Advances in the Behavioral Assessment and Treatment of Challenging Behavior in Individuals with Autism

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The Rosenberg Findout
Understanding Behavioral Issues in Individuals with ASD

- ASDs are *social* learning disabilities. Social misunderstandings contribute significantly to behavior problems.
- Mindblindness and other problems with social cognition are implicated.
- Poor executive functions contribute significantly.
- Cognitive, social, and behavioral rigidity further compromise performance.
- It is *absolutely essential* that the *learning* and *social* environments be assessed before developing any intervention.
Forms and Functions of Problem Behavior

• **What is problem behavior?**
  - Any form of behavior that inhibits or interferes with daily functioning.

• **Forms of problem behavior**
  - Aggression
  - Property destruction
  - Noncompliance
  - Self-injurious behavior
  - Pica
  - Repetitive behaviors
    - Stereotypy
    - Vocal and motor tics

- Annoying
- Dangerous
- Stigmatizing
## Forms and Functions of Problem Behavior

<table>
<thead>
<tr>
<th>Topography</th>
<th>Escape</th>
<th>Attention</th>
<th>Tangible</th>
<th>Automatic</th>
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<td><strong>Percentage of</strong></td>
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<td><strong>25.3</strong></td>
<td><strong>10.1</strong></td>
<td><strong>15.8</strong></td>
<td><strong>14.6</strong></td>
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Forms and Functions of Problem Behavior

- **Global consequences of problem behavior**
  1. Social
  2. Educational
  3. Injury
  4. Property destruction
  5. Legal ramifications/Liability
Basic Assumptions

- Behavior is communication
- Behavior is a function of the interactions between the person and the environment
- Intervention must address variables maintaining the behavior
- Outcomes must be evaluated functionally
Functional Assessment 101

• Cry Baby
Assessment

Evaluation

Treatment
Functions of Behavioral Assessment

- **Predictive**: to provide information that predicts appropriate intervention
- **Formative**: to provide information that informs ongoing intervention planning
- **Summative**: to provide information that summarizes treatment effects
Levels of Behavioral Assessment and Intervention

- Modify the ecology of the target behavior
- Manipulate contingencies controlling the target behavior
- Teach functionally equivalent alternative behaviors to replace the target behavior
- Teach long-term behavior that addresses and satisfies the motivators of the target behavior
Setting Events and Motivating Operations

Setting events and motivating operations are stimuli that interact with existing discriminative stimuli to produce momentary changes in existing response-reinforcer relationships, both positive and negative. Examples include illness, fatigue, pain, changes in schedule, noise level, sleep irregularities, hunger.
Influences on Severe Behavior Problems

Setting Events and MO’s

Stimulus Events

Social Attention

Biological Contexts

Social Contexts

Physical Contexts

Escape

Tangibles

Sensory Feedback

Severe Behavior Problems

From: Durand (1990)
Behavioral Assessment

- Ecological assessment
- Motivational assessment
- Reinforcer assessment
- Functional assessment and/or analysis
Ecological Assessment

- Physical environment
- Antecedent-Behavior-Consequent (ABC) conditions
- Learning environment
- Temporal analysis
Motivational Assessment

- Positive Reinforcement (social attention or material reinforcers)
- Escape/Avoidance of Demands (negative reinforcement)
- Reinforcer Loss
- Sensory Consequences (sensory reinforcement or arousal reduction)
- Respondent (Classical) Conditioning
- Organic Factors
Reinforcer Assessment

- Assessment of stimulus preferences
- Reinforcers should be common to the natural environment to promote generalization
- Reinforcers must be functional
- Reinforcers should be age-appropriate
Functional Assessment and Analysis

Functional assessment/analysis is a process for determining which reinforcers maintain a behavior, and the stimulus conditions and setting events that set the occasion for that behavior. Three strategies are used to gather information: interviews, direct observation, and actual manipulation of variables presumed to control or influence the target behavior.
What Do We Intend To Discover?

- What antecedent(s) is occasioning the behavior?
- What consequence is maintaining the behavior?
- Precursors and behavioral chains
- High- and low-probability settings
- Functionally equivalent behavior
- Patterns based on observable behavior and events
# Functional Analysis: Condition Descriptions

<table>
<thead>
<tr>
<th>Condition</th>
<th>Description</th>
<th>Contingencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Free Play (Control)</td>
<td>No task demands. Intermittent attention as child plays with preferred toys</td>
<td>No programmed consequences</td>
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<tr>
<td>Attention</td>
<td>Child is told to play alone. Adult present in session room</td>
<td>Attention contingent on problem behavior. No programmed consequences for appropriate behavior</td>
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<tr>
<td>Tangible</td>
<td>Intermittent adult attention. Preferred item visible but out of reach. No task demands</td>
<td>Preferred item delivered contingent on problem behavior. Item is removed following a set period of appropriate behavior</td>
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<tr>
<td>Escape</td>
<td>Difficult task presented</td>
<td>Task removed contingent on problem behavior</td>
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<tr>
<td>Alone/Ignore</td>
<td>Child is left alone without toys/materials. Adult is either in the room or just outside.</td>
<td>No programmed consequences for any behavior</td>
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Functional Analysis

- Control
- Attention
- Demand
- Toy Play
Methods of Functional Assessment/Analysis

- Indirect Methods
  - Anecdotal reports
  - Record review
  - Unstructured interviews
  - Structured interview formats such as the Motivation Assessment Scale (MAS), Functional Analysis Interview, Questionnaire About Behavioral Function (QABF), Functional Analysis Screening Tool (FAST)
Methods of Functional Assessment/Analysis

- Descriptive Analyses of Natural Conditions
  - ABC analysis
  - Scatterplots
  - Direct observation and recording with interval or time-sampling procedures
<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Antecedent (What Happened Before)</th>
<th>Behavior (Briefly Describe)</th>
<th>Consequence (What You Did)</th>
<th>Child's Response To Consequences</th>
</tr>
</thead>
</table>

**Antecedent:** An antecedent is anything that happens immediately before the behavior, including who what where and any requests (to do something or stop doing something) that were made.

**Behavior:** A clear description of what the behavior looked like, and how long it lasted.

**Consequence:** What did you do immediately following the behavior? What did you say?

**Child's Response:** How did the child react to the consequences? What did he/she do?
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Functional Behavior Assessment/Analysis

- Functional Behavior Assessment (FBA) is the process of gathering information noted above in order to guide treatment planning. It differs from a functional analysis (FA) in that the latter (FA) involves the experimental manipulation of variables or conditions.

- Advantages and disadvantages of functional analysis (FA)
  - Time consuming
  - Reinforcement of potentially dangerous problem behavior
  - Training demands
  - Experimentally confirms/disconfirms hypothesis
  - Demonstrates functional relationships
  - Controlled setting conducive to treatment analysis
Intervention and Treatment Planning for Challenging Behavior in the Classroom, Home, and Community
Linking Assessment Data to Treatment Planning

Severe Challenging Behavior

Maintained by:

Positive Reinforcement tangibles

Negative Reinforcement: Escape

Respondent (Classical) Conditioning

Organic Factors

Positive Reinforcement Social Att

Sensory Consequence Sensory Reinf.

Sensory Consequence: Arousal reduction

Treatment plan

Treatment plan

Treatment plan

Treatment plan

Treatment plan

Treatment plan

Treatment plan

Yale Child Study Center
Teaching alternative, more appropriate, functional behavior is the *real* task in behavior management.
An Example....

- Behavior Problems Are Not Always What They Appear To Be
Treatment is based on *Function* (not form)
General Rules of Intervention

• Rule 1: Always address the function of behavior
• Rule 2: For every behavior you want to decrease YOU MUST have one to increase (Fair Pair Rule)
• Rule 3: Increase engagement in activities through skill building or reinforcement
• Behavior management strategies should be fully integrated with communication and social teaching programs

• Behavioral excesses and deficits should be evaluated first within the context of the child’s poor organizational skills, understanding of social expectations, arousal and anxiety problems, learning/information processing deficits, or breakdowns in routine, structure, or predictability
• Minimize outbursts by increasing consistency of adult behavior, and the student’s understanding of adult or situational expectations
• Adult affect and verbal message may be discordant. Be careful!
• Teach “personal time out”, relaxation strategies, etc. as needed. Reinforce a student for using these strategies.
Intervention and Treatment Planning

- Treatment plan must teach an alternative, more functional communicative behavior to take the place of the aberrant behavior.
Intervention and Treatment Planning

Treatment plan must use differential reinforcement procedures to increase behavior that is functionally equivalent and incompatible with the aberrant behavior.
Intervention and Treatment Planning

Treatment plan must modify antecedent conditions, setting events, or ecological variables that may occasion the challenging behavior.
Intervention and Treatment Planning

Consequent control procedures must be the least restrictive necessary, must have demonstrated efficacy, and must be socially valid.
From Functional Assessment to Functional Treatment Planning
FUNCTIONAL COMMUNICATION TRAINING

- The Purpose of Functional Communication Training (FCT) is to teach individuals communication behaviors as a replacement for maladaptive behavior.
- Teaching communicative behaviors that are functionally equivalent to maladaptive behaviors results in an increase in the former and a decrease in the latter.

FUNCTIONAL COMMUNICATION TRAINING: COMPONENTS

1. Define the target behavior.
2. Conduct a functional assessment/analysis to determine communicative intent.
3. Identify a functionally equivalent communicative response.
4. Identify potential reinforcers.
5. Identify the communication methods for child’s response
   a. verbal
   b. gestural (sign, picture symbol)
   c. mechanical (tape recorded messages augmentative devices).
6. Teach the desired, appropriate communicative alternative in analog and real-life situations. Provide contingent functional outcomes.

7. Evaluate efficacy of procedures systematically, and make modifications as needed.
Functional Communication Training

- **Assessment**
- **Intervention**
If problem behavior is maintained by:
Positive Reinforcement (social attention or material reinforcers)

- Planned ignoring
- Contingent waiting/contingent access
- Time out (from the reinforcing stimulus)
- Differential reinforcement of functionally equivalent alternative behavior with social or tangible reinforcers
- Differential reinforcement of communicative alternatives (Functional Communication Training)
If problem behavior is maintained by:

**Escape/avoidance of demands**

- Work through the task (extinction)
- Enrich the task environment with reinforcers
- Provide an alternative mode of task presentation
- Pair demand with reinforcer
- Reduce demands of the task (make task easier)
- Provide more potent reinforcers
If problem behavior is maintained by: Reinforcer Loss

- Schedule frequent, predictable access to reinforcer throughout the day
- Teach child to “wait” for reinforcer
- Transition from loss of reinforcer to re-access of the reinforcer is the critical teaching consideration
If problem behavior is maintained by:

**Sensory Consequences: Negative Reinforcement (Escape from Arousal)**

- Attenuate sensory consequences of the task, or the environment
- Direct instruction in strategies that will mitigate effects of overstimulation (e.g., relaxation training, desensitization, exercise, paired stimuli)
If problem behavior is maintained by:

**Sensory Consequences: Automatic Positive Reinforcement**

- Substitute a more appropriate, functionally compatible, sensory reinforcer
- Allow child to earn the sensory reinforcer
- Teach alternative behaviors that will access the same reinforcing sensory consequence
- Enrich the environment with materials that will provide the preferred sensory consequence
Treatment Effectiveness: Evaluation and Troubleshooting
Components of a Treatment Plan that Enhance Effectiveness

- **Social validity**: the degree to which consumers and stakeholders view the intervention strategies, target behaviors selected, and outcomes achieved as appropriate.

- **Empirical validity**: whether the intervention will be beneficial to the child’s eventual outcome, supporting longitudinal change and the *Criterion of Ultimate Functioning* (skills needed to function as independently as possible)
Components of a Treatment Plan that Enhance Effectiveness

- **Internal validity**: the degree to which behavior change was a function of the intervention
- **Treatment integrity**: the degree to which the intervention plan was implemented correctly
Common Treatment Errors: The Three Cs

- **Consistency**: intervention was implemented inconsistently
- **Contingency**: consequence was not used contingently
- **Contiguity**: consequence was not contiguous with the target behavior (did not follow the target behavior immediately)
Safeguarding Health and Dignity During Treatment
Special Problems in Assessing and Treating Aggression and Self-Injury

• Maintaining safety of person with ASD and others is essential and primary
• Escape/avoidance of aggression is reinforcing to staff/parents (negative reinforcement trap)
• Escape/avoidance of self-injury may (or may not) be reinforcing to person with ASD
• Functional analysis procedures may briefly increase problem behavior during assessment conditions
• If function is not addressed properly, substitution of other undesirable behavior is likely
Special Problems in Assessing and Treating Aggression and Self-Injury

- It is **absolutely essential** to assess function of the behavior.
- Social validity of target behavior, proposed intervention, and proposed outcomes must be determined.
- Objective evaluation of outcomes is essential.
- Collateral and unintended effects of treatment must be considered.
- Teaching the person with ASD more adaptive and acceptable behaviors **that serve the same function** as the problem behavior is a necessary part of intervention.
Ethical Considerations in Treating Severe Challenging Behavior

- Treatment plan should be designed and supervised by a professional with specific competencies in assessment and treatment of severe behavior problems.
- Treatment plan should be reviewed for technical adequacy and appropriateness by experts.
- Treatment should be conducted openly, and effects evaluated rigorously. Complete transparency is the rule, not the exception.
Ethical Considerations in Treating Severe Challenging Behavior

- Informed consent by parent, client, or legal guardian is essential.
- Treatment plan should adhere to the principle of Least Invasive Intervention necessary to achieve positive outcome.
- In cases of most severe behavior (e.g., self-injury that threatens health status), treatment plan should be reviewed by a human rights committee to safeguard client’s rights.
The Take Home Message: 
Four Essentials for Effective Intervention

- The learner is always right
- Behavioral choreography is the essence of effective intervention with challenging behavior
- Perceptions can be misleading: rely on your knowledge of the individual with ASD and the power of your objectivity
- The only appropriate intervention is a clinically, socially, and educationally effective intervention