Contingency-shaped vs. Rule-governed behavior

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Verbal Stimuli

- Verbal stimuli can control human behavior as easily as nonverbal stimuli.
  - Verbal stimuli are produced by verbal behavior

    (writing, speaking, signing, etc.)

- The term "rule-governed" behavior is used when responses are controlled by a verbal description of a contingency rather than the contingency itself.

- Verbal stimuli can evoke a response as an SD (we read the sign that says "Children are playing, drive carefully" and we lower the speed and attend more carefully)
- They can also function as consequences (we wear a hat more often because people tell us they like it).
- Rules can function as verbal stimuli.

Rule-governed behavior

- Behavior is primarily controlled by a verbal description of a contingency of reinforcement or punishment.
- The description usually describes the behavior, the SD for this behavior and the typical consequence for this behavior in the presence of the SD.
- Using a manual to operate a Blu-ray Disc Player is an example of complex rule-governed behavior.

Contingency-shaped behavior

- Contingency-shaped behavior is behavior that is primarily controlled by direct exposures to the contingencies.

- For example operating the Blu-ray Disc Player by just pushing the buttons and adjusting what you push because of the consequences without "paying attention" to what you are doing.

Contingency-shaped behavior vs. Rule-governed behavior

- Different variables control the behaviors even though the response topography of both types of behavior may look the same.
- Contingency-shaped behavior is controlled by the EO related to the specific consequence.
- Rule-governed behavior is controlled by the EO related to the history of following rules and being reinforced.
- Sensitivity to changes in contingencies not specified in the rules depends often on being strongly rule-governed.

Differences between Contingency-shaped behavior and Rule-governed behavior

- Contingency-shaped behavior is fluent and can be characterized as more natural.
- In the beginning rule-governed behavior is very often rigid and awkward.
- Often is it like the behavior is rule-governed in the beginning and become contingency-shaped after some time.
  - For example, we usually follow a recipe the first time we use it. After a while we can do some changes.
- New rules could be a result of trial and error.
- When behavior which is originally rule-governed is repeated over and over will seems like contingency-shaped.

Advantages of rule-governed behavior

- Learn new behaviors more quickly by avoiding extensive "trial and error" repetitions.
- We can construct verbal SDs to regulate future behavior (precurrent behavior)
- Rules can supplement defective natural contingencies (ones with delayed consequences or infrequent but serious consequences)
- Rules can alter the function of stimuli.

Some facts about rule-following

- People follow rules as long as they lead to reinforcement.
- When reinforcement is lost for following rules, people will be less likely to follow the rule (except when there is social reinforcement for following the rule).
- People seek out reliable descriptions of contingencies.
- Unreliable rules or rules that lead to aversive consequences are not followed.

Definitions of rules

- Skinner (1966) defined rules as contingency specifying stimuli. The rules then should describe the behavior and the reinforcement for the behavior. An example could be:

  "Do your homework and I'll read a chapter favorite book"

  – On the other hand what about advices and messages without a description of behavior. Skinner was of course aware of this and he mentioned for example "come here" as a rule.

- Catania (1998) has a much broader definition: "Behavior which is influenced by verbal antecedents".

  – No specification of consequences.

However, rules are about something one is going to do. This means that they have to specify behavior.

Although there are different definitions …

A rule must evoke some behavior in the listener, which implies:

1. The rule has to occur before the behavior it describe.
2. The behavior must not occur because of other conditions than what corresponds with rule.

Descriptive and prescriptive rules

- Descriptive rules
  - Descriptions of general relations between events. This is not about what the person should do.
  - For example: "If the curtains cover the windows, they shelter for the sun"
- Prescriptive rules:
  - Description about what the person should do.
  - For example "Stand still".

Rules as function-altering stimuli

Schlinger an coworkers have another definition of rules:

- Rules must specify condititions, not only reinforcement which leads to rule-following

What does function altering means?

- Stimuli and events do no have a function on before hand. For example the presence of a red barn have not made you do something when driving by.

- Stimuli and events have other function on before hand.

We often get rules about what to do in presence of certain stimuli or events, as for example "When you see a sign, turn left.

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- The question is if the rule or the sign is discriminative stimulus for turning to the left.
- There is usually a time gap between presentation of the rule and the rule-following.
- Schlinger and coworkers (Blakely & Schlinger, 1987; Schiinger & Blakely, 1987) claim that the sign is the discriminative stimulus and not the rule.
- The sign has become a discriminative stimulus through the rule. The rule has change a neutral stimulus or event function.
- Function altering rules describe relations between events, like the sign and turn and ringing a door bell and go inside.
- Rules can in principle have the same effect as a reinforcement history, but are much more effective.
- Only verbal capable individuals will react on function altering rules.

How are rules established?

- First of all, the behavior must specified.
- If you are training rules as SD, you need a repertoire of listening behavior, i.e., a correspondence between verbal stimuli and behavior.
- When rules are established as function-altering stimuli, the individual needs to understand functional relations as cause-effect, if-so, etc. can give the basis to establish rules.
- New rules emerge fast within verbal capable humans.
- It seems like a developmental progression from rules as discriminative stimuli to rules as function alternating stimuli.

The most effective rules

- Immediate consequences are more effective than delayed consequences. This is specially the case in children and/or individuals with different types of behavior problems.
- Deadlines for following rules can strengthen the effects of the rules, even with delayed reinforcement.
- If is an opportunity to follow rules immediately.
- Rules without deadlines and with delayed reinforcement are often ineffective.
- The same is true for punishing non-compliance to rule.

Incomplete rules (not specifying the consequences) are follewed because

- Events beyond the rule as for example voice, pitch, body language, repetitions etc.
- The rules may have been trained as SDs by presenting reinforcers on some type of behavior in presence of the verbal stimuli.

Zettle and Hayes (1982)

They made a distinction between two types of rule-following behavior:
- pliance
- tracking

Pliance

- Pliance is related to a history of social mediated reinforcement dependent on the correspondence between antecedent verbal stimuli and the rule-following behavior.
- This implies that there is an effective environmental arrangement for rule-following.
- Pliance means; do as you are told.
- If you don't show pliance it could lead to increasing establishing operations and consequences, i.e., repetitions, promises, threats.
- Pliance seems to be important in earlier stages of moral development.

Tracking

- Tracking depends on a history of a correspondence between antecedent verbal stimuli and consequences of the behavior specified by the verbal stimuli.
- Tracking is reinforced by the consequences for the behavior and not of the rule-following per ce.
- The reinforcement conditions are more often unsure and delayed for tracking.
- There is usually higher verbal functioning in tracking compared to pliance. This has been discussed with respect moral development.

Silent dog method

- A method to study if people actually follow rules.

Silent dog method

- Although the studies cited above used self-instruction as their main independent variable, in most cases recordings of verbal behavior were not taken, making it unclear whether participants were actually self-instructing.
- Hayes, Zettle, and Rosenfarb (1989) suggested that one way of assessing the control that rules may have upon behavior is through a method called the "silent dog" strategy.
- In this method, participants talk aloud while performing non-verbal tasks. This method includes three controls for evaluating whether verbal behavior (i.e., self-generated rules) controls nonverbal behavior (i.e., on-task performance).

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- This method includes three controls for evaluating whether verbal behavior (i.e., self-generated rules) controls nonverbal behavior (i.e., on-task performance).
- In Control 1, it must be shown that on-task performance is not interrupted by talking aloud.
- In Control 2, it must be demonstrated that on-task performance is altered by the presentation of distracters.
- In Control 3, the verbal report generated in Control 1 must change the performance of another participant when used as an external rule.
- If all three controls conditions are presented, including the changes in behavior as described, then performance can be said to be governed by rules.
- These talk-aloud protocols may be considered functionally equivalent to self-rules.