

Classical and operant conditioning



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A phobia is ' a disrupting, fear, mediated avoidance, out of proportion to the danger posed by a particular object or situation.... recognized by the sufferer as groundless (Davison & Neale, 1996, p. 131). A phobia is classed as a type of anxiety disorder and is quite a common disorder, they can be about objects or situations and their target can either be general or focal. Specific phobias include for example a fear of spiders, snakes and heights. Social phobias include fear of social situations and ' agoraphobia' which is a fear of open or public places. The main symptom of this anxiety disorder is the excessive and unreasonable desire to avoid the feared stimulus. It is characterized or classed as an anxiety disorder when the fear is beyond ones control and is interfering with a person's daily life. This essay explores the efficacy of the learning model of classical and operant conditioning in explaining the development of such phobias. The existence of natural fear responses are built into humans as a basic survival mechanism. It is this ' fight or flight' response that spurs us into action in the face of certain or perceived danger. An individual dealing with a phobia experiences this fight or flight response without the existence of any actual danger; this feeling of actual danger is perceived as real. This very real perception of danger can be utterly paralyzing for many who suffer from a phobia (Coelho & Purkis, 2009). Evidence suggests these phobias may be acquired through conditioning. Individuals learn through conditioning, conditioned responses, as well as observed and conditioned responses experienced. Classical conditioning is based on the environmental factors in an individual's life that can include everything from social interaction to geographical placement. Operant conditioning is generally the result of classical conditioning. Through positive and negative reinforcement, an individual's response to stimuli or <https://assignbuster.com/classical-and-operant-conditioning-essay-samples/>

situations is cemented (Kowalski & Westeren, 2009). It is suggested that classical and operant conditioning creates an instance for the acquisition of phobic behaviours; a conditioned fear separated from the natural instinctive fight or flight response necessary for survival phobias (Coelho & Purkis, 2009).

The conditioning explanation is driven by associations between an unconditioned stimulus and a conditioned stimulus. In the most basic form of classical conditioning, the stimulus that naturally produces the reflex response is the unconditioned stimulus (US). This is repeatedly paired with an initially neutral stimulus until the US becomes the conditioned stimulus (CS). The original reflex response is the unconditioned response (UCR) and the learnt response produced by the CS is the conditioned response (CR). Conditioning as an explanation for the development of phobias arose from Watson & Rayners study of 'Little Albert' (1920). Albert was reared almost from birth in a hospital environment, he was healthy from birth and one of the best developed youngsters brought to the hospital. His stability was a principal reason for using him in this study. At 9 months of age, Albert was pre-tested and presented no fear response to certain live animals and other inanimate objects. He did however display fear when he heard a loud noise which in this case the experimenter striking a steel bar with a hammer. Two months later Albert was presented with a white rat (CS), each time he touched the rat he heard a loud noise (the hammer hitting the steel bar) (US). Initially Albert displayed no fear response however after 7 trials he cried and frantically tried to get away from the rat (CS) even when the loud noise was not presented. In subsequent sessions, Albert showed fear of other

objects that were similar to the rat for example a fur coat, dog and a rabbit.

(REF) By today's standards, with the strict ethics code of conduct, Watson and Rayners study is highly unethical. Their study is however very influential in the subsequent research into conditioning and whether it explains the development of phobias. They demonstrated that aversive and avoidant responses towards a previously neutral stimulus can be learned. Although they suggested no actual theory of phobia acquisition, their study implies that a phobia can be acquired through experiencing a stimulus in temporal proximity to some fear inducing or traumatic event (Field, A. P., 2006).

However the study is limited in its capacity to explain phobias. Watson and Rayner noted that Albert displayed no fear if he was able to suck his thumb. This shows the fear was relatively weak as it was easily countered by the pleasure of sucking his thumb and hence cannot be labelled a phobia.

Furthermore, it took several pairings before Albert displayed a fear response and following a 30-day rest period the fear was still evident but had started to diminish. In contrast, it usually takes just one pairing of the unconditioned stimulus with the conditioned stimulus for the phobia to become established in reality, and the phobia usually gets stronger over time.

Naturalistic studies support the idea that conditioning is a mechanism through which fears develop. For example compared to control children, 29 child survivors of a severe lightning-strike showed more numerous and intense fear of thundering, lightening and tornadoes. (Dollinger, O'Donnel & Staley, 1984). Often an event can be identified that appears to have precipitated the phobia. Davey et al (1993) carried out studies in which they found that phobias were acquired by individuals after just one aversive

experience (one trial learning). Mineka and Cook (1986) examined 22 rhesus monkeys that watched videos of other monkeys reacting with fear to artificial predators as well as to non-predatory stimuli. The monkeys that watched the videos had not previously experienced any of the stimuli shown to them on the videos. After 12 viewings of the clip, the test monkeys showed fear of evolutionary and violence-based stimuli but had developed no real connection to the non-violent stimuli. Mineka and Cook also found that when a set of test monkeys were introduced to other monkeys that showed no fear when interacting with evolutionary predators, the test monkeys also showed no fear after exposure to the phobic models.

Mowrer argued that there are two direct factors involved in avoidance behaviour. The first is classical conditioning in which a fear response is elicited by a CS and the second is operant conditioning whereby avoidance of the CS is negatively reinforced by a reduction of fear (Powell, Symbaluk & Honey, 2008)

Not all instances of phobia can be traced to a conditioning experience and not all traumatic experiences lead to the acquisition of phobias. Conditioning as an explanation for the development of phobias has its many associated problems. When questioned about their phobia and how it arose, phobics do not usually recall CS-US pairings. However failure to remember is not evidence that learning did not take place. McCabe et al, 2003, found that social phobias were linked to a history of childhood teasing. This supports the idea that unpleasant events can lead to the development of a conditioned fear. Phobias are most common during childhood to early adulthood, this is odd as aversive events are equally likely at all stages of

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the lifetime and hence there may be another explanation for why the onset of phobias is unevenly distributed. This could possibly be explained in terms of associative learning being more effective in childhood. Not all individuals who experience trauma (for example a dog bite) then go on to develop a phobia (of dogs). During World War II, the vast majority of people exposed to air raids endured them rather well developing mainly short term fear reactions that soon disappeared (Rachman 1977). Hence a simple conditioning explanation for fear acquisition is insufficient to explain why one individual who is bitten by a dog will then fear dogs whereas another individual who is bitten will not develop the same phobia. Rachman (1968, 1977) stated that fears can also be acquired through verbal information and vicarious learning, without an individual directly experiencing the trauma themselves. Vicarious learning is assumed to be an indirect pathway to fear but there is only retrospective evidence that suggests children acquire fears in this way. Children (aged 7-9 years) were exposed to pictures of novel animals paired with pictures of either scared, happy or no facial expressions to see the impact on their fear cognitions and avoidance behaviour about the animals. In Experiment 1, directly and indirectly measured fear attitudes towards the animals changed in accordance with the facial expressions with which these were paired. The indirectly measured fear beliefs persisted for up to 3 months. Experiment 2 showed that children took significantly longer to approach a box they believed to contain an animal they had previously seen paired with scared faces. These results suggest that vicarious learning is a possible pathway through which cognitive and behavioural components of anxiety develop (Fields, A, P., Askew, C. 2007).

The theoretical framework of conditioning does indeed have significance in explaining the development of phobias. Following research into conditioned fear, many researchers do believe that as all behaviours are learnt, phobias are also conditioned responses. Phobias arise due to classical conditioning and are maintained through operant conditioning. However it is not possible to explain all phobias with the conditioning explanation. Several additional variables such as observational learning and vicarious learning may also be involved. Furthermore, although originally it was believed that phobias could only form through the learning pathway of classical and operant conditioning, scientists have now also suggested an explanation more related to evolution. The evolutionary theory states that the amygdale and the hippocampus parts of the brain may have cognitive and emotional functions that allow a fear response to certain believed threats. More recently, studies have resulted in a stronger case for a non-associative account of fear acquisition that suggests evolutionary relevant fears can still develop without the need of a critical learning experience.

Classical conditioning was then characterised by two main features ‘Equipotentiality’ and ‘Extinction’ (Field, 2006). Equipotentiality suggests that any phobia can be acquired as long as it was at some point experienced alongside trauma. This is however, something which cannot be studied in detailed experiments due to ethics, thus there is weak evidence supporting it. Extinction, suggests that if a CS (conditioned stimulus) was presented in the absence of the US (unconditioned stimulus) after the response has been made, the force of this response will diminish until the CS no longer produces a CR (conditioned response). Extinction has been verified in numerous cases

by researchers and the principal has thus been adopted into phobia therapies used today. (Å-st, Svensson, Kerstin, & Lindwall, 2001).

Bandura and Rosenthal (1966) as well as Rachman (1969) suggested phobias can be learned vicariously, i. e. observation of another's fear of an object, creature or situation can promote fear of the stimulus in oneself. They suggested that vicarious learning was one of three pathways from which we can acquire fear.

This was demonstrated by Mineka et al. (1984) in which rhesus monkeys with no fear of snakes observed their snake fearful parents interact with real and fake snakes. After just 8 minutes, the rhesus monkeys had appeared to elicit a fear response with the snakes but not with neutral stimuli. This was later replicated (Cook et al., 1985) with unrelated monkeys and found similar results. They concluded that it was due to vicarious learning that fear was established as opposed to genetic tendencies.

Further evidence of the vicarious learning hypothesis has been found from self-reports of phobics. Merckelbach et al. (1989) found that from a sample 17-40% of phobics identified vicarious learning as the source of their phobia. In addition vicarious learning has also been demonstrated in infants observing parents' reaction to toys (Gerull & Rapee, 2002).