

Describe and evaluate either classical or operant conditioning as an explanation of human behaviour

Classical conditioning was first described in detail by the Russian physiologist Ivan Pavlov (1927). He observed that the salivatory reflex in dogs occurred automatically, not just when food is placed on the animal's tongue but also in response to anything else that regularly coincided with the feeding routine, such as the presence of the food dish.

All animals and humans are born with a host of reflexes that are triggered automatically by the occurrence of one kind of stimulus. In a typical classical conditioning experiment the researcher selects one naturally occurring reflex of an animal or human and then deliberately and consistently presents an artificial stimulus, one that does not normally trigger the reflex itself, prior to the natural stimulus.

Watson & Rayner (1920) were the first psychologists to apply the principles of classical conditioning to human behaviour by looking at how this learning process may explain the development of phobias. They did this in what is now considered to be one of the most ethically dubious experiments ever conducted – the case of Little Albert.

Albert B.'s mother was a wet nurse in a children's hospital. Albert was described as 'healthy from birth' and 'on the whole stolid and unemotional'. When he was about nine months old, his reactions to various stimuli (including a white rat, burning newspapers and a hammer striking a four-foot steel bar just behind his head) were tested. Only the last of these frightened him, so this was designated the unconditioned stimulus (UCS) and fear the unconditioned response (UCR). The other stimuli were neutral because they did not produce fear. When Albert was just over eleven months old, the rat and the UCS were presented together: as Albert reached out to stroke the animal, Watson struck the bar behind his head. This occurred seven times in total over the next seven weeks. By this time the rat, the conditioned stimulus (CS), on its own frightened Albert, and fear was now a conditioned response (CR). The CR transferred spontaneously to the rabbit, the dog and other stimuli that had been previously neutral. Five days after conditioning, the CR produced by the rat persisted. After ten days it was 'much less marked', but it was still evident a month later.

Behaviour therapists, such as Eysenck, regard the Little Albert experiment as demonstrating how all phobias are acquired in everyday life. A fear of the dentist could be learnt because a drill hitting a nerve (UCS) automatically produces pain and fear (UCR). The sound of the drill (CS) is associated with the UCS and therefore the sound of the drill produces fear as a conditioned response. Human phobias may be perpetuated through avoiding the object of our fears. This means that we do not give the fear a chance to undergo extinction. This occurs in conjunction with operant conditioning, whereby the avoidance behaviour becomes strengthened through negative reinforcement.

The process of classical conditioning can probably account for aspects of certain other mental disorders. For example, in post-traumatic stress disorder (PTSD) sufferers tend to show classically conditioned responses to stimuli present at the time of the traumatising event (Charney *et al.*, 1993). But since not everyone exposed to the traumatic event develops PTSD, other factors must be involved, such as individual differences in people's appraisal of events as stressors and the recovery environment, such as family and support groups.

There have been many laboratory demonstrations of human participants acquiring behaviour through the process of classical conditioning. It is relatively easy to classically condition and extinguish conditioned responses, such as the eye-blink and galvanic skin

responses. However, applying classical conditioning to our understanding of complex human behaviour such as memory, thinking, reasoning or problem-solving has proved more problematic. In normal adults the conditioning process can apparently be overridden by instructions: simply telling participants that the unconditioned stimulus will not occur causes an instant loss of the conditioned response, which would otherwise extinguish only slowly (Davey, 1983). Most participants in an experiment are aware of the experimenter's contingencies (the relationship between stimuli and responses) and in the absence of such awareness often fail to show evidence of conditioning (Brewer, 1974).

There are also important differences between very young children or those with severe learning difficulties and older children and adults regarding their behaviour in a variety of operant conditioning and discrimination learning experiments. These seem largely attributable to language development (Dugdale & Lowe, 1990). This suggests that people have rather more efficient, language-based forms of learning at their disposal than just the laborious formation of associations between a conditioned stimulus and unconditioned stimulus. Even behaviour therapy, one of the apparently more successful applications of conditioning principles to human behaviour, has given way to cognitive-behaviour therapy (Mackintosh, 1995).