

PSYC10003 — Sample Pages

Preview from: Complete Semester Q&A Study Notes (442 questions, 52 pages)

This is a short excerpt. Full version covers all 4 modules of the semester.

Learning and Cognition

Operant Conditioning

Q: what does operant conditioning focus on and what does it believe?

A: the focus of operant conditioning was to explore the shaping of voluntary behaviours by association with their consequences, explaining how stimuli in the environment shape voluntary behaviours through learned associations.

Operant conditioning believes that : behaviour is shaped by the learner's history of experiencing rewards and punishments of their actions

Q: what was the skinner box?

A: a “microworld” in which Skinner could control the animal's experience of reinforcement and punishment. It provided him with a controlled environment to study the behaviour and learning of laboratory animals.

Pressing the level was the target behaviour, which could be strengthened through reinforcement and weakened through punishment

Q: what is reinforcement?

A: a behaviour is reinforced (strengthened) whenever a desirable outcome is the consequence
-> Behaviours that are reinforced are more likely to be repeated

Q: what is a reinforcer ?

A: A reinforcer is any consequence of a behaviour that makes the behaviour more likely to recur in the future
-> Reinforcers can either be positive or negative

Q: what is positive reinforcement?

A: When the consequence is something pleasant that is added to increase behaviour
An animal will learn to reproduce a behaviour if the consequence is receiving something pleasant

Q: what is negative reinforcement?

A: When the consequence is something unpleasant that is removed to increase behaviour
An animal will learn to reproduce a behaviour if the consequence is that something unpleasant will stop

Q: what does continuous reinforcement lead to?

A: leads to rapid extinction once the reinforcer is withheld
It rarely occurs in natural environments

Q: what does partial reinforcement lead to?

A: more persistent learning because the learner becomes accustomed to reinforcement occurring on some occasions and not others
-> Behavior is usually reinforced on a “partial” schedule

Q: what is the schedules of reinforcement?

A: how different frequencies of reinforcement, in terms of time (intervals) or number of behaviours (Ratios) resulted in different, but highly predictable patterns of behaviour

Q: what are the four types of different schedules of reinforcement?

A: variable-ratio schedule
fixed-ratio schedule
variable-interval schedule
fixed-interval schedule

Q: what is variable-ratio schedule and how does it work?

A: Occurs when a behaviour is rewarded unpredictably after varying numbers of performances (for example, an average once every ~10 times the behaviour is produced - sometimes after 5 times, or after 15 times, or after 9 times, etc).

The VR schedule is what underlies the way rewards are distributed In gambling. The player knows that there are rewards for their behaviour, but they don't know exactly how many times they will need to 'roll the dice' to receive a reward. This keeps the player playing 'just one more time', testing whether their next attempt will bring the reward.

The learner on a variable ratio schedule produces the behaviour rapidly and repeatedly, searching the instance that will produce the reward.

Q: what is fixed-ratio schedule and how does it work?

A: the learner experiences reinforcement after some defined number of responses.

For example, a rat in a Skinner box who experiences a food pellet (reinforcer) after every 5 lever presses is said to be on a fixed ratio schedule of five.

For a human employed to pick cherries for a living, this would be equivalent to being paid for every 5 bags of cherries picked.

For both the rat and the human, this fixed schedule of reinforcement produces a predictable rate and pattern of responding.

Fixed ratio schedule is characterised by a steady, consistent rate of responding.

Q: what is fixed-interval schedule and how does it work?

A: The learner is reinforced at fixed time periods.

For example, a rat in a skinner box would receive a food pellet at fixed time intervals of 30 seconds after having produced the first rewarded behaviour

Lab animals demonstrate a high sensitivity to the timing of rewards, increasing the production of the target behaviour just prior to the reward interval.

The fixed interval schedule is characterised by a scalloped shaped pattern of responding – with the behaviour ramping up just before the reward is due, and dropping off post-reinforcement.

For humans, this is analogous to the way in which evenly spaced tests, say every two-weeks, leads to cramming study just prior to the test each fortnight.

Q: what is variable-interval schedule and how does it work?

A: The learner is reinforced at variable intervals, centred on an average period.

For example, a lab rat on a variable interval of 30 seconds would receive a food pellet at varying intervals, but on average every 30 seconds.

the variable interval schedule produces a steady rate of responding that is more frequent than the fixed interval as the learner tests whether this instance of responding will coincide with the timing of the reinforcer.

For humans, a variable interval schedule would be experienced if you knew that tests are scheduled at unpredictable intervals during the semester. In this case, you would be rewarded (reinforced) for steadily keeping on top of the course material so that you would be ready whenever the test was held.