –
Round dance – moving in a circle to show pollen less than 100 metres away
Waggle dance – figure of eight shape points direction of food
60% of bees went to sources at the distance indicated by the dances

Conclusion – sophisticated communication system

Evaluation
Scientific value – opened eyes to capabilities of animals

Sounds matter too – dances performed in silence ignored

Other factors are important – bees do not respond to waggle dance if they have to fly over water

Human versus animal communication

Functions of animal communication

Survival (enhances survival of the individual and the group)
Vocal sounds – Vervet monkeys communicate danger with an alarm call
Visual signs – rabbits lift tail, pin ears back and leap forward

Reproduction
Peacocks stretch out their feathers like an umbrella to communicate genetic fitness

Territory
Rhinos leave piles of dung to communicate territorial boundaries

Food
Ants leave pheromone trail to communicate food source

Properties of human communications not present in animal communication
(in other words, how animal and human communication differs)

Plan ahead and discuss future events
Humans can discuss things that are not present or haven't happened yet (displacement)
Animals are focussed on present e.g. food sources and predators

Creativity
Humans have an open system combining many words together
Animals have a closed system using communication for specific events

Single versus multiple channels
Human language expressed using many channels – spoken, written, sign language, social media
Animals tend to communicate with a single channel e.g. pheromones

Non-verbal communication

Eye contact
When two people look at each other's eyes at the same time

Function
1)Regulate flow of conversation - participants look away when they are about to speak and have prolonged gaze when they are about to finish

2)Signalling attraction
People who use eye contact are judged as more attractive

3)Expressing emotion
Participants judged emotions as more intense if faces were looking straight at them

Evaluation
Real world application
People with autism could be taught to increase eye contact to improve social skills

Use of rating scales
Rating attractiveness can lack objectivity

Artificial studies
Studies of eye contact involve artificial tasks which lack validity

Body language
Communication through unspoken movements and gestures

Open and closed posture
Closed – crossing arms/legs, shows disagreement
Open – uncrossed, shows acceptance
McGinley – arguments given by person with open posture led to greater opinion change then closed posture

Postural echo
Copying each other's body position
Tanner and Chartrand – participants rated new drink more highly when presented with postural echo

Touch
Includes high fives, slapping etc
Fisher – if librarian touched student on hand when returning books, the librarian was judged more positively

Evaluation
Real world application – people can use body language to build good relationships

Body language studies lack control – could be other reasons (extraneous variables) why participants like or dislike confederates

Body language studies are unethical -lack of informed consent for being in field experiments, lowers trust in psychologists

Personal space
The distance we keep between ourselves and others

Cultural differences
Sommer- English peoples personal space is 1-1.5m whereas Arabs' is less
Arabs liked Englishmen better if they stood closer

Gender differences
Fisher and Bryne – women feel most comfortable when personal space invaded from the side, for men it is from the front

Status differences
Zahn – people with similar status stand closer than those of unequal status

Evaluation
Real-world application
Useful in everyday life such as doctors using knowledge about cultural differences

Over simplistic
Research investigates one factor at a time and not the interaction between them

Unrepresentative samples
Experiments use samples of people who may not represent all men or all people within a culture

Explanations of non-verbal behaviour

Evolutionary theory of non-verbal behaviour

Darwin and evolution
The theory of natural selection – genes for behaviours that promote survival are passed onto the next generation

Non-verbal communication as evolved and adaptive
NVC evolved in animals to express emotion
Baring teeth is adaptive as it reduces death in conflict and therefore protects the survival of the individual and the group

Comparisons with human behaviour
In our distant ancestors opening eyes widely was adaptive because they could see route to safety more easily. This behaviour has been passed down to humans and continues to express surprise.

Serviceable habits
Behaviours used by ancestors to promote survival. Still used by humans but may not serve same purpose

Evaluation
Research into facial expressions – Ekman found six emotions in all cultures, so must be innate

Research into newborns – babies are born with ability to use eye contact and smile which suggests these NVCs are innate and evolved

Cultural differences in NVC – cultural differences in NVC such as personal space mean evolutionary theory cannot explain all NVC

Non-verbal behaviour – innate or learned?

<u>Evidence that NVC is innate</u>
Neonate research
If NVCs displayed by newborn babies this suggests the behaviour is innate

Social releasers
Certain neonate behaviours (e.g. smiling) makes others want to provide care, therefore they are adaptive

Facial expressions
Neonates display an expression of disgust when given sour tastes (citric acid) suggesting it is innate

Sensory deprived
Thompson found blind children show similar facial expressions to sighted children – suggesting NVC is innate as they will not have been able to see someone displaying these signs

<u>Evidence that NVC is learned</u>
Cross-cultural research
Comparing behaviours from different cultures shows if they are learned

Contact versus non-contact cultures
Contact countries: Mediterranean and Latin American prefer smaller personal space
Non-contact cultures: UK and USA prefer larger space

Gestures
Pointing index finger is offensive in Hindu culture

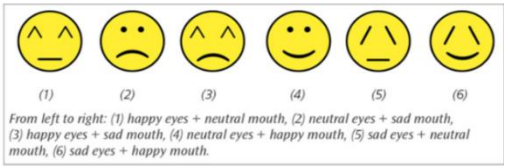
Explaining cultural differences
Social learning theory – observe other people in your culture and imitate (people learn what gestures are ok)

Yuki's study of emoticons (key study)

Comparing cultural understanding of non-verbal behaviours can show whether it is universal or learned

Aims – to find out if there is a difference in the interpretation of emoticons in Japan and America

Method – 6 emoticons shown with different combinations of eyes and mouths (sad, happy, neutral)
Participants rated faces in terms of happiness expressed on a 9 point rating scale



From left to right: (1) happy eyes + neutral mouth, (2) neutral eyes + sad mouth, (3) happy eyes + sad mouth, (4) neutral eyes + happy mouth, (5) sad eyes + neutral mouth, (6) sad eyes + happy mouth.

Results –
Japanese – higher happiness rating for happy eyes than Americans
Americans – higher happiness rating when mouths were happy even with sad eyes

Conclusions – cultural differences in the way emotion is interpreted in facial expressions. Japanese may use eyes because cultural norms lead to hiding emotions but hard to control the expression from the eyes .

Evaluation
Artificial materials – emoticons leave out features such as wrinkle lines which may be important when judging emotion
However, follow up study found same results with real faces

Only tested one emotion
In everyday life faces express a range of emotions not just happy and sad

Using rating scales
Emotions are very complex and rating scales reduce emotions to a single score

Unit 1 Memory Knowledge Organiser

Key Term	Definition
Encoding	info is changed from one form to another so it can be stored
Storage	how much your memory can hold
Retrieval	process of accessing information from your brain
Sensory memory	large capacity, short duration, coding from 5 senses
Short-term memory	limited capacity, limited duration, coding acoustic (sound)
Long-term memory	large capacity, long duration, coding is semantic (meaning)
Episodic memory	for personal events
Semantic memory	knowledge of the world (facts)
Procedural memory	knowledge of how to do things
Duration	how long something lasts for
Capacity	amount of info stored
Multi-store model	model of memory with 3 separate stores, overemphasis on the role of rehearsal
Chunking	breaking words/letters down into chunks to help memory
Recency effect	words at the end of the list will be remembered as they have been heard most recently
Primacy effect	words at start of the list are remembered as they have been well rehearsed
Serial position effect	describes tendency for people to recall first and last words in a list best. It is the position of the words that influences their likely recall
Reconstructive Memory	fragments of stored info is reassembled during recall as the gaps are filled in using experience
Interference	forgetting may occur if two memories compete with each other
Context	situation in which something happens, can act as a cue for recall
False Memories	a memory which did not happen but which feels is a true memory

Processes of Memory

Encoding – changing info so it can be stored
Different **types of encoding** include -
Visual – some memories are stored visually
Semantic – stored by meaning e.g. you know the word elephant and understand what it is
Acoustic – memories stored by how they sound, e.g. favourite songs
Tactile - is a memory of what things feel like
Olfactory – memory for smells

Process of memory can be described as
1) Encoding – changing info so it is stored
2) Storage – keeping info in your brain for a period of time
3) Retrieval – info is located and brought back

Retrieving memories –
Recognition – e.g. doing multiple choice questions or seeing someone and knowing who they are
Cued recall – when you are trying to remember something which is on the tip of your tongue and then someone helps you be reminding you it starts with the letter 'B'

Baddeley (not named in the spec)
Aim – to see if there was a difference in the type of encoding in STM and LTM
Method – P's learned words similar or dissimilar sounds, recalled immediately. Learned words with similar or dissimilar meanings and recall after 20 mins
Results – similar sounding words poorly recalled in STM, words with similar meanings were poorly recalled in LTM
Conclusion – STM is encoded by sound and LTM by meaning

Evaluation:
Controlled experiment – it is well controlled as extraneous variables like participants' hearing were controlled by a hearing test
STM is sometimes visual
LTM may not have been tested as they only waited 20 mins before recall, so conclusion lacks validity

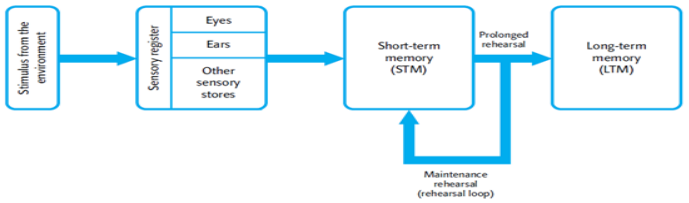
Long Term Memory – types

Episodic – memory for events in your life
Semantic – memory of what things mean
Procedural – memory of how to do things
Declarative / Non-declarative – declarative is your ability to consciously recall information and therefore episodic and semantic memories are described as declarative and procedural is non-declarative

Evaluation
Specific locations in the brain – brain scans have shown different types of LTM relate to different brain locations e.g. procedural memory is associated with motor area
Amnesic patients – Amnesias like Clive Wearing support LTM as most of his procedural but not episodic memories were intact
It is not that simple – distinctive types of LTM are difficult to separate so it may be an oversimplification.

Structures of Memory

Multi-store Model



	Sensory	STM	LTM
Encoding	From senses	Acoustic (sound)	Semantic (meaning)
Capacity	Very high	5-9 items	Unlimited
Duration	Very brief	Less than 30 secs unless rehearsed	Lifetime

Role of rehearsal – you have to go over and over things to keep them in your STM, if you rehearse enough they will transfer to your LTM

Evaluation
Supporting research for the evidence of memory stores – Baddeley's study clearly supports here!
Model is too simplistic – in fact we have more than one LTM (see types of LTM)
Artificial materials – word lists used in research makes the research lack validity

Primacy and recency effects in recall
Primacy effect – words at the beginning of a list are remembered more (rehearsed so in LTM)
Recency effect – words at the end of the list are remembered more (heard recently so in STM)
Murdock Serial Position Curve KEY STUDY
Aim – to see if words are affected by the location in a list
Method – P's learned 20 word lists with 10-40 words on them, recalled after each list
Results – recall related to the position of words, high recall for the first words (primacy) and last words (recency)
Conclusion – shows the serial position effect and supports the MSM stores
Evaluation:
Controlled lab study – high level of control so it could be concluded position of words determined recall
Artificial task – word lists were used which is only one type of memory, so study lacks validity
Supporting research – some amnesiacs cant store LT, which shows the primacy effect is related to LTM

Memory as an active process		Factors affecting the accuracy of memory		
Theory	**Study**	**Interference**	**Context**	**False Memories**
People rebuild memory as an active process **Memory is inaccurate** – it is not an exact reproduction of experiences **Reconstruction** – record pieces of information recombined to tell the whole story **Social and cultural influences** – expectations come from the world/culture we live in, and affect storage and recall **Effort after meaning** – we focus on the meaning of events and make an effort afterwards to make sense of fragments of memory **Evaluation** **More realistic research** – reflects how we use memory in everyday life because it uses a story not word lists **Some memories are accurate** – not all recall is reconstructed as some memories of the story are accurate **Real life application** – explains problems with eyewitness testimony as people do not always recall accurately	**Bartlett – War of the Ghosts KEY STUDY** **Aim** – to see how memory is reconstructed when recalling an unfamiliar story **Method** – the War of the Ghosts story was read by one participant and recalled after 15 mins, then read by another participant and recalled and so on **Results** – P's changed the story to fit cultural expectations, leaving out unfamiliar information **Conclusion** – we use our knowledge of social situations to reconstruct memory **Evaluation** **Lacks control** – P's were not told accurate recall was important, which could have affected results **Results were biased** – Bartlett analysed the recollections himself, so we cannot fully trust the conclusions **Story was unusual** – story was unusual so may not reflect everyday memory processed	Interference is one explanation of forgetting. Forgetting may occur if two memories compete with each other, especially likely if the two memories are quite similar. **McGeoch and McDonald's Study** (not named in spec) **Aim** – to see the effect of doing two activities on accuracy of memory **Method** – learned a list of 10 words and then another list of varying types e.g. synonyms and antonyms **Results** – memory was affected by the second list, most of all if the second list had similar meaning (synonyms) **Conclusions** – shows interference affects accuracy of memory and is strongest when you try remember two similar things **Evaluation** **Controlled research** – high control e.g. counterbalancing was used to reduce bias **Artificial task** – it does not reflect real life memory as we don't often have to remember very similar words **Not really forgetting** – it may be information is not forgotten but just cannot be accessed so isn't actually forgotten	Certain triggers (cues) can be encoded in memory at the time of learning. Context can increase the accuracy of memory. **Godden and Baddeley** (not named in spec) **Aim** – to see if context improved recall **Method** – divers listened to and recalled words in the same or different settings on the beach and underwater **Results** – recall was highest in the same environment for learning and recall **Conclusions** – context of learning acts as a trigger or cue, improving the accuracy of memory **Evaluation** **Artificial task** – lists of words were used, when more complex materials were used better recall was found **Recall was short term** – p's recalled the words almost immediately unlike in everyday life **Similar context** – context only acts as a cue if context at learning and recall are very similar, which rarely happens	A false memory is a memory for something that did not happen but which feels like it were a true memory **Loftus and Pickrell's study** (not named in spec) **Aim** – to see if false memories could be created in p's through suggestions **Method** – four stories about childhood events were read where three were true and one was false (shopping mall) **Results** – 6 / 24 (25%) of p's recalled the false story fully or partially **Conclusion** – imagining an event can implant a false memory in a person, reducing the accuracy of memory **Evaluation** **Artificial task** – harmless events could be implanted easily but traumatic events may not, so conclusions are limited **Ethical issues** – p's may be left with implanted false memories which lingered after the study, causing distress **Real-world applications** – research has implications for eyewitness testimony as police questioning could accidentally implant false memories

Key Term	Definition
Perception	Organisation and interpretation of sensory information by the brain in order to understand the world around us.
Sensation	The physical stimulation of sense receptors by the environment, such as light striking the retina at the back of the eye, or sound waves processed by the ear
Binocular depth cues	Cues only detected when both eyes are used
Convergence	How hard the eye muscles have to work to view objects. The closer the object is, the harder the eye muscles have to work, which gives the brain info about depth and distance
Height in plane	Is that objects higher up in the visual field appear further away
Linear perspective	Is when parallel lines converge (come together) in a way that suggests distance
Monocular depth cues	Perceptual cues that can be detected with one eye
Occlusion	Objects that obscure (hide) or are in front of others appear closer to us
Relative size	Refers to the fact that smaller objects in the visual field appear further away
Retinal disparity	Is the way that the left and right eye view slightly different images. The size of the difference gives the brain info about depth and distance
Visual constancies	Our ability to see an object as the same even if the actual image received by the idea has changed, for example, if we get closer to it or move around it
Visual cues	Visual information from the environment about movement, distance and so on
Ambiguity	Is the way in which some images or stimuli can be perceived in more than one way (Necker cube)
Fiction	Is when a figure is perceived even though it is not part of the image or stimulus presented (Kanizsa triangle)
Misinterpretation of depth cues	Some visual illusions (such as the Ponzo illusion) rely on misinterpreted depth cues in order to 'work'. The brain sees linear perspective (a depth cue) in the picture, creating the impression of distance, and mistakenly applies the rule of size constancy
Size constancy	Is the brain's ability to perceive familiar objects as the same size, despite changes in the size of the image on the retina
Visual illusions	The unconscious 'mistakes' of perception
Direct theory	The argument that the rich information in the visual array is all the brain needs to perceive the world around it. **Perception is the same as sensation.**
Motion parallax	Type of monocular cue that provides the brain with important information to do with movement. Objects that are far away appear to move more slowly as we move than objects that are close to us
Nature	Refers to those aspects of behaviour that are inherited
Constructivist theory	We make sense of the world around us by building our perceptions based partly on incoming data and partly using clues from what we know about the world
Inference	Taking info in front of you and drawing a conclusion about what it means based on what you know. Eg you see someone smiling and you infer they are happy
Nurture	Refers to aspects of behaviour that are acquired through experience eg learned from our interactions with the physical and or social environment
Perceptual set	Tendency or readiness to notice certain aspects of the sensory environment whilst ignoring others. Set is affected by several factors including culture, emotion, motivation and expectation
Culture	Refers to the beliefs and expectations that surround us
Emotion	Strong feeling or mood that has important motivational properties, it drives an individual to behave in a certain way
Motivation	Refers to the forces that drive your behaviour. It encourages an animal to act. Eg hunger is a basic drive state which pushes an animal to seek food
Expectation	Is a belief about what is likely to happen based on past experience. Expectation affects perceptual set because you are more likely to notice or attend to certain stimuli because you are anticipating them

Unit 1 Perception Knowledge Organiser

Sensation and perception

The way in which the brain works to interpret information.

Sensation – physical stimulation of the 5 senses processed by sense receptors

Perception – brain interpreting and organising the sensory information

The difference between sensation and perception –
Sensation is the detection of the stimulus.
Perception is interpreting what it means.

Theories of perception
Perception theories differ.
Gregory sees a difference between sensation and perception.
Gibson does not.

Visual cues and constancies
Cues – info about movement, distance etc
Constancies – seeing object as the same from different angles and distances

Binocular depth cues (two eyes)
Retinal disparity – difference between the view of the left and right eye gives brain info about depth and distance

Convergence – eyes point closer together when an object is close. Muscles work harder so know distance and depth.

Monocular depth cues (one eye)
Height in plain – objects higher up appear further away

Relative size – small objects appear further away

Occlusion – if one object obscures part of another object, it is seen as closer

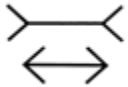
Linear perspective – parallel lines appear closer as they become more distant

Visual illusions

Types of illusions

Ponzo illusion
Misinterpreted depth cue, perceive horizontal line higher up as longer

Muller-Lyer illusion
Misinterpreted depth cue, two vertical lines the same length, line with outgoing fins appear longer



Rubin's vase
Ambiguous figure, face and vase, both pictures correct, brain alternates between both options

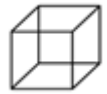
Ames Room
Misinterpreted depth cue, room shape of a trapezoid, people seen as different sizes even though they are the same

Explaining visual illusions

1) **Size constancy** – objects perceived as constant size despite size on retina changing with distance

2) Misinterpreted depth cues - objects apparently in the distance scaled up by the brain to look normal size, cause visual illusions
Eg Ponzo illusions
Muller Lyer illusion

3) Ambiguous figures – two possible interpretations of image, brain can't decide which is correct.
Eg Necker cube, Rubin's vase



4) Fiction – seeing something which is not there
Kanizsa triangle – illusory contours create impression of a second triangle

Theories of perception	
Gibson's theory of perception ***The environment gives us all the information we need.*** **Sufficient info for direct perception** Sensation and perception are the same. The eyes detect everything we need without having to make inferences. **Optic flow patterns** When moving, things in the distance appear stationary and everything else rushes past. Provides perceptual info about speed and distance. **Motion parallax** A monocular depth cue When we are moving past them, closer objects appear to move faster than objects that are further away. Provides perceptual info about speed and distance. **The influence of nature** Perception is inborn not learned **Evaluation** **Real world meaning** – research was based on 2nd WW pilots so relevant to everyday life **Theory struggles to explain visual illusions** – perception is seen as accurate but illusions trick the brain, so theory is incomplete **Support for the role of nature** – Gibson and Walk showed few infant crawl off a visual cliff, so are born with depth perception	**Gregory's constructivist theory of perception** ***We use past experiences to make sense of the world*** Contrasts with Gibson's theory Proposes that sensation and perception are NOT the same **Perception as construction** Brain uses incoming info and info from what we already know to form a hypothesis / guess **Inference** Brain fills in the gaps to create a conclusion about what is being seen **Visual cues** Visual illusions occur because of incorrect conclusions from visual cues **Past experience – the role of nurture** Perception is learned from experience The more we interact the more sophisticated our perception **Evaluation** **Support from research in different cultures –** people interpret visual cues differently (Hudson's study) showing experience affects perception **Visual illusions –** Gregory's research used 2D illusions which are artificial, so theory may not apply to real world **How does perception get going? –** babies have some perceptual abilities (Fantz) so perception can be just the result of upbringing

Unit 2 Psychological Problems Knowledge Organiser

Key Term	Definition
Mental health problems	Some people experience difficulties in the way they think, feel and behave – these are psychological problems
Clinical depression	A mental disorder characterised by low mood and low energy levels. It involves behaviour, cognitive and emotional characteristics.
Nature	Aspects of behaviour which are inherited, it does not simply refer to traits or abilities present at birth but any ability determined by genes, including those that appear, for example, at puberty
Neurotransmitters	Brain chemicals released from synaptic vesicles, they send signals across the synapse from one neuron to another
Serotonin	Neurotransmitter with widespread inhibitory effects throughout the brain, it regulates mood, and low levels are associated with depression
Attribution	When observing behaviour (our own or someone else's) we automatically and unconsciously provide explanations for their behaviour
Nurture	Refers to aspects of behaviour that are acquired through experience
Schema	A mental structure containing al of the information we have about one aspect of the world
Antidepressant medications	A group of drugs which reduce symptoms of depression. SSRI's are one kind, they are to increase the amount of serotonin in the synaptic cleft
Holistic	Refers to the belief that our understanding of human behaviour is more complete if we consider the 'bigger picture' rather than focussing on the constituent parts
Reductionist	Refers to the belief that human behaviour is best explained by breaking it down into smaller constituent parts, more particularly the biological building parts of the body
Cognitive behaviour therapy (CBT)	A method for treating mental health problems based on both cognitive and behaviour techniques. From the cognitive viewpoint, the therapy aims to deal with thinking, such as challenging negative thoughts. From a behaviour point of view the therapy also includes techniques for developing more positive behaviour such as behaviour activation
Addiction	A mental health problem in which an individual takes a substance or engages in a behaviour that is pleasurable but eventually becomes compulsive with harmful consequences. Addiction is characterised by physical and/or psychological dependence, tolerance and withdrawal
Dependence	Indicated by a compulsion to keep taking a drug, or continue a behaviour (psychological dependence) or indicated by withdrawal symptoms (physical dependence)
Substance abuse	Occurs when someone uses a drug for a bad purpose, ie to get high rather than as a form of medication
Substance misuse	Occurs when a person uses a drug in the wrong way or for the wrong purpose
Genes	Consists of DNA strands, transmitted from parents to offspring, DNA produces instructions for general physical features (eye colour, height) and specific physical features (neurotransmitter levels and size of brain structures)
Genetic vulnerability	Genes do not determine a disorder, they increase someone's risk of a disorder
Heredity factors	Are the genetic information that is passed from one generation to the next
Twin studies	Refers to research conducted using twins. DZ (nno identical) MZ (identical)
Peer influence	Concerns the effects our peers have on us. Peers are people who share our interests and are of similar age, social status and background. Peer influence becomes stronger in adolescence when we spend less time with family and more time with friends
Social norms	Refers to a behaviour or belief that is standard, usual, or typical of a group of people
Aversion therapy	Psychological therapy, patient exposed to stimulus whilst simultaneously being subjected to some form of discomfort. The stimulus becomes associated with the discomfort, which means it is avoided in the future.
Classical conditioning	Learning by association. Occurs when two stimuli are repeatedly paired together, an unconditioned (unlearned) stimulus (UCS) and a new 'neutral' stimulus. The neutral stimulus eventually produces the same response that was first produced by the unlearned stimulus alone
12 step recovery programme	Kind of self-help group based on the idea first formulated by Alcoholics Anonymous which set out 12 principles to follow in overcoming addiction
Self-help group	Members of the group share a common problem and provide support for each other
Self-management programme	People who benefit from the programme also direct (manage) the activities. Members set the rules and ensure that all members adhere to them. They make key decisions, such as who can join or how often to meet

An introduction to mental health

Understanding mental health and illness

Incidence of mental health problems
MIND incidence rates per 100 people
Depression – 2.6
Anxiety – 4.7
Eating disorders – 1.6
1 in 2 people will experience mental health problems

How incidence changes over time
2007 – 24% of adults had mental health problems
2014 – 37%
More women than men, gap is widening

Increased challenges of modern day living
Lower income households, more mental health problems,
Greater social isolation increases loneliness and depression

Cultural variations in beliefs about mental health problems
Hearing voices: positive experience in India and Africa.
Culture bound syndromes occur in certain cultures.

Characteristics of mental health
Subjective and arbitrary, characteristics such as difficulty sleeping are hard to measure

Increased recognition of mental health problems
Symptoms focussed on illness rather than on health. Jahoda defined 6 characteristics of mental health –
Accurate perception of reality
Autonomy
Mastery of the environment
Self-attitudes (self-esteem)
Personal growth and self-actualisation,
Integration – dealing with stress

Lessening of social stigma
Labelling people creates expectations (stigma). The term 'mental health problems' creates less stigma.

Individual effects of mental health problems

Damage to relationships – affect two-way communication relationships need

Difficulties coping with everyday life – not looking after self, eg having problems getting dressed, socialising, making meals etc

Negative impact on physical well-being – body produces cortisol, preventing immune system functioning fully, causing more illness

Characteristics of mental health – Subjective and arbitrary, characteristics such as difficulty sleeping are hard to measure

Social effects of mental health problems

Need for more social care – taxes fund social care, providing food, human company, learning new skills for self-care

Increased crime rates – people with mental health problems four times more likely to commit a crime than normal population

Implications for the economy – McCrone report: care of mentally ill costs £22 billion per year. Cheaper drug treatments needed.

Depression

Clinical characteristics
Clinical depression is diagnosed using ICD

Types
Clinical depression – term for the medical condition
Sadness and depression
Sadness = 'normal' emotion, can still function
Depression = enduring sadness, stops ability to function

Unipolar depression – one emotional state of depression
Bipolar depression – depression alternates with mania, and also periods of normality

Diagnosing depression
ICD – mental and physical disorders are diagnosed using symptoms.
ICD-10 is current version listing symptoms of depression.

Number and severity of symptoms
Mild unipolar depression is diagnosed if -
- 2-3 key symptoms are present plus 2 others
- Present all of most of the time for 2 weeks or more

Key symptoms
1. low mood
2. loss of interest and pleasure
3. reduced energy levels

Other symptoms
4. changes in sleep (too much or too little)
5. change in appetite level
6. decrease in self-confidence
7-10 four other symptoms

Theories of depression
Nature (e.g. neurotransmitters) and nurture (e.g. the way you think)

Biological explanations

Neurotransmitters
Transmit messages chemically across the synapse

Serotonin – low levels at synapse – less stimulation of postsynaptic neuron - causing low mood

Other effects of serotonin
Lack of concentration, disturbed sleep and reduced appetite

Reasons for low serotonin levels
Genes could cause inheritance of low serotonin production
Low levels of tryptophan (ingredient of serotonin) from lack of protein or carbohydrates

Evaluation
Research support – McNeal and Cimbolic found low levels of serotonin in brains of depressed people, supporting link to serotonin

Cause or effect – low levels of serotonin could be an effect of thinking sad thoughts rather than the cause

Alternative explanations – some people with depression don't have low serotonin levels and vice versa, so other factors must be involved

Psychological explanations

Faulty thinking
Depression is caused by irrational thinking. Negative, 'black and white' thinking creating feelings of hopelessness

Negative schemas
Negative self-schemas cause a person to interpret all information about the self negatively

Attributions
Internal, stable and global negative attributional styles create negative ways of explaining causes of behaviour

Influence of nurture
Negative attributional styles develop through processes such as learned helplessness

Evaluation
Research support – Seligman found dogs learned to react to challenge by 'giving up' supporting learned helplessness

Real-world application – the cognitive explanation leads to a successful therapy, getting people to challenge their irrational thinking

Negative beliefs may be realistic – Alloy and Abramson found that depressed people may be 'sadder but wiser'

Therapies for depression
Interventions for treatment, combined in Wiles' study

Antidepressant medication
Selective serotonin reuptake inhibitors (SSRI)
Increase serotonin levels in synaptic cleft

Presynaptic neuron
Serotonin stored in vesicles
Electrical signal in neuron causes the vesicles to release serotonin into the synaptic cleft

Synaptic cleft
Serotonin locks into postsynaptic receptor transmitting the signal from presynaptic neuron

Reuptake
SSRIs block reuptake so there is more serotonin in the synaptic cleft

Evaluation
Side effects – nausea, vomiting, dizziness, anxiety and suicidal thoughts mean people stop taking the drugs

Questionable evidence for effectiveness – people with depression sometimes have 'normal' levels of serotonin (Asbert), so something else causes depression

Reductionist – antidepressant medication targets just neurotransmitters, a more holistic approach would include psychological factors as well

Cognitive behaviour therapy
Cognitive
Aim to change faulty thinking and catastrophising to rational thinking

Behaviour – behavioural activation – planning and doing a pleasant activity creates positive emotions

Therapist deals with irrational thoughts – disputing negative irrational thoughts to develop self-belief and self-liking

Client deals with irrational thoughts – thought diary to record unpleasant emotions and 'automatic' thoughts
Rational response to automatic thoughts is rated

Evaluation
Lasting effectiveness – therapy provides lifelong skills to deal with future episodes of depression

Not for everyone – takes time and effort so client drops out, reducing overall effectiveness

Holistic approach – CBT focuses on the psychological symptoms (e.g. feeling sad) which is treating the whole person

Wiles' study KEY STUDY
70% of depressed people are treatment-resistant
A more holistic approach might be to use CBT plus antidepressants

Aim: to test the benefits of using CBT plus antidepressants for treatment-resistant depression, rather than antidepressants alone

Method: patients with treatment resistant depression either continued just with antidepressants (usual care) or had CBT as well
Improvement measured using Beck's Depression Inventory (BDI) (questionnaire which measures levels)

Results:
6 months –
50% reduction in symptoms in 21.6% of usual care group
46.1% reduction in symptoms of usual care + CBT

Conclusion: Using CBT with antidepressants is more effective than antidepressant medication alone

Evaluation
Well-designed study – p's were randomly assigned to groups so extraneous variables were carefully controlled

Assessment of depression – people using self-report methods may not score their depression accurately so results will lack validity

Real-world application – study has led to more holistic therapy being developed that helps depression sufferers

Addiction

Clinical characteristics
Symptoms and diagnosis of addiction

Griffiths suggests that 'salience' is important - the addiction becomes the most important thing

Dependence versus addiction
Dependence: psychological reliance/stop withdrawal symptoms
Addiction: dependence plus the 'buzz' or sense of escape (mood modification)

Substance misuse versus abuse
Misuse is not following the 'rules' whereas abuse is using the substance to 'get high' (experience the buzz) or sense of escape.
The difference is in the person's intentions.

Diagnosing addiction
ICD-10 states that an addiction diagnosis is made only if three or more characteristics are present together during the previous year.

Clinical characteristics from ICD-10
1. strong desire to use the substance
2. persisting despite knowing harm
3. difficulty controlling use
4. higher priority given to substance
5. withdrawal symptoms if activity stopped
6. evidence of tolerance i.e. needing more to achieve same effect

Theories of addiction
Nature (e.g. genes) and nurture (e.g. peer influences))

Biological explanation

Hereditary factors
Genetic information has a moderate to strong effect on addiction

Genetic vulnerability
Multiple genes increase risk of addiction (nature)
Stressors in the environment act as a trigger (nurture)

Kaij's study KEY STUDY
Aim: to see if alcohol addiction is due to nature (hereditary factors) or nurture (using twins)
Method: male twins registered with temperance board for alcohol problems were interviewed as well as their relatives
Results: 61% of identical (MZ twins) and 39% of non-identical (DZ) twins both alcoholic
Twins with social problems were overrepresented
Conclusion: alcohol abuse related to genetic vulnerability
Not 100% genetic or MZ twins would be all the same
Not 100% environmental or MZ and DZ twins would be the same

Evaluation
Flawed study: temperance board data only includes drinkers who made a public display of their alcohol abuse, so the results lack validity

Supported by later studies: Kendler found MZ twins are more likely to both be alcoholics than DZ twins showing genes affect alcoholism

Misunderstanding genetic vulnerability: inheriting certain genes does not make addiction inevitable as life events also play a role

Psychological explanation

Peer influence
Peers are people who are equal in terms of e.g. age or education

Social learning theory
We learn through observing others and imitating rewarded behaviours
We identify with peers and therefore are more likely to imitate them

Social norms
We look to others to know what is 'normal' or acceptable, which creates social norms, social norms may be overestimated

Social identity theory
We identify with and want to be accepted by our social groups, this creates pressure to conform to the social norms of the group

Creating opportunities for addictive behaviour
Peers provide opportunities for addictive behaviour e.g. smoking, peers provide direct instruction

Evaluation
Supporting research: Simons-Morton and Farhat reviews 40 studies and found a positive correlation between peers and smoking

It may be peer selection: the direction of influence may be different; peers may actively select others who are like them rather than conforming to the social norm of the group

Real-world application: Tobler et al created peer-pressure resistance training to help prevent young people from smoking

Therapies for addiction
Treating addiction with a reductionist approach (aversion therapy) or a more holistic approach (12-step recovery programme)

Aversion therapy
Based on classical conditioning – association between addiction and unpleasant experience is learned

Treating alcoholism –
Antabuse (drug) causes nausea / vomiting
Just before the vomiting the alcoholic has several alcoholic drinks
Neutral stimulus (alcohol) associated with unconditioned response (vomiting) which then becomes a conditioned response to seeing alcohol

Treating gambling
Phrases on cards about gambling or non-gambling behaviour
Electric shock (unconditioned stimulus) given for any gambling-related phrase (neutral stimulus)
Association of gambling behaviours with pain

Treating smoking
Rapid smoking in a closed room causes nausea which is then associated with smoking

Evaluation
Treatment adherence issues – many addicts drop out before treatment is completed so it is difficult to assess treatment's effectiveness

Poor long-term effectiveness – McConaghy et al found nine years later that aversion therapy was no more effective than a placebo

A holistic approach: aversion therapy gets rid of the immediate urge to use the addictive substance and CBT can provide longer-lasting support

Self-management programmes
12-Step recovery programmes – individuals organise therapy without professional guidance
AA is an example

Higher power
Key element is giving control to higher power and letting go

Admitting and sharing guilt
Members of group and higher power listen to confession to accept the sinner

Lifelong process
Recovery is never complete
The group offers support in case of relapse

Self-help groups
Peer sharing and support, may avoid religious element and include local traditions

Evaluation
Lack of clear evidence – unclear evidence on effectiveness because doesn't include people who leave without success

Individual differences – dropout rates are high as programme is demanding and requires motivation

Holistic – focuses on whole person with social support to cope with emotions

Unit 1 Research Methods Knowledge Organiser (key terms see separate handout)

Considerations in research design

Hypothesis and variables	Sampling	Ethical issues	Reliability	Validity
Start with a theory of behaviour, tested using objective research methods **Aim** – general statement explaining the purpose of the study **Variables** – anything that can change or vary **IV** – changed **DV** – measured **Operationalisation** – making variables clearly defined and measurable **Hypotheses** – clear testable, precise statement **Alternative hypothesis** – predicts relationship between variables **Null** – predicts no relationship **Extraneous variables** – unwanted variables that could affect the DV **Research procedures** **Instructions to p's** – all p's must be given the same info **Standardised procedures** – exact same methods, to try and control EV's **Randomisation** – using chance when designing a study to control the effects of bias	**Target population** – group of people being studied Sample is chosen from the target population and should represent target population Sampling methods aim to avoid bias **Random sampling** – each person has an equal chance of being selected, all people in the target population put in a hat or random name generator Evaluation - no bias as everyone has equal chance, takes time as need all members of the target population, sample may still not represent target pop **Opportunity sampling** – taking the people who happen to be there Evaluation – quick and cheap, yet only represents the population from which it was drawn **Systematic sampling** – selecting every nth person from a list of the target population Evaluation – avoids researcher bias, may end up with an unrepresentative sample **Stratified sampling** – selecting p's in the proportion to frequency in the target population Evaluation – most representative, very time-consuming to sort sub-groups	Conflict between p's rights and well-being and the need to gain valuable results **Informed consent** – p's should be told the purpose of research and that they can leave at any time **Deception** – p's should not be misled about the aims, mild deception can be justified **Privacy** – p's have the right to control information about themselves **Confidentiality –** personal data must be protected and respected **Ways of dealing with ethical issues** **BPS guidelines** – which all professional psychologists must follow **Dealing with informed consent** – p's (guardians) sign a form **Dealing with deception and protection from harm** – full debrief at the end to reduce distress **Dealing with privacy and confidentiality** – p's should be anonymous	Measure of **consistency** **Quantitative methods** – tend to be most reliable. **Lab exp's** – controlled and easy to replicate **Interviews/ questionnaires** – same person should answer the q's in the same way, closed questions better for this **Observations** - one observer should produce same observations if repeated or two observers (interobserver reliability) **Qualitative methods** – less reliable Case studies and unstructured interviews – difficult to repeat in the same way	Related to whether a result is a **true reflection of 'real-world' behaviour** **Sampling methods** – sample may not represent target population. Opportunity sample – lowest in representativeness, high in stratified sampling **Experimental design** – **Repeated measures** – order effects challenge validity, overcome by counterbalancing **Independent groups** – p's variables challenge validity, overcome by random allocation **Quantitative methods** **Lab exp** – task, setting, participant awareness challenge validity, high control. **Field exp** – task and control challenge validity, more natural Methods producing numerical data lack validity as they reduce behaviour to a score **Qualitative methods** – case studies have greater validity as they give a deeper insight into behaviour Difficult to analyse which reduces validity

Data Handling

Types of data	Evaluation	Descriptive statistics – express numbers in a way to show the overall pattern	Evaluation	Interpretation and display of quantitative data	Computation
Quantitative data – numbers but can measure through thoughts and feelings **Qualitative data –** words but can be turned to numbers when counting **Primary data** – obtained first hand **Secondary data** – data from other studies of government stats	Easy to analyse and draw conclusions, lacks depth More depth and detail, difficult to analyse and summarise Suits the aims of the research, takes time and effort Easy and convenient to use, may not be fit for what is investigated	**Range –** spread of data, arrange data in order and subtract lowest from highest score **Mean** – mathematical average, add up scores and divide by the number of scores **Median** – middle value, data put in order from lowest to highest **Mode –** most common score(s)	Easy to calculate, can be distorted by extreme scores Uses all data so is the most sensitive measure, can be distorted by extreme values Not effected by extreme scores, less sensitive than the mean to variation in values Very easy to calculate, can be unrepresentative	**Scatter diagrams** – for correlations **Frequency tables** – way to organise data in rows and columns, shows the number of times something has occurred **Frequency diagrams** – **Histogram** – continuous categories, no spaces between bars **Bar chart** – bars in any order **Normal distribution** – symmetrical spread forms a bell shape with mean, median and mode at peak	**Decimals** **Fractions** – reduced to simplest form **Ratios** – way to express fractions 8:4 **Percentages** – fractions out of 100 **Mean** – add up scores and divide by number of scores **Standard form** – mathematical shorthand to represent very large or small numbers **Significant figures** – two significant figures 32,462 = 32,000 **Estimate results** – rough calculation

Quantitative and qualitative research methods

Method	Description	Strengths	Weaknesses
Correlations	Show how things are linked together, associations **Co-variables** – correlations are quantitative, continuous numerical data **Scatter diagrams** used to plot **Positive** – as one variable increases so does the other **Negative** – as one variable increases the other decreases **Zero** – no relationship	Good starting point for research Can be used to investigate curvilinear relationships	Does not show cause and effect No controls of EV's so conclusions drawn may be wrong
Experiments	Look at a measureable change in the DV caused by a change to the IV		
	Lab experiments – high control over what happens, takes place in a lab	EV's can be controlled, so cause and effect can be established Used of standardised procedures permits replication, can demonstrate validity	Behaviour in a lab is less normal so difficult to generalise P's may change their behaviour because they are aware they are being watched
	Field experiments – take place in a natural setting, IV manipulated by experimenter	More realistic than lab experiments as in a natural environment Can use standardised procedures so some control	May lose control of EV's so difficult to show cause and effect Ethical issues because p's not aware of the study
	Natural experiments - natural or lab setting, IV is not changed by the experimenter it varies naturally e.g. age, race	May have high validity because of real-world variables Can standardise procedures so some control over EV	Few opportunities to do this kind of research as behaviours may be rare May be EV's because p's not randomly allocated to conditions
Experimental design	The different ways p's can be organised in relation to IVs/conditions of the experiment		
	Independent groups – 2 groups, different p's in each condition	Order effects not a problem because p's only do the experiment once	Different p's in each group, participant variables can act as EVs To deal with participant variables, try to allocate p's to conditions using chance or systematic method
	Repeated measures – 1 group of p's which do both conditions	No participant variables, fewer p's needed so less expensive	Order effects reduce validity To deal with order effects, use counterbalancing so half the p's do condition A first and then conditions B, the others do B and then A
	Matched pairs – p's tested on variables relevant to the study, p's then matched to and one member of each pair goes in each condition	No order effects, fewer participant variables	Takes time to match participants, doesn't control all participant variables
Interviews	Face to face, real-time contact, though also on phone / text **Structured** – interviewer reads list of questions, can have prepared follow-up questions **Unstructured** – some questions prepared before, new questions created depending on what interviewee says **Semi-structured** – some questions decided before but follow-up questions emerge	Produce lots of information Insight gained into thoughts / feelings	Data can be difficult to analyse People may be uncomfortable talking face to face
Questionnaires	Prepared list of questions, which can be answered in writing, over the phone, internet etc. **Open questions** – tend to produce qualitative data **Closed questions** have a fixed range of answers, e.g. rating scales, yes/no etc.	Can gather lots of information from many people Easy to analyse as often used closed questions	Social desirability bias Questions may be leading so lack validity
Case studies	An in-depth investigation of an individual, group, event or institution Qualitative method – collect information about people's experiences in words. May have quantitative data e.g. IQ scores Longitudinal – often carried out over a long period of time so can see how behaviour changes, may also collect retrospective case history	Research lacks specific aims so researcher more open-minded Best way of studying rare behaviours	Focus on one individual or event, so often cannot be generalised Subjective interpretation of events
Observations	Researcher watches or listens to ps' and records data **Natural vs controlled** – natural (where it would normally occur), controlled (researcher manipulates env) **Covert vs overt** – covert (under cover so p's not aware) overt (p's told in advance) **Participant vs non-participant** – participant (researcher part of the group), non-participant (researcher remains separate) **Categories of behaviour** – target behaviour broken into separate observable categories **Interobserver reliability** – two researchers should watch the behaviour at the same time, record and the correlate behaviour	Greater validity because based on what people do Real –life behaviour when p's not aware of being observed	Ethical issues as can't gain consent if observing in a public place Observer bias – observer's expectations affect validity

Quantitative and qualitative research methods			
Look at a measureable change in the DV caused by a change to the IV			
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Key Term	Definition
Conformity	A form of social influence. It occurs when a person's behaviour or thinking changes as a result of group pressure. The pressure can be real or imagined and can come from one person or a group.
Dispositional factors	Explanations of behaviour in terms of an individual's personality, character or temperament.
Locus of control	The sense we have about what directs events in our lives. Internals believe they are responsible, externals believe it is a matter of luck.
Social factors	Explanations in terms of the social world around you. Your 'social world' is the groups of people you identify with, friends, family school, football team etc.
Obedience	A type of social influence that causes a person to act in response to a direct order from a figure with perceived authority.
Agency theory	Explains obedience in terms of whether an individual is making their own free choice or acting as an agent for an authority figure.
Agentic state	A mental state where we feel no responsibility for our behaviour because we believe ourselves to be acting for an authority figure.
Autonomous state	Being aware of the consequences of one's own actions and therefore taking voluntary control of one's behaviour.
Authority	The power or right to give orders and expect obedience.
Culture	The beliefs and expectations that surround us. We are not conscious of living in a culture, yet it influences us powerfully.
Authoritarian personality	A person who is especially susceptible to obeying people in authority.
Cognitive style	Cognition refers to thinking so 'cognitive style' refers to the way a person thinks about the world.
Displace or displacement	A form of ego defence mechanism where an individual unconsciously redirects a threatening emotion from the person or thing that has caused it onto a third party.
Bystander behaviour	The observation that the presence of others (bystanders) reduces the likelihood that help will be offered in an emergency situation.
Prosocial behaviour	Behaviour which is beneficial to other people, and may not necessarily benefit the helper.
Anti-social behaviour	Behaviour which is harmful to other people, includes behaving aggressively as well as other behaviour which may distress others.
Collective behaviour	Behaviour that emerges when a group of people join together.
Crowd	A large but temporary gathering of people with a common focus.
Deindividuation	A psychological state in which you lose your personal identity and take on the group identity of those around them.
Social loafing	Individuals make a reduced effort when they are part of a group than when they are on their own.

Asch's study (key study 7)

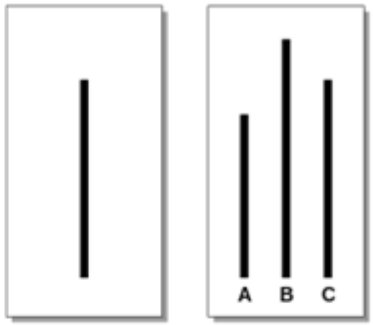
Aim – to investigate group pressure in a unambiguous situation

Method: 123 American men. Two card: the standard line and three comparison lines.

12 critical trials where confederates gave the wrong answer.

Results: On critical trials the participant gave the wrong answer 1/3 of the time. 25% never gave a wrong answer.

Conclusion: People are influenced by group pressure. Though many can resist.



Evaluation

Child of the times – only reflective of conformity in 1950s America, much less conformity in UK (Perrin and Spencer found only 1 conforming response in 396 trials).

An artificial task – task (judging lines) was trivial and situation involved strangers so doesn't reflect everyday situations.

Cultural difference: results can't be generalised to collectivist cultures where rates are higher.

Factors affecting conformity -

Social factors

Group size – 2 confederates = 13.6% conformity, 3 confederates = 31.8% conformity, more than three made little difference

Evaluation – depends on task as when there is no obvious answer then no conformity until group is greater than 8 people

Anonymity – writing an answer down is anonymous and lowers conformity

Evaluation: strangers versus friends – if participants are friends or opinion is anonymous then conformity is higher

Task difficulty – if comparison lines are more similar to the standard lines this makes the task harder so conformity increases

Evaluation – people with more expertise are less affected by task difficulty

Dispositional factors

Personality – the higher your internal locus of control, the less likely you are to conform.

Evaluation – familiarity of the situation – control is less important in familiar situations (Rotter)

Expertise – more knowledgeable, you conform less. Lucas found maths experts less likely to conform to other's answers on maths problems

Evaluation – no single factor – maths experts may conform to a group of strangers in order to be liked

Obedience – response to a direct order from an authority figure

Milgram's study

Aim – to investigate if Germans are different in terms of obedience
Method: 40 male volunteers. 'Teacher' instructed by experimenter to give a shock if 'learner' answered a question incorrectly
Results: No participant stopped below 300 volts. 65% shocked to 450 volts. Extreme tension shown e.g. three had seizures.
Conclusion: Obedience related to social factors not disposition e.g. – location and novel situation

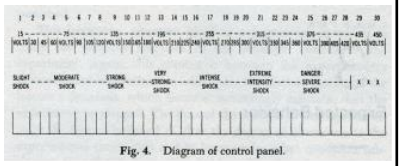


Fig. 4. Diagram of control panel.

Evaluation
Lacked realism – participants may not have believed the shocks we re real, hence they played along and continue to increase the voltage given.

Supported by other research – Sheridan and King found that 100% of females followed orders to give a fatal shock to a puppy.

Ethical issues – participants' distress caused psychological harm. Such research brings psychology into disrepute.

Factors affecting obedience

<u>Social factors – Milgram's agency theory</u>
Agency
Agentic state – follow orders with no responsibility
Autonomous – free choice
Authority –
Agentic shift – move from making own free choices to following orders, occurs when someone is in authority

Culture – the social hierarchy
Some people have more authority than others. Hierarchy depends on society and socialisation.

Proximity
Participants less obedient in Milgram's study when they were in the same room as the learner, increasing the 'moral strain'

Evaluation –
Research support – Blass and Schmidt showed students a film of Milgram's study and they blamed the experimenter rather than the participants

Doesn't explain all findings – can't explain why there isn't 100% obedience in Milgram's study

Obedience alibi – agency theory offers an excuse for destructive behaviour, potentially dangerous

<u>Dispositional factors – Adorno's theory of the authoritarian personality</u>
The authoritarian personality – some people have a strong respect for authority and look down on people of lower status. This is made up of -
Cognitive style – rigid stereotypes and don't like change
Originates in childhood – strict parents who only show love if behaviour is correct, these values are internalised
Scapegoating – hostility felt towards parents for being critical is put onto people who are socially inferior

Evaluation –
Lack of support – authoritarian personality is based on the F scale which has response bias
Results are correlational – can't say authoritarian personality causes greater obedience
Social and dispositional – Germans were obedient but did not all have the same upbringing. Social factors are involved.

Prosocial – behaviour which is beneficial to other people, and may not necessarily benefit the helper

Piliavin's study (key study 8)

Aim – to investigate if characteristics of a victim affect help given in an emergency
Method: male confederate collapsed on subway. 103 trials, victim apparently drunk or disabled (had a cane)
Results: disabled victim given help on 95% of trials compared to 50% helped when drunk. Help was as likely in crowded and empty carriages
Conclusion: characteristics of a victim affects help given. Number of onlookers does not affect help in natural setting.

Evaluation
High realism – participants didn't know their behaviour was being studies, so acted more naturally
Urban sample – participants from the city so may be use to emergencies
Qualitative data – observers noted remarks from passengers giving deeper insights into why they helped

<u>Social factors</u>
Presence of others – the more people present the less likely someone will help. Latane and Darley found that 85% on own helped person with seizure but only 31% in a group of four.
Evaluation –
Depends on situation **–** in serious emergencies response correlated to severity of situation (Faul et al).

Cost of helping – includes danger to self or embarrassment. Also costs of not helping e.g. guilt or blame
Evaluation –
Interpretation of a situation – if it is a married couple arguing only 19% intervened compared with 85% intervening if the attacked was a stranger

<u>Dispositional factors</u>
<u>Similarity to victim -</u> help is more likely if the victim is similar to self e.g. Man Utd fans helping someone wearing a Man Utd shirt
Evaluation –
High costs – high costs of ambiguous situation means help isn't forthcoming

<u>Expertise</u> – people with specialist skills more likely to help in emergencies, eg nurses helping a workman
Evaluation –
Effects on the quality of help – Red Cross trained were no more likely to give help than untrained people, but gave higher quality help

Crowd and collective behaviour – a large gathering of people who may behave differently from when on their own

Deindividuation – losing your sense of identity and taking on that of the group around you
Crowds experience deindividuation due to reduced sense of responsibility and antisocial behaviour.

Zimbardo's study –
Aim – To study the effects of loss of individual identity
Method: Female participants told to deliver fake electric shocks. Individuated group wore normal clothes. Deindividuated group wore a large coat with hood.
Results: Deindividuated more likely to shock person and held down shock button twice as long
Conclusion: this shows being anonymous increases aggression

Evaluation -
Not always antisocial – Prosocial group norm (nurses) leads to less antisocial behaviour than antisocial group norm (KKK)
Real-world application – manage sporting crowds using video cameras to increase self-awareness
Crowding – feeling packed together creates aggression too

A case study of crowd and collective behaviour

Reicher study –
Aim – to investigate crowd behaviour to see if it was ruly or unruly
Method – studied newspapers and TV reports. Interviewed 20 people, 6 in depth
Results – riot triggered by police raiding café which community felt was unjust. Crowd threw bricks, burnt police cars but calmed when police left.
Conclusion – shows damage was rule-driven and targeted at police, reflecting the social attitude of the area

Evaluation
Supported by research – football hooligans' violence doesn't escalate beyond a certain point
Issues with methodology – study is based on eyewitness testimony so data may be biased
Real-world application – increasing police presence doesn't always lead to a decrease in violence

Social factors

Factor	Evaluation
Deindividuation – group norms determine crowd behaviour	**Crowding** – being packed tightly together is unpleasant and may explain antisocial behaviour
Social loafing – when working in a group people put in less effort as you can't identify individual effort	**Depends on task** – on creative tasks, eg brainstorming, people individually produce more when in groups
Culture – Earley found Chinese people (collectivist culture) put in the same effort even if amount cannot be identified. Not true of Americans (individualist)	**Overgeneralised** – people belong to more than one culture so hard to make predictions

Dispositional factors

Factor	Evaluation
Personality – high locus of control enables individuals to be less influenced by crowd behaviour	**Whistleblowing** – personality made no difference
Morality – strong sense of right and wrong helps resist pressure from group norms	**Real examples** – Sophie Scholl sacrificed her life rather than following group behaviour