

A Behavior Analytic Approach to Addressing Sensory Behavior

August 6, 2015
National Autism Conference

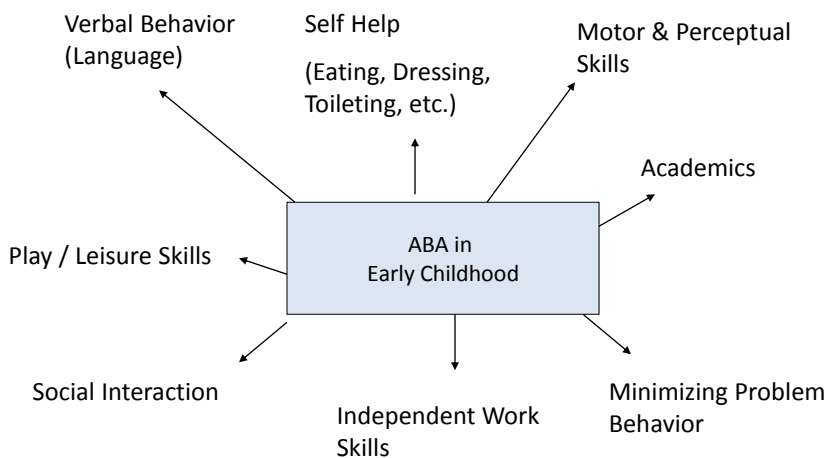
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Purpose of Today's Workshop

- The primary purpose of today's workshop is not to debate sensory integration theory or practices, but instead to describe how behavior analysis can be used to overcome "sensory challenges" across a wide variety of learners.

Applied Behavior Analysis (ABA) is a science that is:

- Applied
 - Behavioral
 - Analytic
 - Technological
 - Conceptually systematic
 - Effective
 - Possesses generality
- (Baer, Wolfe & Risley, 1963)



What ABA is Not

- A specific strategy, approach, or program (i.e. discrete trial training, token economies, etc.)
- An intervention for a specific population (i.e. children with autism)
- A way to change who people are (i.e. “turning them into robots”)

(Newman, 2005)

Philosophy of ABA

- Behavior can be learned.
- Behavior is either strengthened or weakened by the consequences.
- We can predict and control behavior when discover the variables governing a particular behavior.

(Donohue & Ferguson, 2001)

The Benefits of a Behavioral Approach

- Strong evidence base
- Procedures for teaching a variety of occupations & performance skills
- Yields measurable results
- Prevent and reduce the frequency of problem behavior

Yields Measurable Results

- ABA provides a framework for collecting and analyzing data to make sure that clients are meeting their goals
- Because procedures are directly derived from research across many types of learners, they are likely to produce optimal outcomes

Prevent & Respond to Problem Behavior

- In many settings where a behavior analyst is not on-staff, various team members work together to address problem behavior
- Consistency is crucial in reducing problem behavior

Behavior

- Behavior - any directly measurable thing an organism does
- Must be observable and measurable
- Must pass the Dead Person's Test
 - If a dead person can do it, it is not behavior
 - "Not listening", "Not following directions", "Not looking"

Reinforcement

- Reinforcer – stimulus delivered after a behavior which **increases** the future occurrence of that behavior
- Reinforcers vary across persons, settings, and behaviors
- Any reinforcer can be:
 - Positive or negative
 - Social or automatic

Positive vs. Negative

- In behavior analysis, positive does not mean “good” and negative does not mean “bad”
- Positive (+) - involves the addition of a stimulus following a behavior
- Negative (-) – involves removal of a stimulus following a behavior

Social vs. Automatic

- Social – someone else is required to provide reinforcement
 - Socially mediated positive
 - Socially mediated negative
- Automatic – reinforcer for behavior is the direct effect of the behavior itself
 - Automatic positive
 - Automatic negative

Motivating Operations (MO)

- Motivating operation (MO) - an antecedent event or change in the environment that temporarily alters the effectiveness of a reinforcer and the rates of the responses that have produced that reinforcer previously.

Satiation & Deprivation

- Deprivation – lack of access to a reinforcer
 - Increases the value of that reinforcer
- Satiation – opposite of deprivation, occurs when reinforcement is unrestricted
 - Decreases the value of that reinforcer

Sensory / Perceptual Reinforcers

- Lovaas, Newsom, and Hickman (1987) described the properties of sensory and perceptual reinforcement
- They reported that some forms of auditory, kinesthetic, gustatory, olfactory, and tactile stimulation have been shown to serve as reinforcers for behaviors exhibited in animals as well as humans.
- They recognized that although all reinforcers provide some form of sensory stimulation, they proceed to describe a special class of reinforcers that they termed, “perceptual reinforcers”

Classifications of Sensory Stimuli

- Visual, auditory, olfactory, gustatory
- Tactile: information provided primarily through skin about the texture, shape, and size of objects,
- Vestibular: information provided through the inner ear related to gravity, space, and head/body position
- Proprioceptive: information provided through muscles/joints regarding body position and movement

(Ayers, 1979)

Reinforcing Effects of Sensory Stimuli

- Ferrari and Harris (1981) used various sensory stimuli as reinforcers
 - Vibration reinforced behavior, to varying degrees, across participants
- Rincover, Cook, Peoples, and Packard (1979) identified sensory reinforcers that maintained behavior in children with autism
 - Used sensory extinction to reduce inappropriate behavior
 - Taught functionally equivalent play responses

Deep Pressure as a Reinforcer

- Reinforcing effects of deep pressure have not yet been studied
- Some studies suggest sensory stimuli, such as deep pressure, may have an effect upon the behavior of individuals with developmental disabilities

Implications for Clinical Practice

- Data suggest that deep pressure reinforced the behavior of Bennett, Logan, and Carter
- Can be used as a positive reinforcer in acquisition programs
 - Cheap, easily accessible, healthy
- Can teach ways to access deep pressure, as a means of preventing stereotypy, SIB, or aggression

Implications for Clinical Practice

- Incorporating deep pressure touch into NET may create new opportunities to teach language
- Occupational therapists should consider the potential reinforcing effects of deep pressure when designing sensory diets
- Recognition that some occupational therapy treatments may produce relevant changes in behavior

Problem Behavior in Children

- Some children may present with stereotypic or other problem behaviors that interfere with everyday activities
- The ability to analyze behavior and intervene appropriately is a valuable skill for parents of children with autism and related disabilities

What does not work?

- Before presenting empirically validated methods to decrease problematic behavior, it may be helpful to discuss the evidence surrounding several popular approaches to behavior management
 - Advanced warnings, visual schedules, transition objects
 - Social stories
 - Explanations of why consequences are in place

Visual Schedules

AND

SEAN CASEY, HAN GOH, AND JOANN MERLINO

CHILDREN'S SEASHORE HOUSE

We evaluated the effects of two daily activity schedules on 2 participants' rates of aberrant behavior and their compliance. Functional analysis identified the operant function of the participants' aberrant behaviors to be escape from tasks. Participants were taught to use stimuli contained in daily schedules, and were tested based on a modified stimulus-equivalence model that consisted of flash cards and activity schedules comprised of words or photographs that corresponded to the participants' daily activities. On pretests, the participants demonstrated simple and conditional discriminations with the photographs but not with the printed stimuli. A time-delay procedure was used to teach the participants to name the flash cards. Following training, the printed activity schedules corresponded to lower rates of problem behavior and higher rates of compliance than the photographic activity schedules. Performance on posttests indicated the establishment of functional classes of stimuli involving the flash cards and activity schedules even though this type of correspondence was not directly trained.

DESCRIPTORS: escape-maintained aberrant behavior, escape extinction, functional analysis, predictability, stimulus equivalence

Journal of Applied Behavior Analysis, 40(2), 149-159. DOI: 10.1901/jaba.2007.40-149

Visual Activity Schedules

- The study by Lalli et al, 1994, suggested that the application of extinction (e.g. problem behavior no longer resulted in the termination of a non-preferred activity) led to a decrease in problem behavior, rather than picture-schedules as a stand-alone treatment.

Visual Schedules

JOURNAL OF APPLIED BEHAVIOR ANALYSIS

2009, **42**, 309–313

NUMBER 2 (SUMMER 2009)

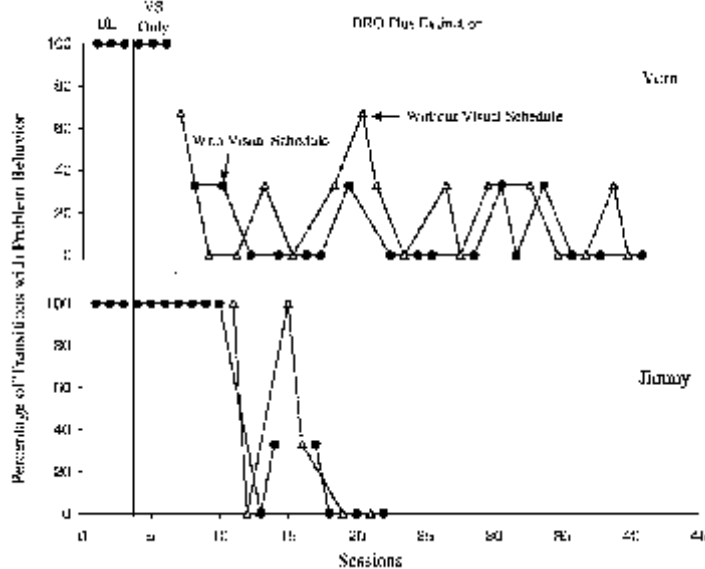
SEPARATE AND COMBINED EFFECTS OF VISUAL SCHEDULES AND EXTINCTION PLUS DIFFERENTIAL REINFORCEMENT ON PROBLEM BEHAVIOR OCCASIONED BY TRANSITIONS

MELISSA B. WATERS, DOROTHEA C. LERMAN, AND ALYSON N. HOVANETZ

UNIVERSITY OF HOUSTON, CLEAR LAKE

The separate and combined effects of visual schedules and extinction plus differential reinforcement of other behavior (DRO) were evaluated to decrease transition-related problem behavior of 2 children diagnosed with autism. Visual schedules alone were ineffective in reducing problem behavior when transitioning from preferred to nonpreferred activities. Problem behavior decreased for both participants when extinction and DRO were introduced, regardless of whether visual schedules were also used.

Visual Schedules



Advanced Warning

JOURNAL OF APPLIED BEHAVIOR ANALYSIS

2006, 39, 103–107

NUMBER 1 (SPRING 2006)

BRIEF FUNCTIONAL ANALYSIS AND TREATMENT OF TANTRUMS ASSOCIATED WITH TRANSITIONS IN PRESCHOOL CHILDREN

DAVID A. WILDER, LIYU CHEN, JULIE ATWELL,
JOSH PRITCHARD, AND PHILLIP WEINSTEIN

FLORIDA INSTITUTE OF TECHNOLOGY

A brief functional analysis was used to examine the influence of termination of prechange activities and initiation of postchange activities on tantrums exhibited by 2 preschool children. For 1 participant, tantrums were maintained by access to certain (pretransition) activities. For a 2nd participant, tantrums were maintained by avoidance of certain task initiations. Although advance notice of an upcoming transition was ineffective, differential reinforcement of other behavior plus extinction reduced tantrums for both participants.

Advanced Warning & Transition Objects

JOURNAL OF APPLIED BEHAVIOR ANALYSIS

2005, **38**, 235–238

NUMBER 2 (SUMMER 2005)

THE EFFECTS OF ANTECEDENT INTERVENTIONS AND EXTINCTION ON TODDLERS' COMPLIANCE DURING TRANSITIONS

CATHERINE A. COTE, RACHEL H. THOMPSON, AND PAIGE M. MCKERCHAR

UNIVERSITY OF KANSAS

We compared the effects of two antecedent strategies commonly used in early childhood settings to increase compliance during activity transitions: a warning condition, in which children were informed of the transition 2 min before it began, and a condition in which children were allowed access to a toy during the transition. Both antecedent interventions were ineffective when implemented alone; however, when these strategies were combined with extinction, improvements in compliance were observed for all children.

Explaining Why

JOURNAL OF APPLIED BEHAVIOR ANALYSIS

2011, **44**, 83–94

NUMBER 1 (SPRING 2011)

AN EVALUATION OF THREE METHODS OF SAYING "NO" TO AVOID AN ESCALATING RESPONSE CLASS HIERARCHY

F. CHARLES MACE

NOVA SOUTHEASTERN UNIVERSITY

JAMIE L. PRATT AND KEVIN L. PRAGER

PROVIDENCE OF MAINE

AND

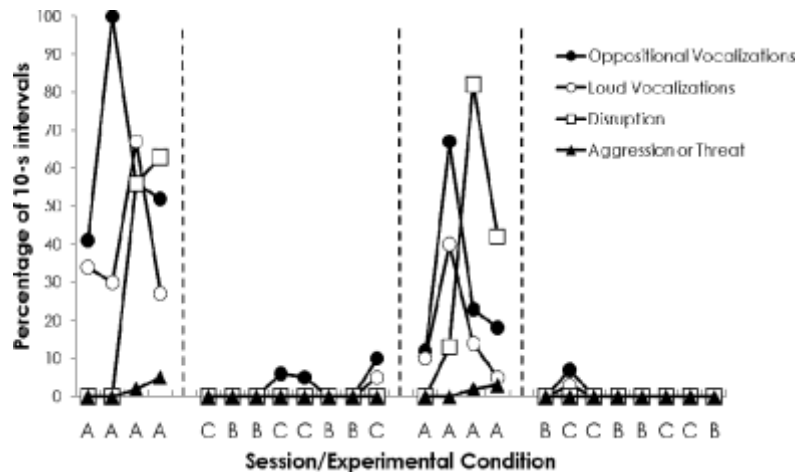
DUNCAN PRITCHARD

ARAN HALL SCHOOL

We evaluated the effects of three different methods of denying access to requested high-preference activities on escalating problem behavior. Functional analysis and response class hierarchy (RCH) assessment results indicated that 4 topographies of problem behaviors displayed by a 13-year-old boy with high-functioning autism constituted an RCH maintained by positive (tangible) reinforcement. Identification of the RCH comprised the baseline phase, during which computer access was denied by saying "no" and providing an explanation for the restriction. Two alternative methods of saying "no" were then evaluated. These methods included (a) denying computer access while providing an opportunity to engage in an alternative preferred activity and (b) denying immediate computer access by arranging a contingency between completion of a low-preference task and subsequent computer access. Results indicated that a hierarchy of problem behavior may be identified in the context of denying access to a preferred activity and that it may be possible to prevent occurrences of escalating problem behavior by either presenting alternative options or arranging contingencies when saying "no" to a child's requests.

Explaining Why

90

F. CHARLES MACE et al.

Analyzing Problem Behavior

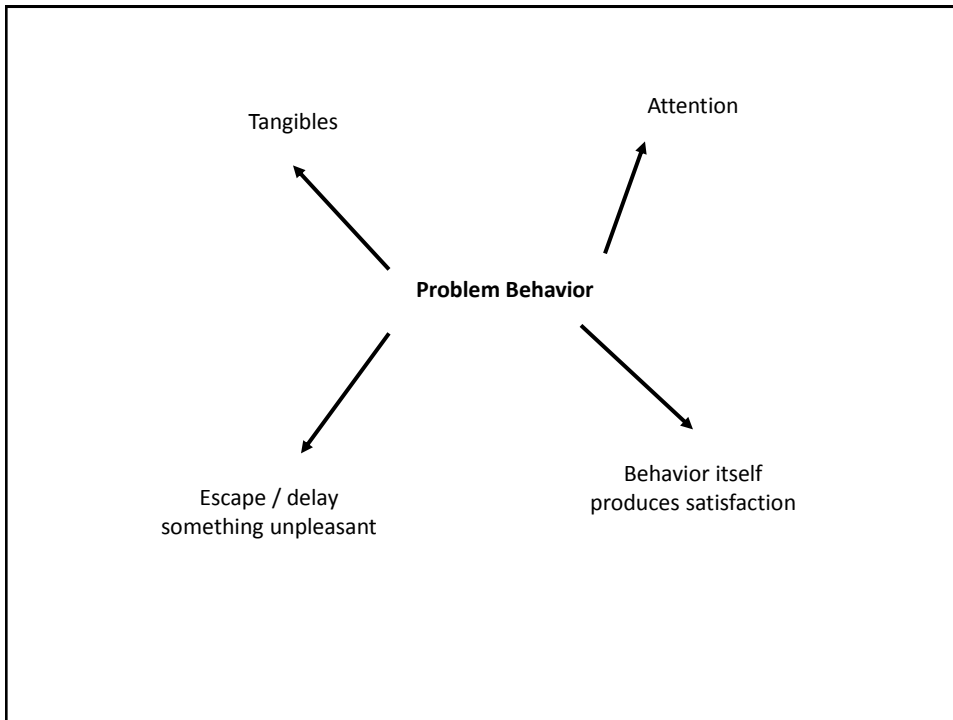
- Just one instance of problem behavior usually is not enough to determine the function
- We look for patterns of antecedents & consequences
 - What is the behavior “doing” for the child?

“Sensory” Behaviors

- Behavior analysts and occupational therapists often strongly disagree regarding how to best treat “sensory behaviors” or stereotypy
 - Don’t ask, “Is it sensory or is it behavior?”
 - Instead ask, “What is s/he doing?” and then, “Why is s/he doing it?”

Social vs. Automatic

- Social – someone else is required to provide reinforcement
 - Socially mediated positive – “get items/attention”
 - Socially mediated negative – “escape”
- Automatic – reinforcer for behavior is the behavior itself
 - Automatic positive – “stimming”
 - Automatic negative – “self-soothing”, “self relief”



Behavioral vs Non-Behavioral Explanations

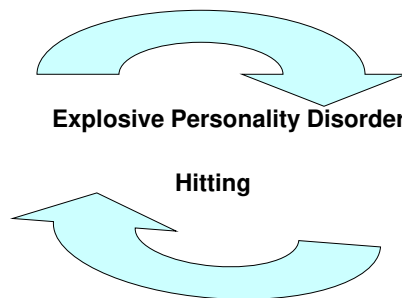
- ABA uses antecedents / consequences to explain behavior
 - This is helpful, because we can manipulate cause & effect patterns
- Other fields may explain behavior in ways that are not helpful
 - Nominal fallacy
 - Reification

Behavioral Explanation

Antecedent → Behavior → Consequence

Nominal Fallacy

Explaining behavior by naming it

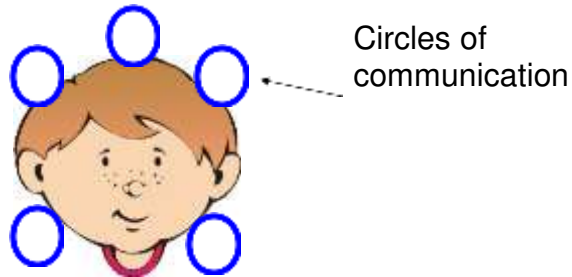


He hits because he has EPD.

He has EPD because he hits.

Reification

Explaining behavior by appealing to an entity whose existence cannot be proven



“Billy does not talk because his circles of communication are not wide enough.”

Affirming the Consequence

- If A, then B. B exists, therefore: A.
- Example:
 - People who have brain tumors have headaches. (true)
 - I have a headache, therefore, I have a brain tumor. (NOT necessarily true!)

Using ABA to Decrease Problem Behaviors

- Through the manipulation of reinforcement, it is possible to decrease the occurrence of undesirable behaviors
 - What is undesirable or unacceptable may vary
 - The key to extinguishing problem behavior is determining WHY the behavior is occurring
 - This is referred to as the **function** of the behavior

Topography vs. Function

- Topography – the form a behavior takes
 - Hitting, laughing, jumping, drawing, etc.
- Function – the reason why a person is engaging in a behavior
- ***A very, very important concept:***
 - Behavioral topography is NOT indicative of behavioral function (McGill, 1999).

Management of Undesired Behaviors:

- Determine:
 - Why is this person engaging in a given behavior?
(FUNCTION)
 - How can we manipulate the environment to decrease the future frequency of this behavior?
(Should be based upon function)
 - What replacement behaviors can be taught to meet this person's needs?

Analyzing Problem Behavior

- Take ABC data
(Antecedent – Behavior – Consequence)
- Look for patterns in the A and C columns
- The reinforcer is hiding in the C column 😊

Collecting ABC Data

- ABC data can help determine the function of a behavior
- These data include the:
 - **Antecedent** – what happened before the behavior occurred
 - **Behavior** – what the behavior looked like, what the person did that was inappropriate
 - **Consequence** – what the staff, family member, etc. did following the behavior. This does not have to be the “right” consequence.

ABC Data Entry: Blank Columns

A	B	C

ABC Data: Checklist

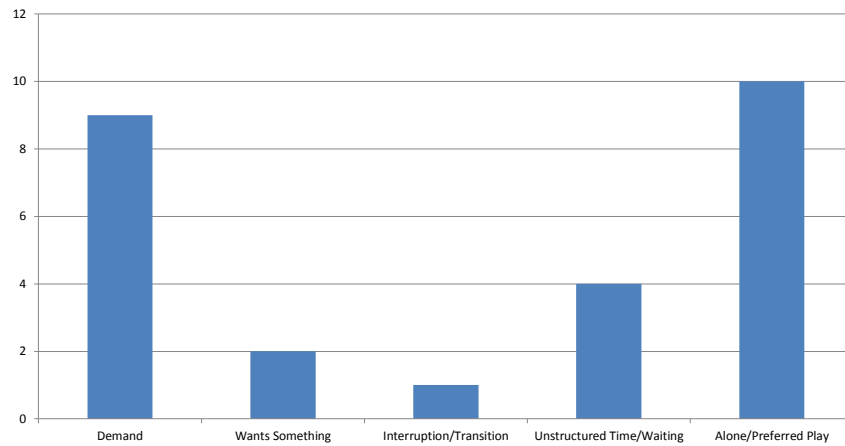
Staff: _____		Date: _____
Activity: _____		Time: _____
Antecedent	Behavior	Consequence
☐ Demand to transition (specify): ☐ Denied access in NET (specify): ☐ Denied access in ITT (specify): ☐ Wanted something he was allowed to have ☐ ITT Demand ☐ Other	☐ Crying ☐ Whining ☐ Yelling ☐ Kicking ☐ Hitting ☐ Throwing ☐ Banging head ☐ Flop to floor ☐ Scratching ☐ Biting ☐ Touching ☐ genitals ☐	☐ Repeated demand until complied ☐ Physically prompted compliance ☐ Withdrew attention ☐ Blocked behavior with mats ☐ Called parents ☐ Paused timer ☐ Re-set timer ☐ Count & mand ☐ Other

Sample ABC Entries

Antecedent	Behavior	Consequence
Leah was prompted by PCA to come sit at the table from playing on the floor.	Leah began grabbing toys and moving away from the table for 25 seconds.	Re-stated the demand twice.
Leah was given a demand by preschool teacher.	Leah began yelling and kicking the wall for 40 seconds.	PCA ran count and mand.
Leah was told to come inside.	Leah began hitting, yelling, throwing, and arguing for 10 minutes.	Leah gained access to outside toys for brief intervals while PCA repeated the demand to come inside.

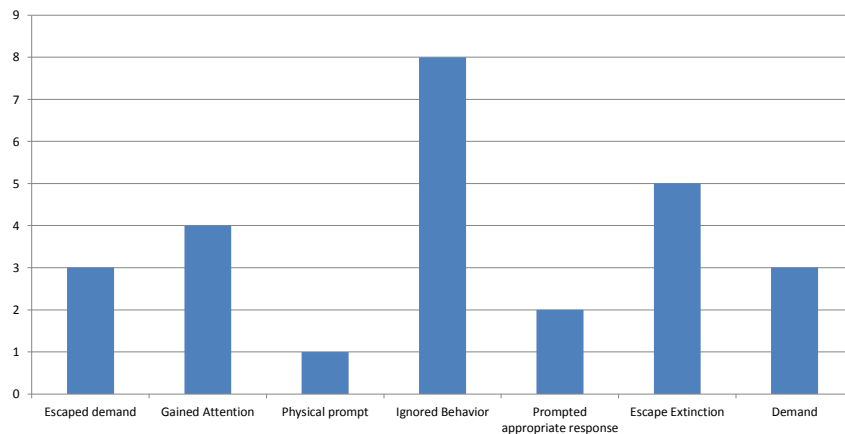
Antecedent Graph

Antecedents to Problem Behavior



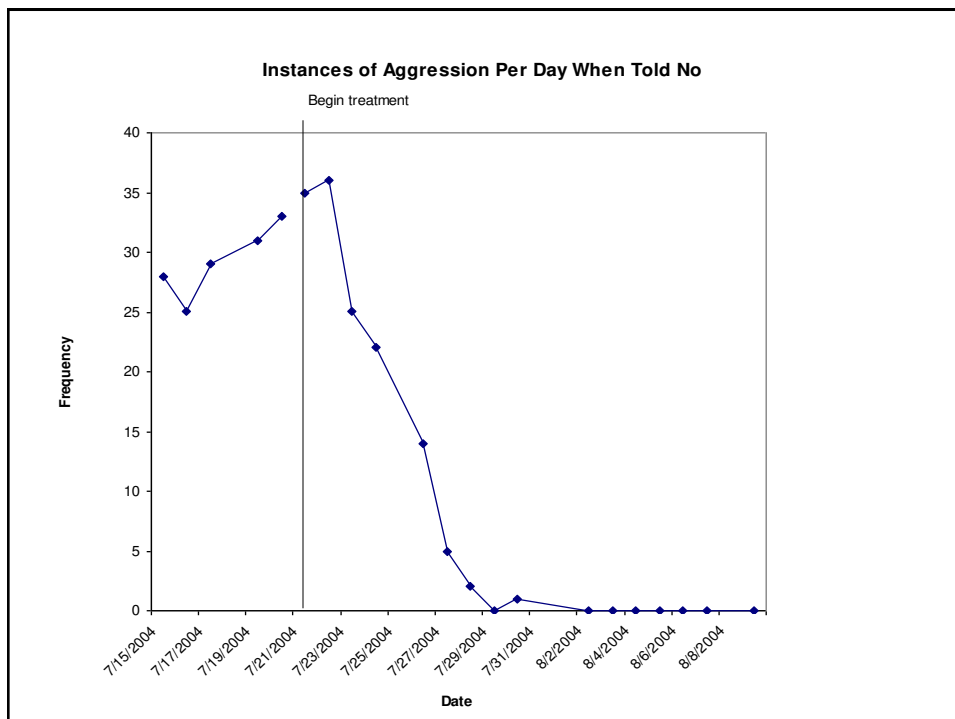
Consequences Graph

Consequences to Problem Behavior



Other types of data

- ABC data helps determine and monitor the function of behavior
- Also helps with procedural integrity
- If the function of the behavior has already been determined, and ABC data is cumbersome, frequency data can be appropriate
 - Frequency of episodes
 - Frequency per antecedent



Preventing Problem Behavior: Attention / Access to Tangibles

- Give lots of attention and enrich the environment with fun things
- Teach a way for the child to ask for attention, activities, and items

Preventing Problem Behavior: Escape

- Pair tasks / materials with reinforcement
- Reduce the demands placed on the child and make work easy or more fun
- Provide frequent reinforcement for good work
- Never allow the child to avoid or escape from work when s/he misbehaves
- Teach the child ask for a break

Preventing Problem Behavior: Self Stimulation

- Provide an enriched environment and get the child interested in other things
- Prevent the behavior from occurring by physical intervention (blocking)
- Teach the child to enjoy being with others and doing other activities to receive reinforcement

Preventing Problem Behavior: Medical Issues

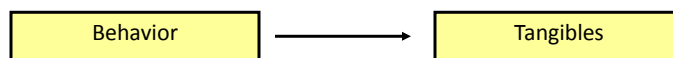
- Take note when the behavior occurs (is it seasonal?)
- When a child has allergies or is ill, disruptive behaviors may occur.
- A doctor may be able to find the cause of the behavior and treat it with medication, dietary changes, etc.

Extinction

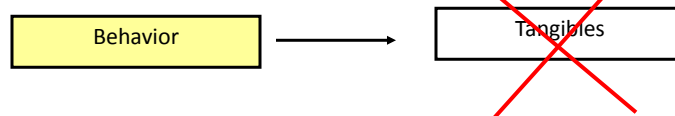
- Extinction – failure to reinforce a behavior that has been reinforced in the past, ultimately leading to a decrease in the future frequency of that behavior
- Extinction is not the same as ignoring!
- Loosely speaking, it involves doing the opposite of what you have done in the past
- Extinction may not stop the behavior immediately. In fact, it is likely to get worse before it gets better (extinction burst)

Extinction: Access to tangibles

History of reinforcement:

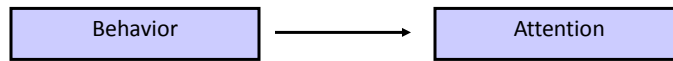


Extinction

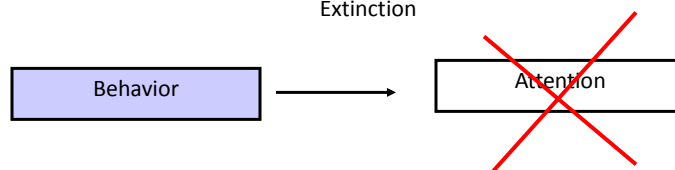


Extinction: Access to attention

History of reinforcement:

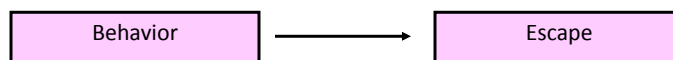


Extinction

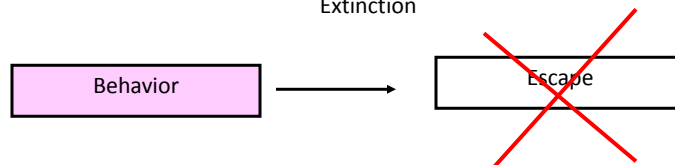


Extinction: Access to escape

History of reinforcement:



Extinction



Extinction is most effective when....

- Used consistently every time
- Reinforcing intermittently under a variable ratio (VR) schedule of reinforcement will actually make the behavior WORSE than if you reinforced every time (FR1)
 - Examples:
 - Casino gambling
 - Child nagging

Eliminating Existing Problem Behaviors

- **Accepting No** – socially mediated positive reinforcement (child wants something they CANNOT have right now)
- **Count and Mand** – socially mediated positive reinforcement (child wants something and they CAN have it, but not for problem behavior)
- **Compliance** – socially mediated negative reinforcement (child resorts to problem behavior to escape demands)

Accepting No

- Say “No”
- If child accepts no, reinforce by redirecting to another fun activity or delivering a reinforcing item
- If problem behavior occurs:
 - Walk away
 - DO NOT REDIRECT TO A FUN ACTIVITY!
 - If the child grabs you, block and walk away
- If the behavior stops for 1 minute return and redirect the child

Tips & Tricks: Accepting No

- Don't say no unless you mean it, and are prepared to follow through.
- If you've got to give in, give in immediately
- Say no once, and only once, then ignore any inappropriate behavior, including repetitive requests (mands)
- Always have your “consolation prize” ready (keep reinforcers available)

Count and Mand

- Tell the child to stop behavior (quiet) and begin counting by showing fingers counting off to 10 at first
- If behavior continues during count, restart the count
- If the child leaves then stop counting and resume normal activities
 - DO NOT APPROACH THE CHILD

Count and Mand

Continued

- When you reach 10 with no behaviors prompt the child to ask (mand) for the item/activity in an acceptable way
- If child asks for item appropriately, deliver the reinforcing item

Tips & Tricks: Count & Mand

- If your child cannot speak or sign for something, you can prompt him/her to point
- If you reach the count of 10 and the child no longer wants the item, simply move on
- If you are consistent with this procedure and problem behavior endures, you may need to program a longer “wait time” (change over delay) more than 10 seconds

Compliance

- Prevention & Teaching the Replacement Behavior
 - Deliver requests when you are close to the child
 - Deliver request firmly but with no emotion

Promise Procedure

- Have preferred reinforcer in your hand where child can see it
- Deliver the demand. Do NOT talk about the valuable item.
- If the child complies, give the valuable item.
- When the demand is not completed immediately or child tantrums:
 - Physically guide child to do the task
 - Do not give the valuable item
- Gradually eliminate use of the promise
 - Fade visibility of item
 - Reduce how often you give the item, in an unpredictable manner

Compliance: Variation

- If your child is too big or strong for you to physically prompt them safely, you can resort to a “nag” procedure
- Rather than physically prompting, block access to all other activities and keep placing the demand once every 3 seconds (“sit down...sit down...sit down...”) until compliance is achieved
- Likely to take longer and may not be effective with some kids, in which case you would need to consult with a BCBA

Compliance: Tips & Tricks

- Present demands only if you are willing to follow through
- Phrase demands appropriately
- Keep reinforcers with you whenever possible
- Present demands in a calm, neutral voice
- Present demand only once before you prompt compliance (one chance)
- Placing easy demands prior to hard demands may help to boost compliance

Everyday Challenges

- Most problem behaviors related to everyday situations will involve a variation of the procedures we have already discussed
 - Accepting no
 - Count & mand
 - Compliance

Matt at the Movies

- Example: Matt's family is watching a movie in the theater. After the first 15 minutes, Matt begins to sing "It's a Small World" and flap his hands. His family just ignores it (no attention, no tangibles, no leaving theater), but he continues anyway.
- What's the probable function?
 - Automatic positive reinforcement
- What do we do?
 - Reinforce good behavior, provide acceptable replacement behaviors

Matt at the Movies

- Plan ahead – bring fun things that Matt can play quietly with that will keep the value of singing low
- Reinforce the absence of singing ("Good staying quiet! Here's some popcorn!")

Leah at the Movies

- Example: When Leah's family goes to the movies, Leah usually sings "Frosty the Snowman" after a few minutes. One of her parents then takes her to the parking lot, where the singing stops. When they go back in, the singing resumes.
- What's the probable function?
 - Socially mediated negative reinforcement
- What do we do?
 - Stop taking her out of the movie when she sings

Leah at the Movies

- Deliver reinforcement for appropriate quiet sitting
 - This could be tangibles, edibles, or earning a chance to get up and leave
- Teach Leah to ask to leave the movie rather than sing

Deep Pressure

- Example: Tori bites her aunt. Her aunt says, “Oh, you need pressure!” and squeezes Tori’s jaw and chin. This occurs again and again in the future.
- What’s the probable function?
 - Socially mediated positive reinforcement
- What do we do?
 - Stop squeezing when she bites; establish change-over delay, prompt mand as a replacement behavior

Getting Ready for Bed

- Example: Mom tells Ricky to put on his P.J.’s. Ricky cries. Mom waits 5 minutes and then tells him to put his P.J.’s on again. This happens several times.
- What’s the probable function?
 - Socially mediated negative reinforcement
- What do we do?
 - Compliance trials with a promise

Rocking During Instruction

- Example: Jon's teacher asks him to give her a toy. Jon rocks and holds onto the toy. The teacher moves onto another task.
- What's the probable function?
 - Socially mediated negative reinforcement
- What do we do?
 - Prompt compliance

Mouthing Toys

- Example: Keith puts a toy in his mouth. His mother takes the toy out of his mouth and gives him a pretzel to chew instead. This happens again and again in the future.
- What's the probable function?
 - Socially mediated positive reinforcement
- What do we do?
 - Count & mand

Too Much Spinning

- Example: The OT is vigorously spinning Katie on the swing. Katie whines. The OT spins more slowly. In the future, when the swing is moving too quickly, Katie whines again.
- What's the probable function?
 - Socially mediated negative reinforcement
- What do we do?
 - Count & mand

No Feet Where We Eat

- Example: Elle's family is eating dinner. When everyone talks to Elle, she sits nicely. When they talk to her brother, she puts her feet in her food. Everyone tells Elle to put her feet down. This pattern continues.
- What's the probable function?
 - Socially mediated positive reinforcement
- What do we do?
 - Withhold attention when feet are on table, give attention when feet are off table, train mands for attention

Tolerating Non-Preferred Stimuli

- Challenge: Teach and reinforce compliance (sitting still quietly)
- Need to start with “baby steps” using an escape extinction hierarchy
- Start with the easiest step the learner can tolerate
- Count aloud to show passage of time
- Stop count (but not the non-preferred stimuli) if problem behavior occurs
- When count is complete, reinforce (escape + something fun)

Escape Extinction Hierarchies

- Modify the hierarchy based upon each child
- The smaller the steps, the less problem behavior you are likely to see.
- Practice many times per day
- This protocol can be used for “desensitization” of other things your child does not like (certain clothes, getting hands messy, dental care, etc.)

Sample Hierarchy

- Clippers on, cut hair for 10 seconds
- Clippers on, touch hair for 10 seconds
- Clippers on, touch hair for 3 seconds
- Clippers on, near head for 10 seconds
- Clippers off, near head for 10 seconds
- Clippers off, near head for 5 seconds



Doctor / Dentist Visits

- Practice using escape extinction hierarchies at home
- Try to replicate the environment as closely as possible
- In some serious cases, you may want to practice in the office before the actual exam

Picky Eaters

- Treatment of feeding disorders can be complex, and is best managed by a Board Certified Behavior Analyst with experience in this area
- Ideal to consult with a behaviorally trained SLP or OT, in some situations

Feeding Problems

- When in doubt, always rule out medical causes first
- If child eats preferred foods well, and engages in non-desired behavior only with non-preferred foods, there is a good chance that the behavior is socially mediated
- Treatment of socially-mediated feeding problems can be complex, and BCBA involvement is recommended

Overview of Behavioral Strategies for Food Refusal

- Demand fading
- Shaping
- Escape extinction
- Differential reinforcement of alternative / incompatible behaviors

Recommended Book

Williams, K.E. & Foxx, R. M. (2007). Treating Eating Problems of Children W/ Autism Spectrum Disorders and Developmental Disabilities: Interventions for Professionals and Parents

Automatic Positive Reinforcement: Sate the MO

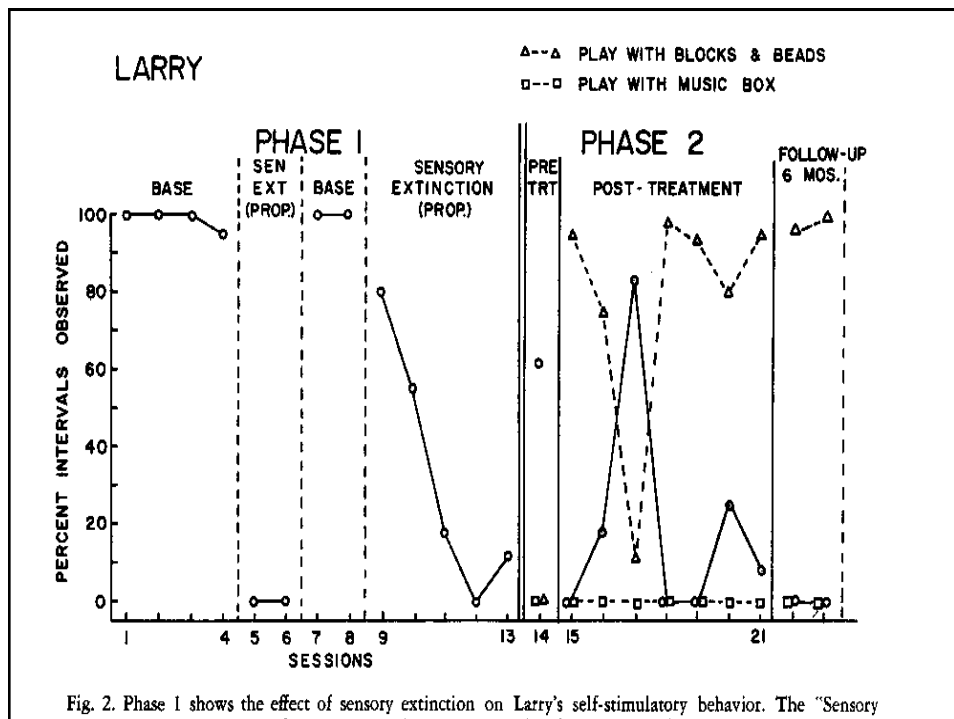
- (Rapp, 2004)
- Encourage the child to engage in high rates of the behavior, to produce a temporary decrease in its value

Automatic Positive Reinforcement: General Environmental Enrichment

- Vollmer et al., 1994; Ahearn, Clark, DeBar & Florentino, 2005
- Make toys/activities available that compete with the value of stereotypy

Automatic Positive Reinforcement: Sensory Extinction

- Rincover, 1978; Rincover, et al., 1979; Iwata, Pace, Cowdery & Miltenberger, 1994; Rapp, Dozier, Carr, Patel & Enloe, 2000
- Modify the environment so that the child can still engage in the response, but reinforcement is not produced



Automatic Positive Reinforcement: Response Blocking

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THE EFFECTS OF BLOCKING MOUTHING OF LEISURE ITEMS ON THEIR EFFECTIVENESS AS REINFORCERS

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Leisure items are commonly used as reinforcers in behavior-analytic applications. However, a defining feature of autism is the occurrence of stereotypy, and individuals with autism often engage leisure items in a stereotyped manner. The opportunity for stereotyped interaction may be the only aspect of a contingent stimulus that makes it a reinforcer for appropriate behavior. Therefore, this study investigated the effects of blocking stereotyped reinforcer interaction on reinforcer efficacy for 2 children with autism. Results showed that blocking stereotypic reinforcer interaction did not influence reinforcer efficacy.

Automatic Positive Reinforcement: Matched Stimulation

- Providing access to similar sensory stimuli can decrease the value of repetitive “sensory” behavior

*AN EVALUATION OF THE EFFECTS OF
MATCHED STIMULI ON BEHAVIORS MAINTAINED BY
AUTOMATIC REINFORCEMENT*

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The purpose of the current investigation was to extend the literature on matched stimuli to three dissimilar forms of aberrant behavior (dangerous climbing and jumping, saliva manipulation, and hand mouthing). The results of functional analyses suggested that each behavior was automatically reinforced. Preference assessments were used to identify two classes of stimuli: items that matched the hypothesized sensory consequences of aberrant behavior (matched stimuli) and items that produced sensory consequences that were not similar to those produced by the aberrant behavior (unmatched stimuli). The effects of providing continuous and noncontingent access to either the most highly preferred matched or the most highly preferred unmatched stimuli were assessed relative to a condition in which no stimuli were available. Overall results suggested that providing access to items that matched the hypothesized sensory consequences of aberrant behavior may be more effective than simply selecting stimuli either arbitrarily or based on the results of preference assessments alone.

Automatic Positive Reinforcement: Earn the Behavior

- Allow the child to earn opportunities to engage in the behavior (Haag & Anderson, 2004; Hanley et al., 2000)
- Need clear Sd
- Often combined with response blocking, response cost, etc.

Automatic Positive Reinforcement: Differential Reinforcement

- Differential reinforcement (Harris & Wolchik, 1979) – reinforcing one response class and withholding reinforcement for another response class
 - Incompatible behavior (DRI)
 - Alternative Behavior (DRA)
 - Other Behavior (DRO)
 - Low Rates of Responding (DRL)

DRA / DRI

- Reinforcement of an appropriate alternative to the problematic behavior
- Withholding reinforcement following instances of problem behavior (extinction)
- Mands as DRA
- DRI – response is chosen because it is incompatible with another response that is a deceleration target behavior

Tips for Implementing DRA/DRI

- Select incompatible and alternative behaviors
 - Low response effort
 - Already exhibited by the child (when possible)
 - Likely to contact natural contingencies of reinforcement
- Use reinforcers that are
 - Potent
 - Easy to deliver quickly & consistently
 - In some cases, a generalized reinforcer (i.e. tokens) may be ideal

DRO

- Reinforcer is delivered contingent upon zero rates of the behavior
- Implementing DRO:
 - Collect data and determine the average IRT
 - Set the initial DRO duration at approximately 80% of the IRT
 - Choose which type of DRO you will use:
 - Interval DRO: deliver the reinforcer only at the end of intervals in which no target behaviors have occurred
 - Momentary DRO: at a specific moment when the behavior is not occurring
 - If the target behavior occurs, reset the interval

DRO Tips

- Interval DRO may be more effective than momentary DRO
- Increase the DRO interval gradually as behavior improves
- Beware of:
 - Other problem behaviors occurring during the interval
 - Problem behavior occurring at the time of reinforcement

DRL

- Differential reinforcement of low rates of behavior
 - Full session: When a reinforcer is delivered for no more than a fixed number of responses in a time period
 - Spaced responding: When a reinforcer is delivered after an IRT greater than some criterion amount of time

Automatic Positive Reinforcement: Response Interruption & Redirection

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RESPONSE INTERRUPTION AND REDIRECTION FOR VOCAL STEREOTYPY IN CHILDREN WITH AUTISM: A SYSTEMATIC REPLICATION

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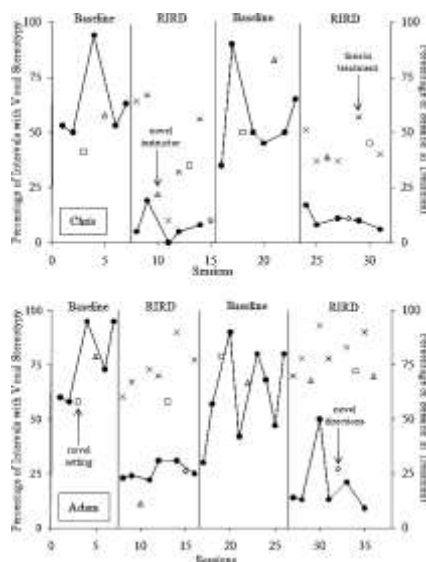
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This study systematically replicated and extended previous research on response interruption and redirection (RIRD) by assessing instructed responses of a different topography than the target behavior, percentage of session spent in treatment, generalization of behavior reduction, and social validity of the intervention. Results showed that RIRD produced substantial decreases in vocal stereotypy. Limitations of this study were that behavior reduction did not generalize to novel settings or with novel instructors and that appropriate vocalizations did not improve.

Response Interruption & Redirection

MEGAN DUFFY CASSELLA *et al.*

Automatic Negative Reinforcement: Address the MO

- Teach replacement behaviors / mands (Rapp & Vollmer, 2005)

Automatic Positive Reinforcement: Response Cost

- Falcomata, et al, 2004
- The loss of a previously earned reinforcer
- Often combined with token economies
- Disadvantage: eventually run out of things to take, and if give the opportunity to “earn back” reinforcers, response cost can be less effective

Data Collection: Behaviors Targeted for Decrease

- Frequency of episodes
- Duration of episodes
- Cumulative duration
- Inter-response time

Data Collection Materials

- Timer
- Stopwatch
- Frequency counters (“clickers”)
- Data sheets / pens OR electronic data collection

Data Collection: Behaviors Targeted for Increase

- Frequency
- Latency
- Duration
- Probe
- Frequency of prompted / unprompted responses (can convert to percent correct)