Key concept 1 and key study

BOGOF

Buy One Get One Free! 50% off! Two for the Price of One! Big Discounts Today Only!

Everyone likes a special offer – but why do shops and brands do them? Surely such offers reduce profits?

The answer is that special offers are good in the longer term because they encourage loyalty and repeat business. They do this by making us feel good about the brand.

When a chocolate bar or bottle of wine is 30% cheaper in a shop it makes you feel good to think you've grabbed yourself a bargain. You associate this good feeling with the product, so that next time you see it you'll feel good about it again even if it is full price. You might even feel good about the shop as well and decide to shop there again.

Retailers use lots of ways to make us learn to love their products. This spread will help you to understand the psychological principles behind this.

Specification terms

Classical conditioning A form of learning where a neutral stimulus is associated with an unconditioned stimulus, taking on its properties so that a new stimulus–response is learned.
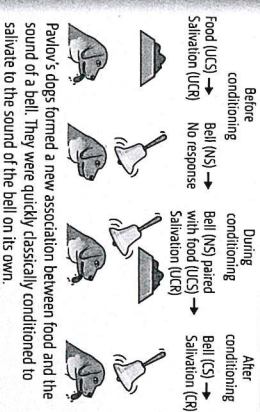
Conditioned response (CR) The response produced by the CS on its own. A new association has been formed so that the NS now produces the UCR (which is now called the CR).

Conditioned stimulus (CS) A stimulus that only produces the desired response after pairing with the UCS.

Neutral stimulus (NS) Any stimulus that does not produce the desired response. It becomes a conditioned stimulus after being paired with the UCS.

Unconditioned stimulus (UCS) Any stimulus that produces a response without any learning taking place.

Unconditioned response (UCR) An unlearned response to an unconditioned stimulus.

Before conditioning	During conditioning	After conditioning
Food (UCS) → Salivation (UCR)	Bell (NS) paired with food (UCS) → Salivation (UCR)	Bell (CS) → Salivation (CR)
Bell (NS) → No response		

Pavlov's dogs formed a new association between food and the sound of a bell. They were quickly classically conditioned to salivate to the sound of the bell on its own.

Key concept: Classical conditioning

Classical conditioning is a form of learning first scientifically studied by Ivan Pavlov (see diagram below left). It is learning through association. It takes place when we associate two stimuli with each other. An *unconditioned (unlearned) stimulus (UCS)* is repeatedly paired with a *neutral stimulus (NS)*. Initially, the NS produces no response but eventually produces the same response as the one produced by the UCS.

Before conditioning

The UCS triggers an unlearned response. The smell of food is a good example of a UCS because it makes us salivate automatically. We do not have to learn this response so it is an *unconditioned response (UCR)*. Any other stimulus that does not produce the target response (salivation in this example) is an NS. For example, the sound of a bell or of your name being spoken, a tap on the wrist, none of these will produce salivation.

During conditioning

The individual repeatedly experiences the UCS and NS close together in time (pairing). The NS is no longer 'neutral' when the person eventually learns to associate it with the UCS. Pairing has the strongest effect on conditioning when the NS occurs just before the UCS. It usually has to happen several times for conditioning to take place.

After conditioning

After enough pairings, the NS (on its own) produces the same response as the UCS. The NS is now a *conditioned stimulus (CS)* and the response it produces is called a *conditioned response (CR)*.

Key study: Watson and Rayner (1920) Conditioned emotional reaction – 'Little Albert'

Aims

John Watson and Rosalie Rayner wanted to show that emotional responses such as fear can be learned through classical conditioning.

Procedure

The participant was a baby boy called Albert. He was shown several objects one at a time (e.g. white rat, rabbit, masks, wooden blocks). A metal bar was struck with a hammer to test his response to a loud noise. Classical conditioning began two months later over several sessions. Albert was shown the white rat several times and the metal bar was struck (loud noise) whenever he reached out for the animal.

Findings

In the first session Albert showed no fear responses to any of the stimuli. However, he showed an unconditioned response (UCR) of fear to the loud noise (UCS) – he cried. In the second session, Albert showed clear avoidance of the rat, pulling away when it came towards him. He eventually cried as the rat approached and tried to crawl away. In the third session he showed a conditioned fear response (CR) to each white furry object (and no response to other objects).

Albert continued to show a fear response to white furry objects in later sessions but these became less extreme over time and when experienced in a different environment.

Conclusions

Classically conditioning a fear response to a neutral stimulus is relatively straightforward, at least in very young children. Watson and Rayner also concluded that a fear response conditioned to one stimulus will generalise to other similar stimuli without further conditioning (*stimulus generalisation*).

Evaluation

Application to aversion therapy

One strength is that classical conditioning is the basis of a therapy used to treat some psychological disorders, including gambling addiction.

In *aversion therapy*, a gambling addict is given a painful electric shock (UCS) when they read gambling-related phrases on cards (NS). The shock produces an unconditioned response (UCR) of discomfort/anxiety. After several pairings, the NS becomes a CS and produces the same discomfort (now a CR).

This shows that classical conditioning has useful applications that can reduce psychological suffering and improve quality of life.

Incomplete explanation of learning

One weakness is that classical conditioning only explains how a limited range of behaviours is learned (e.g. simple reflex behaviours).

More complex behaviours involve other learning processes (see the next two spreads). For example, classical conditioning can explain how a phobia of dogs is acquired. But on its own it cannot account for how that phobia is then maintained over time (e.g. how we learn to avoid dogs).

This means classical conditioning is just a partial explanation of learning.

Evaluation

Some good experimental controls

One strength of the study is that it was well-designed to control potentially *extraneous variables*.

For instance, conditioning took place in a controlled environment to prevent irrelevant stimuli (temperature, lighting, etc) from influencing the procedure.

This meant Watson and Rayner knew that the changes in Albert's responses were due to classical conditioning and not to other factors.

Poor generalisability

One weakness is that Little Albert was the only participant in the study, which limits the applicability of the findings.

Albert was an emotionally stable baby who rarely cried or was afraid. This in itself is quite unusual, so indicates that Albert was unlike most babies. In other words, he was not representative of the population of babies.

Therefore, the findings of the study are not generalisable and tell us little about classical conditioning of fear responses in other children.

A useful application of classical conditioning is for treating gambling addiction. It works on the basis that if a behaviour can be conditioned, then it can be reduced or eliminated through counterconditioning. For example, each time a person reads a gambling-related phrase they are given an electric shock so that they learn to associate gambling with pain rather than pleasure.

GET ACTIVE Say cheese!

Laila is a professional photographer. She often takes photos of people indoors using a flash. The camera also makes a whirring noise when the picture is taken. Laila has noticed that most people blink the first couple of times the flash goes off. If she then takes a picture without the flash, they still blink.

Laila has also noticed that if she continues to take pictures without the flash, the blinking eventually stops.

1. *Draw a diagram of the classical conditioning process in this scenario. Include 'before', 'during' and 'after' stages. Identify the UCS, UCR, NS, CS and CR at the various stages.*

2. *Describe a similar finding from the Little Albert study.*

An issue to consider

Recent research has found that plants can be classically conditioned.

How would that work and why would this be an advantage for plants?

Exam-style questions

1. State what is meant by the term 'classical conditioning'. (1)

2. Describe **one** example of classical conditioning from everyday life. (2)

3. Marcus is a smoker. The first time he had a cigarette he enjoyed the pleasurable sensations of the first draw. Now every time Marcus looks at his lighter he gets a bit of a buzz.
   Identify the UCR, the CS and the CR in this scenario. (3)

4. Freya is a solicitor who works in a big law firm. Every time Freya's boss asks her to come into her office, Freya feels anxious. Her heart rate increases, she sweats and her hands shake.
   Use your knowledge of classical conditioning to explain Freya's reaction. (3)

5. Describe **one** finding of the key study by Watson and Rayner (1920). (2)

6. Explain what the findings of Watson and Rayner's (1920) study tell us about classical conditioning. (3)

7. Explain **one** weakness of the key study by Watson and Rayner (1920). (3)

8. Marina is explaining to her friends how she developed a phobia of dogs. 'It's because I was bitten by a dog when I was a kid. It hurt a lot and made me cry.' One of her friends says, 'OK, but I was bitten by a dog and it hurt but I didn't get a phobia.'
   Evaluate the concept of classical conditioning. In your answer you should consider: (a) Marina's and her friend's experiences, and (b) Watson and Rayner's (1920) key study. (9)

Key concept 2 and key study

Put down your guns

Up until 2010 the city of Richmond in California had a serious problem with gun violence. It was the ninth most dangerous city in the whole of the US. The police knew that 17 young men were responsible for 70% of shootings.

DeVone Boggan was the head of Richmond's Office of Neighborhood Safety and he had a plan to tackle the violence. Prison, fines and other punishments had failed to make a difference. So Boggan began in 2007 by employing streetwise people to build relationships with these young men. In 2010 Boggan invited the men to a meeting and made them an offer – he would pay them not to fire their guns. They could earn up to $1000 every month for nine months as long as they stuck to a mentoring programme and didn't use their guns. In other words, instead of punishing bad behaviour, Boggan was going to reward (reinforce) good behaviour.

Did it work? In the first year, gun crime in the city reduced by half. By 2014 the reduction was 76%. Drug use also declined, and school and job attendance went up. For most, the positive results continued even after the cash stopped.

Key concept: Operant conditioning

What is operant conditioning?

We form a link between a behaviour (the operant) and its consequence (the result that follows it). Depending on the consequence, the probability of the behaviour being repeated increases or decreases. There are two consequences.

Operant conditioning: A form of learning in which behaviour is shaped and maintained by its consequences; reinforcement (positive or negative) or punishment (positive or negative).

Consequence 1 – Reinforcement

This is the consequence that *increases* the probability of a behaviour being repeated. Any consequence that does this is said to *reinforce* the behaviour. There are two main types:

- **Positive reinforcement** occurs when a behaviour is followed by a pleasant consequence. The consequence could be something tangible (e.g. food, money) or intangible (e.g. a smile or nice comment). Either way, the consequence reinforces the behaviour and makes it more likely to happen.

- **Negative reinforcement** occurs when a behaviour is followed by the removal of an unpleasant stimulus. For example, the removal of pain negatively reinforces the behaviour; it follows and makes it more likely the behaviour will be repeated.

Consequence 2 – Punishment

This is the consequence that *reduces* the probability of a behaviour being repeated. Any such consequence is said to *punish* the behaviour (it is punishing). Again, there are two main types:

- **Positive punishment** is when a behaviour is followed by an unpleasant consequence (e.g. a slap or harsh words).

- **Negative punishment** occurs when a behaviour is followed by the removal of something pleasant (e.g. being fined or grounded, because there has been *removal* of money or freedom).

Evaluation

Supporting research evidence

One strength is that operant conditioning is supported by both human and animal studies.

Many lab studies (by Skinner and others) have shown how operant conditioning works in various animal species. The findings reliably demonstrate how behaviour is influenced by reinforcement and punishment. Human studies (e.g. Chase et al. 2015) have even discovered brain areas and structures that are linked with reinforcement of behaviour.

This research supports the view that operant conditioning is a key form of learning in many animal and human behaviours.

Not a complete explanation of learning

One weakness is that operant conditioning can only explain how existing behaviours are strengthened or weakened.

Operant conditioning can explain some complex behaviours where classical conditioning cannot. For example, it can explain how a phobia is maintained over time (through avoidance that is negatively reinforcing). But it cannot explain how the phobia first appears.

This means operant conditioning is an incomplete theory that does not account for all behaviours.
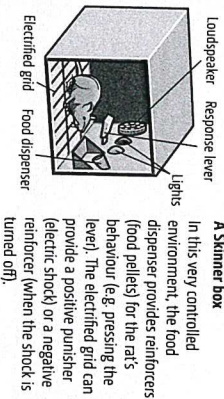
Specification terms

Negative reinforcement: The reinforcer is the removal of an unpleasant stimulus, which makes the behaviour more likely to be repeated.

Operant conditioning: A form of learning in which behaviour is shaped and maintained by its consequences; reinforcement (positive or negative) or punishment (positive or negative).

Positive reinforcement: The reinforcer is a pleasant consequence of the behaviour, making the behaviour more likely to happen again.

Punishment: The consequence of a behaviour is unpleasant, making the behaviour less likely to be repeated.

Reinforcement: A behaviour is followed by a consequence that increases the probability of the behaviour being repeated.

A Skinner box

In this very controlled environment, the food dispenser provides reinforcers (food pellets) for the rat's behaviour (e.g. pressing the lever). The electrified grid can provide a positive punisher (electric shock) or a negative reinforcer (when the shock is turned off).

Loudspeaker   Response lever
Lights
Food dispenser
Electrified grid

Key study: Skinner (1932) On the rate of formation of a conditioned reflex

Aims

B.F. Skinner wanted to measure the rate at which rats would press a lever when a food pellet was delivered after each lever-press. Would the food act as a reinforcer of lever-pressing?

Procedure

Four rats individually spent time in a Skinner box (left). To begin with the lever could not be pressed but food pellets were dispensed at various time intervals. The rats ignored these for a while, but then would eat one as soon as it appeared. This was done so the rats 'knew' the pellet was food. Skinner then released the lever so that it could be pressed and now food was dispensed every time the rat pressed the lever.

Findings

For two of the rats, it took just one press of the lever (and delivery of food) for them to immediately start pressing the lever at a high rate, i.e. they had learned that pressing the lever brought food. Another rat pressed the lever once (receiving food), but it took over an hour for it to press a second time (and get food). Only then did it start pressing at a high rate. The fourth rat pressed the lever five times (receiving food each time) before starting to press at a high rate (with over two hours between the first and fifth presses).

Conclusions

The behaviour of animals is not free, it is determined by 'natural laws'. Skinner claimed he had discovered a new form of learning, different from Pavlov's classical conditioning. He argued that operant conditioning was more like learning in everyday life (because it was faster). Skinner also concluded that just one reinforcement was all it took to change the rats' behaviour immediately.

Evaluation

Operant conditioning in education and childcare

One strength is that there are numerous practical applications of Skinner's research and operant conditioning.
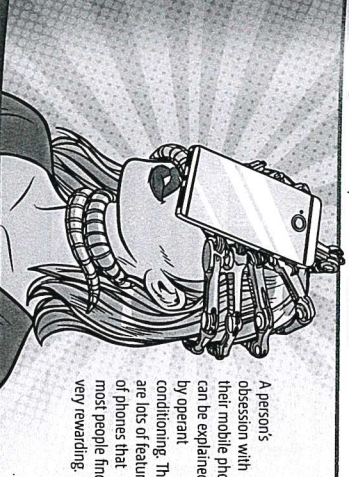
Reinforcement is often used in educational and childcare settings such as schools and nurseries. For example, good work and behaviour can be reinforced by praise or gold stars. Punishment is often used in schools and by parents to eliminate undesirable behaviour (e.g. isolation, naughty step).

This shows Skinner was right to say that operant conditioning has uses in the real world as well as theoretical importance.

Problems with generalisation

One weakness is that Skinner made some sweeping conclusions about behaviour based on the rats in his study.

He argued that all animals (including humans) learn in the same ways, but this is debatable. In the key study, Skinner was not at all interested in any mental processing that may have come between the stimulus (food) and the response (lever-pressing). But humans probably have more conscious insight into their behaviour than rats. To understand human behaviour we have to consider mental processes. Therefore, it is inappropriate to generalise the behaviour of the rats in Skinner's study to more complex human behaviour.

A person's obsession with their mobile phone can be explained by operant conditioning. There are lots of features of phones that most people find very rewarding.

GET ACTIVE Conditioning weight loss

Max joined a slimming club because he wanted to lose 20 kilos. The programme worked by allocating points to different foods. The programme worked by allocating points treats that he liked such as chocolate. He was set targets and each time he achieved one he was given a badge. Max also joined the club's online community where members helped each other with encouraging messages.

1. How could operant conditioning help Max lose weight?
2. Can you think of any other ways operant conditioning can be used to encourage healthy behaviours?

Exam-style questions

1. State what is meant by the term 'operant conditioning'. (1)
2. Describe an example of operant conditioning from everyday life. (2)
3. When five-year-old Larry helped tidy the living room, his mum gave him a sweet. But when he bit his sister he had to go and sit on the naughty step. He was allowed off when he apologised.
   Using the scenario above, give **one** example of each of the following: positive reinforcement, negative reinforcement and punishment. (3)
4. Ellie works in a call centre selling insurance policies to customers. Every time someone sells a policy, the manager plays a fanfare and praises them. When this happened to Ellie, she worked even harder and made more calls.
   Use **one** aspect of operant conditioning to explain Ellie's behaviour. (3)
5. Explain how the findings of the key study by Skinner (1932) support the view that learning can take place through operant conditioning. (3)
6. Explain **one** strength or **one** weakness of the key study by Skinner (1932). (3)
7. Russ is addicted to playing on fruit machines. He gets a thrill from all the flashing lights and loud noises and occasionally the money he wins. His partner is violent towards him, so he likes to escape to the arcade sometimes.
   Discuss the view that learning takes place through operant conditioning. In your answer you should consider: (a) different kinds of reinforcement and punishment, and (b) Russ' behaviour in the scenario outlined above. (9)

An issue to consider

Do you think that operant conditioning is a realistic way of changing other people's behaviour (as described in the box on the facing page)?

Do you think there are ethical issues with controlling people's behaviour like this?

Content area B3: Learning approach

Key concept 3 and key study

Are criminals born or made?

The idea that some people are 'born bad' is a popular one. But even bad people have to learn how to behave like criminals. Take Pablo Escobar for instance. He rose from obscurity to control the trade in cocaine between Colombia and the USA, and in the process became one of the most feared people in the world.

But he started his criminal career moving on to selling stolen gravestones before moving on to selling stolen cigarettes. He learned his trade from other more experienced criminals. He accompanied them on jobs and observed what was involved in criminal activity.

Escobar was highly motivated. He aimed to be a millionaire before he was 22, so he wanted to learn. He was a bodyguard for a local drug kingpin which gave him the opportunity to observe at first-hand exactly what was involved in surrounded by people with greater status than him, who were well-off and respected in their world.

This was Escobar's 'training ground'. He used it as the foundation of a criminal career that brought him unimaginable wealth and cost thousands of people their lives before he was killed in a shootout in 1993, aged 44.

Key concept: Social learning theory (SLT)

Albert Bandura (1962) proposed SLT to explain how learning often occurs without *direct* reinforcement. Instead, a behaviour can be learned *indirectly* just by *observing* and *imitating* another individual whose behaviour has been reinforced.

Modelling

Modelling a behaviour means demonstrating it to another person (usually not deliberately). The person who performs the behaviour is the *model*.

The term 'modelling' is also used when a person imitates a model's behaviour.

Learning through observation

The observer actively focuses their attention on the model's behaviour and watches how it is performed. The model's actions have to be retained in the observer's memory before they can be repeated.

Imitation

The observer may imitate the model. This is more likely if the observer identifies with the model. This happens for two main reasons – either the observer perceives the model to be similar to themselves (e.g. same age or gender) or they value and/or admire the model (e.g. because they have social status).

Vicarious reinforcement

A behaviour is imitated if the learner is motivated to do so – and this depends on observing positive consequences. If the observer sees a model performing an action and being reinforced, this makes it more likely that the observer will repeat the action. This is *vicarious* (seeing someone else do it) and reinforcing. This could explain the influence of media celebrities. For example, a young girl who sees a very thin celebrity having her behaviour rewarded with fame, status and attention might be more inclined to imitate the celebrity's 'look'.

Vicarious reinforcement is *indirect* reinforcement.

Key study: Bandura et al. (1961) Transmission of aggression through imitation of aggressive models

Aims

Bandura *et al.* wanted to see if children were more likely to behave aggressively after observing an *aggressive* model, and if they were more likely to imitate same-sex models.

Procedure

Male and female children were randomly placed into one of three groups. The aggression group observed an adult model behaving aggressively towards an inflatable 'Bobo doll' (punching, kicking, shouting, etc.). The non-aggression group observed an adult constructing mechanical toys. The control group played with no model present.

The children were then allowed to play with some toys (including the Bobo doll) and their behaviour was observed and rated (see page 108).

Findings

The children who observed the model behaving aggressively were more likely to behave aggressively (both imitating the model and acts of non-imitative aggression) than the other two groups of children.

Boys imitated the aggressive behaviours of a male model more often than they imitated a female model.

Conclusions

Aggression is a social behaviour that can be imitated by children through observing models.

Imitation is more likely when the model is the same sex as the observer, which supports the role of *identification*.
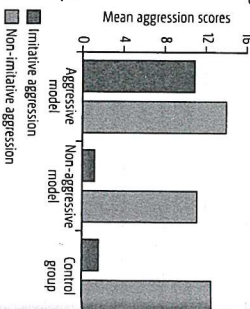
Bar chart showing overall comparison of aggression following modelled aggression and control conditions.

Mean aggression scores
0 4 8 12 16

Aggression model
Non-aggression model
Control group

■ Imitative aggression
■ Non-imitative aggression

The graph above shows that all the groups showed fairly similar levels of general aggression – it was just the specific imitation of the model's behaviour towards Bobo that was different.

Evaluation

Evidence supporting SLT

One strength is support for SLT from studies of humans and animals.

The key study by Bandura et al. shows that children will imitate an aggressive adult model, especially if the child identifies with the model. Bandura's later research (e.g. 1965) confirmed that children are more likely to imitate an adult model when the model's behaviour is reinforced (i.e. rewarded). Christine Nicol and Stuart Pope (1999) showed that even chickens imitated a same-sex model with high status (in pecking for food).

This supports the SLT view that behaviours are learned through observation and imitation, and that vicarious reinforcement and identification play important roles in imitation.

Not a complete explanation

One weakness of SLT is that it cannot explain the role of genetic factors in learning.

Ken Kendler et al. (2015) found that levels of aggression are more similar in identical twins than they are in non-identical twins. As identical twins are more closely genetically related than non-identical twins, this strongly suggests aggressive behaviour is partly genetic and not just due to *social learning*.

This suggests that SLT is not a complete explanation of learning, and a full account can only be produced by considering other factors.

Evaluation

Learning aggressive behaviours

One strength is that the findings of the key study can help us understand how children acquire aggressive behaviours and how they can be reduced.

Thanks to Bandura's research, psychologists appreciate how the family environment can create aggression in children, through observation and imitation of aggressive adult models. The findings are especially relevant to how boys learn to be physically aggressive, through identification with their fathers.

This has important implications for social *policy*, for example on custody of children and parental contact after divorce.

Artificial environment

One weakness of the key study is that it was carried out in controlled lab conditions.

This means that the situation in which the researchers measured aggression was very different from the real-life situations in which children typically behave aggressively towards other people (rather than towards a doll).

Therefore, the findings of the study are difficult to generalise and may tell us little about children's aggressive behaviour in real-life situations such as playgrounds and the home.

The word 'bobo' is Spanish for 'clown.'
The word 'doll' is English for 'doll.'
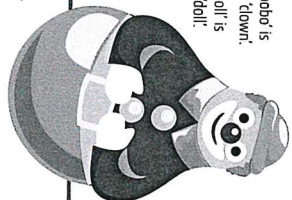
GET ACTIVE Guitar lessons

Hari is learning to play the guitar. He is getting lessons from Nisha. She shows him how to play the chords, where to place his fingers and how to strum. Hari copies and Nisha praises him when he gets it right. Hari likes the way Nisha really seems to enjoy playing the guitar as well.

How can Hari's learning be explained in terms of classical conditioning, operant conditioning and social learning?

Exam-style questions

1. State what is meant by the term 'vicarious reinforcement'. (1)
2. Describe an example of social learning from everyday life. (2)
3. Ava and Livvy are playing football when Ava flicks the ball up and volleys it into the back of the net. Livvy is impressed and Ava explains that she watched her brother doing the trick. When he got it right he ran around the garden shouting with joy.
   Use your knowledge of social learning theory to explain Ava's behaviour. (3)
4. Barney is eight years old and has started bullying other children. Several times he has seen an older boy bullying children in the playground to get money or sweets or just to show who's the boss.
   (a) Describe **one** type of social learning Barney is showing. (2)
   (b) Use **one** finding of the key study by Bandura et al. (1961) to explain Barney's experience. (2)
5. Explain how **one** finding of the key study by Bandura et al. (1961) demonstrated the influence of social learning. (2)
6. Explain **one** strength and **one** weakness of the key study by Bandura et al. (1961). (4)
7. Most students learn in a social environment made up of many people. Analyse how social learning might contribute to student learning in a school/college context. In your answer you should consider observation, modelling, imitation and vicarious reinforcement. (9)

An issue to consider

Can you think of any things you do which could not be explained by direct or indirect conditioning?

Specification content

B3 Learning approach

Key concept:
- Social learning theory – learning through observation, imitation, modelling and vicarious reinforcement.

Key study:
- Bandura et al. (1961) Transmission of aggression through imitation of aggressive models.

Specification terms

Imitation Occurs when a learner reproduces the behaviour they observed being demonstrated by a model. It is more likely to occur when the observer identifies with the model.

Modelling Either an observer imitates the behaviour of a model or a model demonstrates a behaviour that may be imitated by an observer.

Observation Actively attending to and watching (or listening to) the behaviour of others (models).

Social learning A form of learning in which behaviours are acquired through observation, modelling, imitation and vicarious reinforcement. Cognitive factors play a key role.

Vicarious reinforcement Occurs when a learner observes a model's behaviour being reinforced.

Learning approach to explaining aggression in society

'Mobbing' at work

Bullying is a daily reality in many workplaces. One bully can have a huge effect on the working lives of large numbers of people, but they rarely operate successfully without others. They often have accomplices who assist them in bullying their victims.

Sometimes the bullying is an organised campaign of harassment by several people, to get rid of an employee. Ken Westhues (2002) calls this mobbing and it can be explained by the concepts on this spread.

Specification terms

Operant conditioning A form of learning in which behaviour is shaped and maintained by its consequences: reinforcement (positive or negative) or punishment (positive or negative).

Social learning A form of learning in which behaviours are acquired through observation, modelling, imitation and vicarious reinforcement. Cognitive factors play a key role.

Unplanned, impulsive, uncontrolled. An angry outburst is an example of hostile aggression – not explained well by learning theories.

Learning explanations

Operant conditioning

Aggression can be learned directly (see page 26 for a reminder of the basic processes of operant conditioning).

Positive reinforcement According to B.F. Skinner (1932), behaviour is shaped by its consequences – a behaviour that is reinforced is more likely to reoccur. Aggressive behaviours are mostly acquired and maintained through *positive reinforcement* because aggression is an effective way of gaining rewards.

Furthermore, Skinner argued that behaviours that are positively reinforced only occasionally (and at irregular intervals) are especially strong. This is called *variable interval reinforcement* (it is how fruit machines and social media notifications work, for instance). Reinforcement is much more 'hit and miss' in everyday life than it is in a lab. A person who behaves aggressively may be reinforced only a proportion of the time (because there is no one else around to approve, for example). If there is no pattern to when the aggression is reinforced (i.e. it is unpredictable), then that is even more powerful.

Types of reward Aggression brings two main types of rewards. One type is tangible rewards such as money, sex and food. Tangible rewards (e.g. getting a toy off another child) positively reinforce up to 80% of children's aggressive behaviours (Patterson et al. 1967).

Another type of reward is social status. Bullying is reinforced not just by tangible rewards (e.g. money) but also by increased status in the school playground (or workplace, etc.) through fear. Other examples include gang members who gain status through fighting, and whole societies that provide social status rewards (e.g. medals) for aggressive behaviour in wartime.

Social learning theory (SLT)

Albert Bandura (1973) realised that aggressive behaviour in humans cannot be fully explained by direct forms of learning such as operant conditioning. As we saw on page 28, he argued that most learning of aggression is indirect and occurs through *observation, modelling, vicarious reinforcement and imitation.*

Observational learning and modelling Children (and to a lesser extent adults) learn specific aggressive behaviours through observing aggressive *models* (e.g. parents, siblings, peers, media figures). A person observes how an aggressive behaviour is performed, but this does not guarantee they will behave aggressively – another social learning mechanism is required.

Vicarious reinforcement As well as observing the aggressive behaviour of models, people also observe the consequences of that behaviour. If the behaviour is rewarded (or at least not punished) then the observer learns it can be a successful means of getting a reward the aggressor wants. This is vicarious reinforcement – the observer experiences the model's reward 'second-hand', but this is enough to increase the likelihood that the observer will imitate the model's behaviour.

Self-efficacy Unlike Skinner, Bandura emphasised the role of *cognitive* processes in social learning. We have expectations about whether an aggressive behaviour will bring rewards or not, too. We have expectations about whether an aggressive behaviour will bring rewards or not. *Self-efficacy* in this context is a person's confidence in their ability to achieve rewards through behaving aggressively. This increases as the individual uses aggression successfully. For example, the aggressor learns he or she has the motor skills to force someone to hand over money and the belief that this behaviour will continue to bring successful outcomes in the future.

Cognitive control of aggression The likelihood that an observed behaviour is imitated depends on four cognitive processes:

- The observer must firstly pay *attention* to the model's aggressive actions.
- Then the observer needs to remember the model's actions. This is *retention*, a mental representation of how the behaviour is performed.
- The observer must have the ability to transform the retained memory into a physical action. This is *reproduction*.
- The observer must want to reproduce the aggressive behaviour because they expect it to bring a reward. This is *motivation*.

Evaluation

Research support for the learning approach

One strength is strong evidence that children learn aggressive behaviours.

François Poulin and Michel Boivin (2000) found that the most aggressive boys between nine and 12 years old became friends with each other. These relationships were 'training grounds' for antisocial behaviour because the boys were exposed to models of physical aggression (i.e. each other). They gained direct reinforcement through tangible (money, goods) and intangible (approval, praise) rewards. They experienced vicarious reinforcement through observing the rewarding consequences of each other's aggression.

This study showed that aggressive behaviour readily develops in conditions predicted by learning theories (especially SLT).

SLT explains the effects of media

One strength of the SLT explanation is that models do not have to be 'real life'.

Aggressive characters in media such as TV (soap operas), film and video games may provide models. SLT predicts the conditions under which modelling is most likely to happen. For instance, an aggressive individual may have attractive characteristics. They may be charismatic or physically attractive or have superior status. If their aggressive behaviour is rewarded, an observing child may experience vicarious reinforcement.

This shows that SLT is useful because it helps to explain how aggressive behaviour in the media may be imitated by children.

Applications to social policy

Another strength is that the learning approach has important implications for social *policy*.

The approach suggests that the aggressive behaviours that underlie some serious crimes are learned through exposure to models in the family and in peer networks. Policymakers (e.g. government) could focus their efforts to reduce aggression on developing programmes based on social learning. One example is mentoring, providing 'at risk' children and young adults with non-aggressive *role models* to imitate.

This means the learning approach could significantly reduce the costs to individuals and societies of human aggression in its various forms.

Learning does not account for all aggression

One weakness is that learning theories have trouble explaining *hostile aggression* (see explanation on page 48).

A hostile violent outburst may easily escalate an aggressive encounter so that the individual receives *punishment* in return. Operant conditioning and SLT predict that punishment (experienced directly or vicariously) makes future aggressive behaviour less likely.

This means that alternative explanations for hostile aggression (e.g. biological or social) may be more useful.

GET ACTIVE Bullied out of a job

Gregor is a senior manager of a supermarket and has to make cutbacks in his department. He has been making negative comments about one employee, Hadley. More than once he has shouted loudly at Hadley in his office. Adi has many times seen how badly Gregor treats Hadley. Adi held a meeting with other employees and didn't invite Hadley, even though it was about her area of work. Adi has also spoken very negatively about Hadley in meetings and around the office. Gregor approved of Adi's behaviour, praised him in front of other staff and privately promised him promotion. The bullying continued for several weeks until Hadley was signed off with stress.

1. Identify and explain three *types* of aggressive behaviour in this scenario.

2. Use the *learning approach to explain the aggressive behaviour in the behaviour of Gregor and Adi*. Using examples in your explanation, refer to the concepts of: operant conditioning, observational learning, modelling/imitation, vicarious reinforcement and self-efficacy.
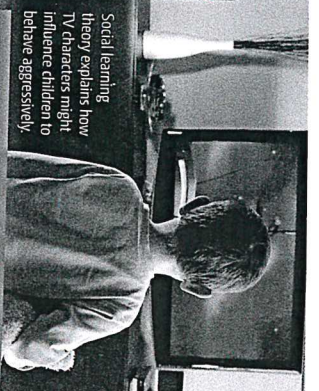
Exam-style questions

1. Explain how the learning approach accounts for aggression. Use the concept of operant conditioning in your answer. (3)

2. Give **three** features of social learning theory that can explain aggression. (3)

3. Bandura et al's (1961) study showed how aggressive behaviour can be imitated by children. Explain how the findings of Bandura et al. support the view that aggression is learned. (3)

4. Oscar has been arrested again for physically assaulting his partner. During the police interview Oscar said that whenever he got angry he just 'blew up' and couldn't control himself. He described how he had grown up in a violent household, where his father had frequently assaulted his mother. Oscar also explained how he used to bully other children at school to get money. Some of the younger children used to look up to him.

   (a) Describe the *type* of aggression shown by Oscar. (2)

   (b) Use **one** aspect of social learning theory to explain Oscar's behaviour. (2)

   (c) Analyse the view that aggressive behaviour is learned. In your answer you should consider:
   (i) the concept of operant conditioning and social learning, and (ii) reference to Oscar and his experiences. (9)

Link it

How can classical conditioning studied by Watson and Rayner (1920) explain the development of aggressive behaviour?

How can reinforcement studied by Skinner (1932) explain aggression?

How does Bandura et al's study (1961) explain aggression?

Content area C2: Use of psychology in relation to consumer behaviour

Learning approach to consumer behaviour

What is Christmas to you?

Is it warmth, comfort, excitement, a welcome break from routine, nostalgia about childhood Christmases?

Classical conditioning involves learning through association (see page 24). It is the main learning process used in advertising because it does not require a response from the consumer in order for it to be effective (unlike *operant conditioning*).

The aim is to associate the topic of an advert (product, brand, logo, behaviour change) with positive feelings (e.g. happiness, humour). Advertisers and campaigners hope this will make the consumer more likely to change their behaviour (e.g. buy the product, reduce smoking). Even if this doesn't happen, other desirable outcomes are possible such as a more positive attitude towards the product, or greater awareness of it in the marketplace.

For example, an advert for a burger might present the product in a way that makes you associate it with being happy. Or it might show attractive people (or celebrities, see below) enjoying themselves as they visit the burger restaurant. Even in political campaign adverts that are intended to change behaviour, a voice-over will express warmth and friendliness, and posters and leaflets may be colourful and fun, etc.

Or is it annoying relatives, useless presents, the same old same old too many people forced to have a good time?

For many people (perhaps most?) it's the former – a time associated with good feelings, happiness and enjoyment. Also for many, Christmas is now a time for adverts by big companies such as John Lewis, M&S, McDonalds, Coca-Cola and not forgetting Lidl.

Why do these companies spend so much money advertising their already well-known brands at this time of year?

The answer is on this spread. They want you to associate their products with the good feelings you have about Christmas. Does it work? Think about a Christmas advert you've seen – how does it make you feel?

Gay Lineker, still the face of Walker's crisps. Would his endorsement make you buy the product? Perhaps that depends on your feelings towards Gay.

Learning explanations

Classical conditioning

Operant conditioning

Operant conditioning has become more frequently used for advertising following the growth of interactive media such as the internet. This is because the response from the consumer can then be reinforced or punished. Watching a TV advert or viewing a poster or flyer is a passive behaviour, but responding to a survey on Instagram is much more active.

Social media platforms exploit operant conditioning techniques to change behaviour. For instance the number of Facebook 'likes' and comments a post attracts is a powerful reinforcer of continued use and phone-checking. What is especially powerful is that the reinforcements are not predictable or constant. Sometimes when we check our status there are several likes, sometimes there are none. This is called *variable interval reinforcement* and Skinner found it created responses that are very hard to extinguish (remove).

Social learning

Modelling occurs when someone *observes* the behaviour of another person (a *model*) and *imitates* it. Many adverts show a 'model' using the product (e.g. a vacuum cleaner, a car, a phone) and enjoying it. The adverts may suggest that using the product will gain us popularity, success or status or make us admired. This is one reason why advertising for alcoholic drinks is not allowed to be associated with these things.

The consumer hopefully experiences *vicarious reinforcement* from the positive emotions of the model, imagining themselves imitating the behaviour and enjoying the same feelings.

Use of celebrities in advertising As we noted on page 28, imitation is more likely if the observer identifies with the model. Identification is a social learning process. The consumer identifies with a celebrity endorsing a product because he or she possesses something the consumer admires – status, wealth, fame, physical attractiveness, etc.

On the other hand, identification also occurs when the consumer believes the model is similar to themselves. This is why some adverts use down-to-earth' celebrities or at least places celebrities in everyday situations to 'humanise' them.

Celebrities also have a classical conditioning effect. For example, the chef Jamie Oliver was 'the face of Sainsbury's' for many years, presumably to associate his expertise and charm with the Sainsbury's brand in the minds of consumers.

The effects of celebrities are thought to be so powerful that they are not allowed to be used in UK TV advertising aimed at children.

Evaluation

Research support for classical conditioning

One strength is evidence that demonstrates how classical conditioning operates in advertising.

Elnora Stuart *et al.* (1987) arranged for participants to be shown images of a fictitious brand (Brand L toothpaste') followed immediately by images designed to provoke positive responses (e.g. an ocean sunset). Other fictitious brands were also presented, followed by neutral images (e.g. a microscope). The participants expressed significantly more positive attitudes towards Brand L toothpaste than towards other brands. The degree of positivity increased with the number of presentations, highlighting the role of repetition.

This shows that, at least in lab conditions, it is plausible that classical conditioning can explain positive consumer attitudes towards a product.

Research support for social learning

Another strength of learning explanations is that support comes from research into the effects of celebrities.

Johannes Knoll and Jörg Matthes (2017) reviewed 46 studies of these effects. They found that consumers' attitudes towards products were significantly more positive when the products were endorsed by a celebrity than when they were not. Some of the reviewed studies concluded that consumers perceive the celebrities as 'someone they like'.

This shows that identification plays a key role in the influence of celebrities on attitudes towards products.

No underlying mechanism

One weakness is that *conditioning* is more of a description than an explanation. Conditioning is both a process (what happens when it takes place) and an effect (the outcome). But it does not explain the mechanisms involved. For example, there must be *cognitive* factors involved in associating an advertised product with positive emotions, otherwise everyone would feel the same way about it (how positively you feel about a product advertised by Jamie Oliver depends on what *you think* about Jamie Oliver). But the learning approach has nothing to say about cognitive factors.

This means that conditioning is not a powerful explanation of how we learn to respond to advertising or behavioural change campaigns.

Real-world effects are unclear

A further weakness of this research into the conditioning effects of advertising has been mostly *laboratory* based.

The effects are clear in such highly controlled conditions. However, in the real world of TV viewing and social media use the influence of advertising is a lot 'messier'. For instance, lab research investigates the short-term effects of advertising on a narrowly-defined behaviour (e.g. choice of snacks 20 minutes after watching an advert for a fictitious brand). There is much less research into the longer-term effects of conditioning, and what there is suggests the effects are weaker (Schachtman *et al.* 2011).

Therefore, the research tells us little about the effects of advertising in the real world where conditions are less controlled.

GET ACTIVE The power of Pepsi (not)

In 2017 Pepsi ran an advert in the US that backfired so spectacularly the campaign was ended early.

A major celebrity, Kendall Jenner, was shown walking along a street when she saw a protest and decided to join in. She removed her wig first, as if to imply 'This is the real me', approached a police officer and gave him a can of Pepsi. At this point the protesters realised there was no need to demonstrate for social justice anymore so they stopped. Thanks to Pepsi and the power of Jenner's celebrity, the world was a much happier place.

To make the situation worse, when the backlash took hold, Pepsi apologised... to Kendall Jenner.

1. Using your knowledge of the learning approach, explain why this advert failed.

2. Explain how you would present the advert to make it effective.
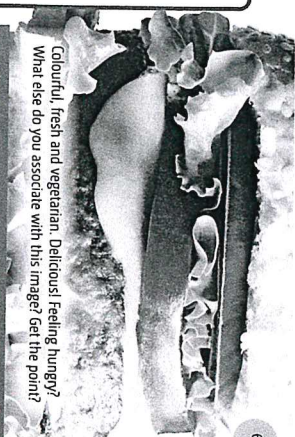
Colourful, fresh and vegetarian. Delicious! Feeling hungry? What else do you associate with this image? Get the point?

Exam-style questions

1. In the context of consumer behaviour, describe what is meant by the term 'operant conditioning'. (2)

2. Explain how the learning approach accounts for consumer behaviour. Use the concept of social learning in your answer. (3)

3. Explain one way in which the learning approach can inform strategies to change behaviour. (3)

4. Give three features of the learning approach that can explain consumer behaviour. (3)

5. Ieuan was watching a TV advert for a yoghurt. He liked the colourful background, the jolly music and the people dressed up in silly clothes. He noticed that the yoghurt was being eaten in the advert by one of his favourite singers, so he decided to buy this particular yoghurt when he went out shopping later.
(a) Explain the use of celebrity in this scenario. (2)
(b) Outline how classical conditioning might have influenced Ieuan's behaviour. (3)

6. Analyse techniques based on the learning approach that are used to change behaviour. In your answer you should consider: (a) classical and operant conditioning, and (b) social learning. (9)

Link it

How do Watson and Rayner's (1920) findings about classical conditioning apply to advertising?

Skinner (1932) studied operant conditioning in rats. Are we like his rats when we respond to adverts?

Bandura et al. (1961) investigated aggression, but what can the social learning concepts in that study tell us about advertising?

Specification content

C2 Use of psychology in business to explain and influence consumer behaviour

Learners should understand and apply knowledge of how psychological concepts and research can be used to understand and inform strategies aimed to change behaviour.
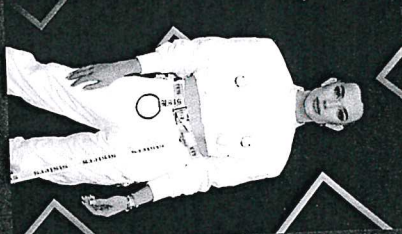
• Learning – classical and operant conditioning, social learning (the use of celebrity in advertising).

Content area C3: Application of psychology to explain gender

Learning approach to explaining gender

Learning explanations

Two of the common learning explanations for behaviour are *operant conditioning* and *social learning*, described earlier on pages 26 and 28.

Operant conditioning of gender

Operant conditioning of gender works through the application of rewards (*reinforcement*) and *punishments*.

When children behave in ways considered appropriate to their gender, parents (and grandparents, teachers, peers, etc.) tend to reward them with praise, encouragement and approval – this reinforces (strengthens) the behaviour. On the other hand, gender-inappropriate behaviour is punished (or at least ignored), weakening those behaviours.

For example, boys are encouraged to play football or with toy cars, to be active and 'rough' in their play ('Boys will be boys') and will be discouraged from girl-type activities. Girls are encouraged to play with dolls or engage in 'craft' activities, to be passive, gentle and considerate ('Girls should know better'). Tellingly, a girl who is active, who fights and gets into scrapes may well be labelled a 'tomboy' – she isn't seen as being a 'proper' girl.

Differential reinforcement The kind of reinforcement that is given is called *differential reinforcement* because boys are reinforced for one type of behaviour (masculine behaviours) and girls are reinforced for different, feminine ones.

According to Patricia Kerig *et al.* (1993) the driving force behind differential reinforcement is usually the father. He is more likely than the mother to apply differential rewards and punishments for gender-appropriate behaviours.

Differential reinforcement of gender-appropriate behaviours is a key process in learning *gender identity*, and one that continues throughout life and is not confined to childhood (Block 1978).

Social learning and gender

Gender is learned in a *social context*.

Direct reinforcement Parents reward and punish their children's behaviour directly as outlined above. A child is likely to repeat gender-appropriate behaviours that have been reinforced (rewarded), but punished (or ignored) behaviours usually disappear.

Modelling Parents encourage gender-appropriate behaviours in their children by *modelling* them. For example, a mother may *model* feminine-typical behaviour whenever she cleans the house or cooks the tea or tends to the child's needs. Modelling also occurs from the child's perspective – the girl may *observe* her mother's behaviour and *imitate* it.

There are also many models of gender-appropriate behaviour available to children through the media, including increasingly online (e.g. YouTube, Snapchat).

Vicarious reinforcement Children also observe the consequences of a model's behaviour, not just the behaviour itself. The child experiences the consequences indirectly. If the consequence is rewarding, the child is likely to imitate the behaviour (e.g. a girl who sees her older sister praised for looking after her dolly may well imitate that behaviour when she can).

But if the consequence is punishment, then imitation is less likely (so if a boy observes a classmate being bullied for 'cissy' behaviour, that behaviour will probably not be imitated).

Identification The processes of social learning are more powerful when the child identifies with a model. *Identification* occurs when the child perceives the model as 'like me' and therefore as 'someone I want to be'. This happens because the model has qualities the child finds particularly rewarding.

The media is a key source of models, for example pop stars, sports stars and YouTube stars who are attractive, exciting and have high status. Crucially for the development of gender identity children are more likely to imitate same-sex models because they identify with them more (they are more 'like me').

And today, as illustrated by vlogger James Charles, these high status figures may be providing a different kind of *role model*, changing gender concepts.

Evaluation

Research support from 'Baby X' studies

One strength is support from 'Baby X' studies where the same baby is identified as a 'boy' or a 'girl' with different adult participants.

Caroline Smith and Barbara Lloyd (1978) dressed the same six-month-old babies half the time in 'girls' clothes' and half the time in 'boys' clothes'. The behaviour of mothers who interacted with the babies differed according to the babies' perceived gender. Mothers who believed them to be boys gave them a hammer-shaped rattle and encouraged them to be active. Dressed as girls, they were given a cuddly doll and reinforced for being passive.

This is evidence of a 'gender curriculum' in the home – gender-appropriate behaviour is reinforced *differentially* for boys and girls from a young age.

Explains changing gender-related norms

One strength of the social learning approach is that it offers a convincing explanation of how gender can change over time.

Views of gender-typical behaviours and characteristics in Western *cultures* have altered dramatically over the last half-century. The distinction between what is considered masculine-appropriate and feminine-appropriate is much less clear-cut nowadays. *Androgyny* is arguably more accepted now than it once was. *Social learning theory* (SLT) explains this in terms of a shift in social expectations and cultural norms related to gender. New forms of gender behaviour are increasingly reinforced (e.g. through the media) whereas in earlier decades they would have been punished or ignored.

This means that SLT can explain the growth of fluid and *non-binary* gender identities.

Little support for differential reinforcement

One weakness is there is very little evidence for differential reinforcement.

Hugh Lytton and David Romney (1991) reviewed 172 studies into 19 areas of parenting where there may be differences in reinforcement of boys' and girls' behaviour. Nearly all differences were small and nonsignificant. The researchers concluded that the reinforcement experiences of boys and girls (at least in Western cultures) are very similar (e.g. they are equally encouraged to be independent and treated with almost identical affection and care).

These conclusions have not changed over time because they were supported in a more recent review by Joyce Endendijk *et al.* (2016).

Children are active not passive

Another weakness of the approach is that children are more active in acquiring a gender identity than the learning approach suggests.
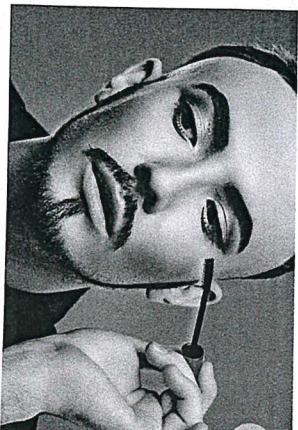
There is more to learning a gender identity than just passively observing models, imitating them and receiving reinforcement. For example, the child seeks out (e.g. by asking questions) and *cognitively* structures information about gender *before* they have acquired a gender identity (Martin and Halverson 1987). Furthermore, children's views of gender are usually much more fixed and *stereotyped* than their parents', which suggests they actively construct their gender identity rather than passively 'receive' it.

This is hard for the learning approach to explain purely on the basis of imitation and reinforcement.

The 'Beauty Boys' of Instagram

When American vlogger James Charles (left) visited Birmingham in January 2019, the city centre came to a standstill as thousands of young adults and children turned out to see him.

James is one of several 'beauty boys' who have been on YouTube and other social media sites. They offer tips about make-up to boys, girls and men (as well as girls and women) and promote an image of masculinity which is to say the least at odds with the mainstream binary view.

The most prominent of the beauty boys are ambassadors for big cosmetics corporations such as Maybelline and CoverGirl.

We've been here before. In the 1970s, pop stars like David Bowie, Marc Bolan and Lou Reed presented a gender-fluid approach to the world, sparking outrage and adoration alike.

Specification terms

Conditioning Means 'learning'. *Operant conditioning* is a form of learning in which behaviour is shaped and maintained by its consequences, which include positive reinforcement, negative reinforcement and punishment.

Social learning A form of learning in which behaviours are acquired through observation, modelling, imitation and vicarious reinforcement. Cognitive factors play a key role.

Children learn the differences between masculine and feminine gender behaviours from an early age.

This androgynous look deliberately blurs the traditional boundary between a masculine-typical and feminine-typical gender, and can be explained by social learning – identifying with and imitating same-sex role models who behave in non-typical ways.

ACTIVE Sean's identity

Although Sean is biologically male, she identifies very strongly as female. She chooses to dress as a woman and wear make-up as often as she can. She behaves in ways and has interests that might be considered by most as 'typically female'. She follows transgender and gender-fluid vloggers on social media. Sean remembers when she was growing up that she frequently used to think of herself as a girl and disliked being treated as a boy.

How can the learning approach explain Sean's identification as female?

Could gender be classically conditioned in the same way Little Albert was in the study by Watson and Rayner? (1920)?

How does the concept of reinforcement as studied by Skinner (1938) apply to gender?

How does Bandura *et al*.'s (1961) study help us to understand social learning of gender in terms of SLT concepts of identification and imitation?

Exam-style questions

1. In the context of the learning approach, what is meant by the term 'conditioning'? Refer to gender in your answer. (2)

2. Explain how the learning approach accounts for gender. Use the concept of social learning in your answer. (2)

3. Give **three** features of the learning approach that can explain the development of gender. (3)

4. Explain how the findings of Bandura *et al*.'s (1961) study support the view that gender is learned. (3)

5. Explain **one** strength of the learning approach to explaining gender. (3)

6. Dora is a seven-year-old girl who often helps her mum with household chores such as cleaning. She enjoys dancing and singing and playing with her dolls. She got a make-up set for her birthday and experiments with it often.

   Use **one** aspect of the learning approach to explain Dora's behaviour. (2)

7. Evaluate the view that gender can be explained by social learning. In your answer you should consider: (a) reinforcement and punishment, and (b) observation and modelling. (9)

Specification content

C3 Application of psychology to explain gender

Learners should understand and apply knowledge of how psychological concepts and research can be used to understand the typical and atypical gender of individuals in society.

- Learning – conditioning, social learning.
- The influence of the following on gender: