

Decreasing Behavior Through Intermittent Reinforcement

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*Differential Reinforcement of Low Rate (DRL)*

- reinforcement occurs only when responding is occurring at a low rate

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*Limited responding DRL*

- The maximum allowable number of responses for reinforcement to occur can be specified for an entire session or for specified intervals throughout a session
- This is useful when some of the undesired behavior is tolerable, but less of it would be better.
- Example: a student receives a reinforcer every 15 minutes during which he does not talk out more than once

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### *Spaced responding DRL*

- Following an interval in which the behavior does not occur, an instance of the behavior is required for reinforcement
- This is useful when the behavior you want to reduce is actually desirable, provided that it does not occur at too high a rate

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### *Spaced responding DRL*

- Example: a student who answers every question correctly, preventing his classmates from having a turn. A spaced DRL 1-response/15 minutes means that a student would receive reinforcement for answering only one question per 15 minutes.

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### *DRL schedules can also be used to decrease the rate of behaviors:*

- decrease the rate of speech of students who speak too rapidly
- decrease the rate of eating of students who eat too rapidly

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***Differential Reinforcement of Zero Responding (DRO)***

- This schedule is used when NO occurrence of the behavior is acceptable, and is often used with self-injurious types of behaviors.
- Example: DRO two minute schedule to decrease skin picking - for every two minutes without picking at your skin, you would receive a reinforcer; however, if skin picking occurred, the interval would start over.

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***Differential Reinforcement of Other Responding***

- Another name for differential reinforcement of zero responding since essentially any other behavior engaged in within that interval would be reinforced

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***Differential Reinforcement of Incompatible Responding (DRI)***

- Reinforcing a behavior which is incompatible with the behavior that you want to eliminate.
- Example: to eliminate hyperactive behavior, specify an incompatible behavior which will be reinforced (e.g. sitting quietly)

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### *Differential Reinforcement of Alternative Behavior (DRA)*

- An alternative to DRI.
- Extinction of a problem behavior while reinforcing an alternative behavior (which is not necessarily incompatible with it).
- Example: Aggressive developmentally disabled child—ignore instances of aggression and reinforce compliance with requests.

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### *Cautionary Notes for DRL*

- For example, when a child starts performing well in school, teachers are often impressed and enthusiastically reinforce the behavior. As the rate of the behavior increases, the teacher tends to be less impressed. The teacher tends to just expect good responding from the student and becomes complacent with dishing out the reinforcers. The child may then learn that he / she gets more reinforcement from the teacher if he / she responds infrequently well.

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### *Summary: Effective Use of Intermittent Schedules to Decrease Behavior:*

1. Identify the target behavior to be reduced and which schedule would be best.
- Use limited-responding DRL if some of the behavior is tolerable.
  - Use spaced-responding DRL if the behavior is desirable as long as it doesn't occur at a high rate.
  - Use DRO if the behavior should be eliminated.
  - Use DRI or DRA if DRO alone would be dangerous or if it might result in reinforcement of an undesirable alternate behavior.

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**Summary: Effective Use of Intermittent Schedules to Decrease Behavior:**

2. Decide what reinforcer to use. For effectiveness it should be the same reinforcer which is currently maintaining the behavior you want to reduce and it can be reliably withheld.
3. For a limited responding DRL: record the baseline; gradually decrease the number of allowable responses so that reinforcement occurs frequently enough to ensure adequate progress; gradually increase the size of the interval.

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**Summary: Effective Use of Intermittent Schedules to Decrease Behavior:**

4. For a spaced responding DRL: record the baseline, gradually increase the value of the DRL schedule in such a way that reinforcement occurs frequently enough to ensure adequate progress.
5. For DRO: record a baseline; use DRO starting values that are approximately equal to the mean value between instances of the target behaviors during baseline; gradually increase the size of the interval.

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**Summary: Effective Use of Intermittent Schedules to Decrease Behavior:**

6. For DRI: choose an appropriate alternate incompatible behavior to be strengthened; record a baseline of the undesirable behavior; select an appropriate schedule of reinforcement for the incompatible behavior; while strengthening the incompatible behavior, apply the guidelines for extinction to the undesirable behavior; gradually increase the schedule requirement for the appropriate behavior in such a manner that it continues to replace the inappropriate behavior as the reinforcement frequency decreases.

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***Summary: Effective Use of Intermittent Schedules to Decrease Behavior:***

7. For DRA: follow same guidelines for DRI, but the alternative behavior does not have to be incompatible.
8. For all schedules, inform the student whenever possible of the contingencies and schedules

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