Chapter 17:

Using Extinction, Differential Reinforcement, and Habit Reversal to Decrease a Behaviour

Identifying & Controlling Reinforcement in Extinction

➢ Extinction: procedure/condition in which reinforcement is ended for a behaviour

   → Process of extinction has certain characteristics

   ▪ Extinction burst & aggression → target behaviour occurs and no longer results in reinforcement.

      • It's frequency and magnitude may increase temporarily, and person may make aggressive acts

   ▪ Gradual decline & reappearance → target behaviour's decline occurs gradually/irregularly

      • Extinguished behaviour can reappear after a while

   ▪ Resistance to Extinction → stronger when target behaviour was reinforced in past on an intermitted schedule than on continuous reinforcement schedule

➢ Extinction for behaviour maintained with positive reinforcement → involves terminating those rewards

➢ Extinction for behaviour maintained with negative reinforcement → preventing escape/avoidance that the response previously produced from an aversive situation

➢ Automatic reinforcement more difficult to terminate than other types of reinforcement

   → Procedure involves blocking the experience of sensory stimulation the behaviour produces

➢ First steps before applying extinction → identify behaviour's existing reinforcers

Identifying A Behaviour's Reinforcers

➢ Before 1980s – professionals ignored inappropriate behaviours when applying extinction

→ Thought ignoring behaviour same as withholding rewards

➢ Apply extinction effectively → must DETERMINE REINFORCERS for target behaviour and TERMINATE them

→ Best way to identify: CONDUCT A FUNCTIONAL ASSESSMENT → Essential for 5 reasons:

▪ 1. Trying to implement extinction based on assumptions about behaviour's reinforcers (rather than careful functional assessment) unlikely to succeed

▪ 2. Reinforcers for specific behaviour can differ from one person

▪ 3. Consequences that influence a problem behaviour (ex. Repetitive body rocking) can be different in different contexts

• Ex: during training sessions vs. During leisure activities

▪ 4. Sometimes problem behaviour maintained by multiple reinforcers

• Importance to eliminate all of them to reduce behaviour

▪ 5. Identifying reinforcers with functional assessment made extinction methods more effective in reducing target behaviour

Eliminating a Behaviour's Reinforcers

➢ Method of extinction → eliminate behaviour's reinforcers

➢ After determining reinforcers, must assess if we have control over occurrence

→ Can't control means can't use extinction to reduce behaviour

➢ Can you control reinforcement?

→ Difficult to control reinforcements when:

- Consequence for target behaviour is AUTOMATIC REINFORCEMENT
- People other than individual trying to modify behaviour PROVIDE THE REINFORCERS
    - Very common
    - Can be friends, family, classmates, workmates
    - We need to stop these people from providing counterproductive rewards
    - Explaining to people what they are doing and how they promote undesirable behaviour
    - Give them rewards for NOT providing reinforcements

→ Get control!
- Creativity to control automatic reinforcement that maintains problem behaviour
- Not always an easy task

Enhancing Effectiveness of Extinction

➢ First, need to WITHHOLD all of the target behaviour's reinforcers consistently
  → Being consistent is important, if not then it means it's being intermittently
    - Reinforcing a behaviour intermittently increase resistance
➢ Second, whenever possible we should reinforce appropriate acts that are alterative behaviours or competing response for problem behaviour
  → Ex: reinforce negotiation rather than tantrum for getting what a little girl wants
➢ Third, provide instructions regarding the new contingencies
  → Explain why it's needed

➢ Fourth, link extinction to a variety of conditions in which target behaviour can occur

→ Extinction carried out in VARIETY OF SETTINGS

→ More than one person withholding reinforcement

→ Promote generalization of improved behaviour to different circumstances

→ Problem behaviour stop virtually everywhere it could

→ Maintains change over time

Problems in Applying Extinction

➢ Problems that make technique inappropriate or difficult to use

➢ 1. What if extinction creates danger?

→ Behaviours like aggression + self injury are destructive and could harm target person or someone else

▪ Applying extinction as only method to reduce → behaviour will not be reinforced and will decline over time

• HOWEVER, may still produce damager before it stops

▪ Raises ethical concerns → creates danger, not recommended

▪ Behaviours that are dangerous → reduced with methods that work rapidly and humane

➢ 2. Dealing with the Characteristics of Extinction

→ Extinction process has three characteristics that make difficult to use or mislead people into thinking it's not working →

▪ Extinction burst

• Temporary increase in frequency or magnitude

• Produce aggressive behaviour when usual reinforcement not forthcoming

- Showing little/no aggression during baseline phase, then frequency of behaviour shows extinction bursts soon after each extinction phase started, then declined gradually
- Temporary reappearance of extinguished behaviour can occur → could lead some people to think extinction didn't succeed, thus lead them to stop withholding reinforcement for target behaviour (then making it resistant to extinction)
  - Extinction-elicited aggressive behaviour
  - Reappearance of target behaviour

➢ Enhancing effectiveness of extinction → give target person instructions regarding new contingencies and combine extinction with other methods

Decreasing a Behaviour with Differential Reinforcement

➢ Differential reinforcement -> means reinforcing a response in one situation but not in another
  → Also means reinforcing one type or category of response, but not another
  → Involves reinforcing one response category (alternate or competing response), while withholding reinforcement (using extinction) for problem behaviour
  → Distinguishes between different classes of response
  → Positive and negative reinforcement can be applied

➢ Differential reinforcement of INCOMPATIBLE behaviour (DRI)
  → Competing response can be any incompatible behaviour – any action that is impossible/difficult to make simultaneously with target behaviour

➢ Differential reinforcement of ALTERNATIVE behaviour (DRA)
  → Withholding target behaviour's reinforcers and rewarding a dissimilar desirable behaviour that is not necessarily a competing behaviour

➢ Differential reinforcement of OTHER behaviour (DRO)

→ Withholding reinforcement when problem behaviour occurs (extinction) and giving reinforcement when behaviour does not occur at all during certain time period

→ Person received reinforcement for doing anything except target response

→ Sometimes called 'different reinforcement of zero responding'

→ Can be in two ways → interval DRO (reinforcement given if behaviour absent throughout entire time period) or monetary DRO (reinforcement given if behaviour was absent during specific time period)

▪ Both methods carried out across sequence of time periods, structure is either fixed (constant across many instances) or variable (changing from one instance to next)

→ Before carrying out DRO, four tasks should be completed

▪ Do functional assessment to identify past reinforcers to eliminate them

▪ Must choose one or more reinforcers to provide when behaviour is absent

▪ Choose initial time interval

▪ Explain to person the new contingency

→ DRO less effective than DRA methods and punishment procedures

➢ Differential Reinforcement of Low Rates Behaviour

→ Give rewards contingent on the behaviour occurring below a certain frequency per unit of time

→ Reinforce reduced rate of performance

→ Goal is to reduce, not eliminate behaviour

→ Requiring lower frequency of performance across intervention sessions

→ 1. Full session DRL → reinforcement given at end of session

→ 2. Interval DRL →full sessions divided into equal time intervals, delivers reward at end of each interval

→ 3. Spaced- responding DRL → target behaviour not occur during specific interval of time, reinforcement provided when first instance of target behaviour occurs after that time

Habit Reversals to Decrease Behaviour

➢ Habit reversal: applies self-management methods to decrease habitual behaviour, particular repetitive motor actions

→ Behaviour occurs without target person's awareness

➢ Three main methods used in habit reversals:

→ Competing response training

▪ Engages in opposite response of target behaviour

→ Awareness training

▪ Target taught to describe problem behaviour and then to watch when it occurs

→ Social support

▪ People who are frequently are with target person point out when behaviour is happening and prompt use of competing response