

Decreasing Behavior Through Antecedent Manipulations

General Strategy: Alteration of events prior to the occurrence of the target R to either (a) decrease the likelihood of the target R or (b) increase the likelihood of an appropriate R (Alt R)

Types of manipulations:

- Stimulus control manipulations
- EO (Establishing Operation) manipulations
- Response effort manipulations

Stimulus Control Manipulations

- Remove SD for inappropriate R
 - Move disruptive child's seat away from distraction
 - Remove junk food from refrigerator
- Add S Δ for inappropriate R
 - Move disruptive child's seat near teacher
 - Put sign on refrigerator: "No junk food inside"
- Add SD for appropriate R
 - Seat disruptive child next to model student
 - Put cues for exercise nearby

EO (Establishing Operation) Manipulations

- Remove EO for inappropriate R: (Noncontingent Sr)
 - R maintained by Sr+: Remove deprivation
 - Disruption maintained by attention: Deliver more attention
 - R maintained by Sr-: Remove aversive stimulation
 - Disruption maintained by escape from difficult tasks: Assign easier work
- Create EO for appropriate R
 - Ignore disruptive child except when child is working

Response Effort Manipulations

- Increase effort for inappropriate R
 - Move disruptive child away from peer
 - Move refrigerator to garage
- Decrease effort for appropriate R
 - Assign easy academic tasks
 - Put exercise equipment within easy reach

Vollmer, Iwata, Zarcone, Smith, & Mazaleski (1993)

"The role of attention in the treatment of attention-maintained self-injurious behavior: NCR and DRO"

General focus: To evaluate the effects of NCR for problem behavior maintained by Sr+

Specific aim: To compare the effects of NCR and DRO

NCR vs. DRO

Potential disadvantages of DRO:

- Can result in low rates of reinforcement (EO)
- Requires continuous monitoring and schedule adjustment

Potential advantages of NCR:

- High rates of SR eliminate EO
- Easier to implement than DRO

Procedures

Participants: N=3F, MR

DV: SIB 10-15 min sessions
Measure = R per min
Proportional reliability: $\frac{\ddagger}{\#}$ (Smaller/Larger) / # Intervals

Functional Analysis: Multielement design
Four conditions (Attn, Demand, Alone, Play)
Results: All Ss: SIB highest in Attn condition

Baseline: SIB → Attention
DRO: No SIB → Attention
SIB → Reset interval
DRO interval: IRT for last n sessions → 5 min
NCR : Fixed-time (FT) schedule of attention
FT interval: 10 s → 5 min

Experimental designs:
Diane & Bonnie:
Multiple baseline across subjects (BL vs. Treatment)
Multielement (NCR vs. DRO)
Brenda: Why reversal design for Brenda?
Reversal (BL → NCR → BL → DRO)

Results

Rates of SIB:
NCR and DRO both effective in reducing SIB
EXT burst (Diane)?
Adventitious reinforcement (Bonnie)?
Rates of reinforcement at 5-min schedule:
NCR = .2 Sr / min (all Ss)
DRO = .08, .03, 0 Sr / min (Diane, Bonnie, Brenda)

Implications & Extensions

Major contributions: Use of functional analysis to develop treatment
 Demonstration of therapeutic effects of NCR

Limitations: Necessity of initially dense NCR schedule?
 NCR effects: EXT or satiation (EO manipulation)?
 Adventitious reinforcement effects?
 NCR does not strengthen alt R (may eliminate EO for Alt R?)

Extensions: Address limitations noted above
 Applications with R maintained by different contingencies