ECHO COMPLEX BEHAVIOR

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DATE OF SESSION: Oct 20th

REMINDERS:

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Link:

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Bio-Behavioral Model to Assess and Treat Severe Complex Challenging Behavior with Individuals with IDD

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Learning Objectives

1. Introduction to the Bio-behavioral model
2. Discuss how skill deficits, environmental variables, and biological factors can impact disruptive behaviors
3. Identify the type of information each discipline in an interdisciplinary team gathers when assessing severe challenging behavior in individuals with IDD

What Type of Children are we Talking About?

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- Children with developmental and intellectual delays
- Primary concern is severe disruptive behavior
- Disruptive behavior a barrier to the child receiving other services
- Moderate to severe language delays
- Often have medical complications and/or are on several psychiatric or other medications

Raising the Bar: Growth of Specialized Hospital Psychiatric Units for Youths with Neurodevelopmental Disabilities

Siegel et al. (2025). Psychiatric Services

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FIGURE 1. Identified specialized inpatient psychiatric units in the United States serving youths with neurodevelopmental disabilities

Characteristics of Bio Bx Teams (N=13)

Discipline (Core Team)	Percent of Biobx Units
Child Psychiatry	100%
Social Work	100%
BCBA	92%
Psychologist	62%
SLP	62%
OT	54%
Spec Education	46%

Discipline (Available Consult)	Percent of Biobx Units
PT	100%
Neurologists	47%
GI	31%
Genetics	71%
Pediatricians	62%

Guidelines and Things to Think About

- Initially each team members needs to focus their assessment/treatment on the immediate reduction of the severe behavior as primary goal.
  - Once severe behavior has reduced team can broaden goals.
- Team members don’t need to do everything. Rely on expertise of other members
- How to translate components of the Biobehavioral model to outpatient/community-based services
  - e.g., how to establish and maintain relationships with other providers working with your patients when not all in same practice

Biobehavioral Treatment of Severe Behavior

Biologic/Medical: diagnose/treat underlying psychiatric issues; assess/treat underlying medical complications

Skill-based: eval/recs communication (SLP); eval/recs sensory/motor- Occupational Therapy (OT)

Behavioral: understanding/manipulating antecedents/consequences in environment to alter behavior and identify function of severe behavior. Can also help track other tx effects (e.g., medication, sensory input)

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Role of the Behavior Analyst

Bio-behavioral Model

Applied Behavior Analysis (ABA)

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The process of:

- Applying principles of behavior (e.g., reinforcement) to specific behavior
- Evaluating whether any changes that occur are indeed due to treatment application (single-case design)
- Change socially significant behavior to a meaningful degree (significant to people)

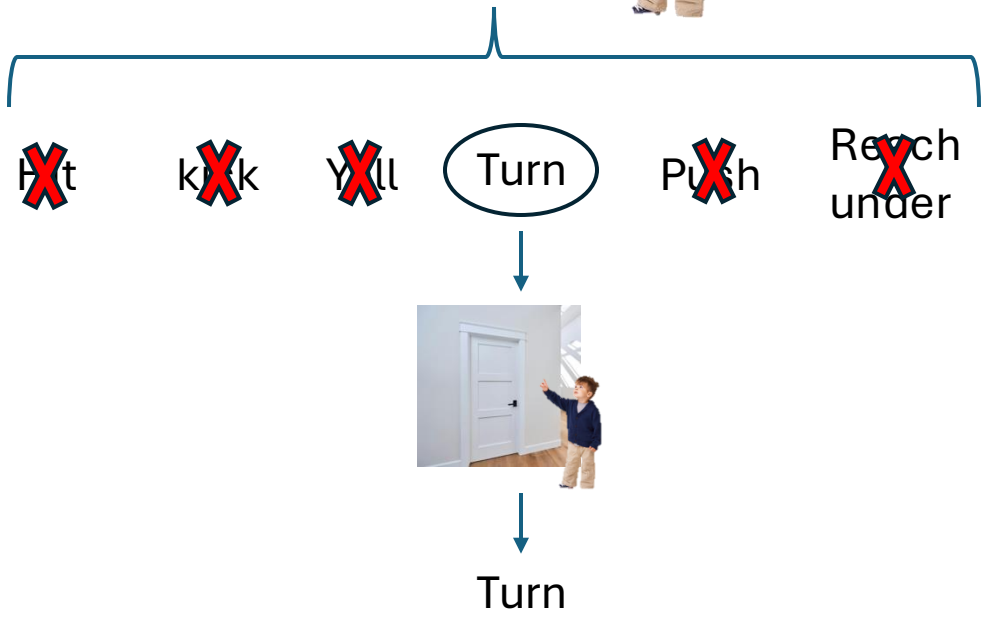
Baer, Wolf, & Risley (1968)

Conceptualization of the Environment

Behavior Analysts define environment as:

All stimuli which affect behavior

1. The environment is always changing
2. It is never the same for two people
3. It is both outside and inside the body



Levels of Selection that Affect Our Behavior

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Level	Description
Biology	Our genes that are selected and passed down over generations related to survival and reproduction
Lifetime of Learning	The selection for behavior within the lifetime of an individual
Culture	The selection of behavior patterns of groups of individuals that endure beyond the lifetime of a single individual

Behavior-Environment Interaction

Biology: Disability, sleep, physiology, medication

Learned experiences: Trauma (Pavlovian Conditioning), Skill repertoire, family experiences

Culture: Language, food traditions, social tendencies

Stimulus or Event	Response	Stimulus change
Antecedent	**Behavior**	**Consequence**
What precedes the response	Specific response emitted	What follows the response
• People • Task • Setting • Pain	• Effort • Duration • Latency • Magnitude	• Extinction (no change) • Punishment • Reinforcement

Behavior Analyst Prioritization Based on Levels of Risk

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Risk Level	Categories	Question	Action
Complex Behavior: Poses high risk to self or others	• **Physiology**: Any medical conditions • **Learning**: Immediate environmental variables (antecedents & consequences) • **Neurological**: PRN, stabilizing medication	What are the variables that have the most evidence to immediately stabilize/reduce harmful behaviors?	• Medical intervention • Assessment, change antecedents and consequences • Introduce or modify medications
Stabilized Behavior: Poses low risk to self or others	• **Physiology**: Any medical conditions • **Learning**: Teach skills for independence and communication; exploring traumatic events; family training • **Neurological**: Exploring dosage and other psychiatric alternatives	What are the variables that produce maintenance and generalization?	• Medical intervention • Skill acquisition, exploring sensory factors, past trauma, counter - conditioning • Dosage adjustments; alternatives

Behavior Analytic Assessment

- Complete a Functional Behavioral Assessment (FBA) to identify the environmental variables that maintain the disruptive behavior (i.e., function(s) of behavior)
- Develop and evaluate a function-based treatment
- Assist in data collection to identify other treatment effect (e.g., medication, sensory) to help team track progress

Function of Behavior

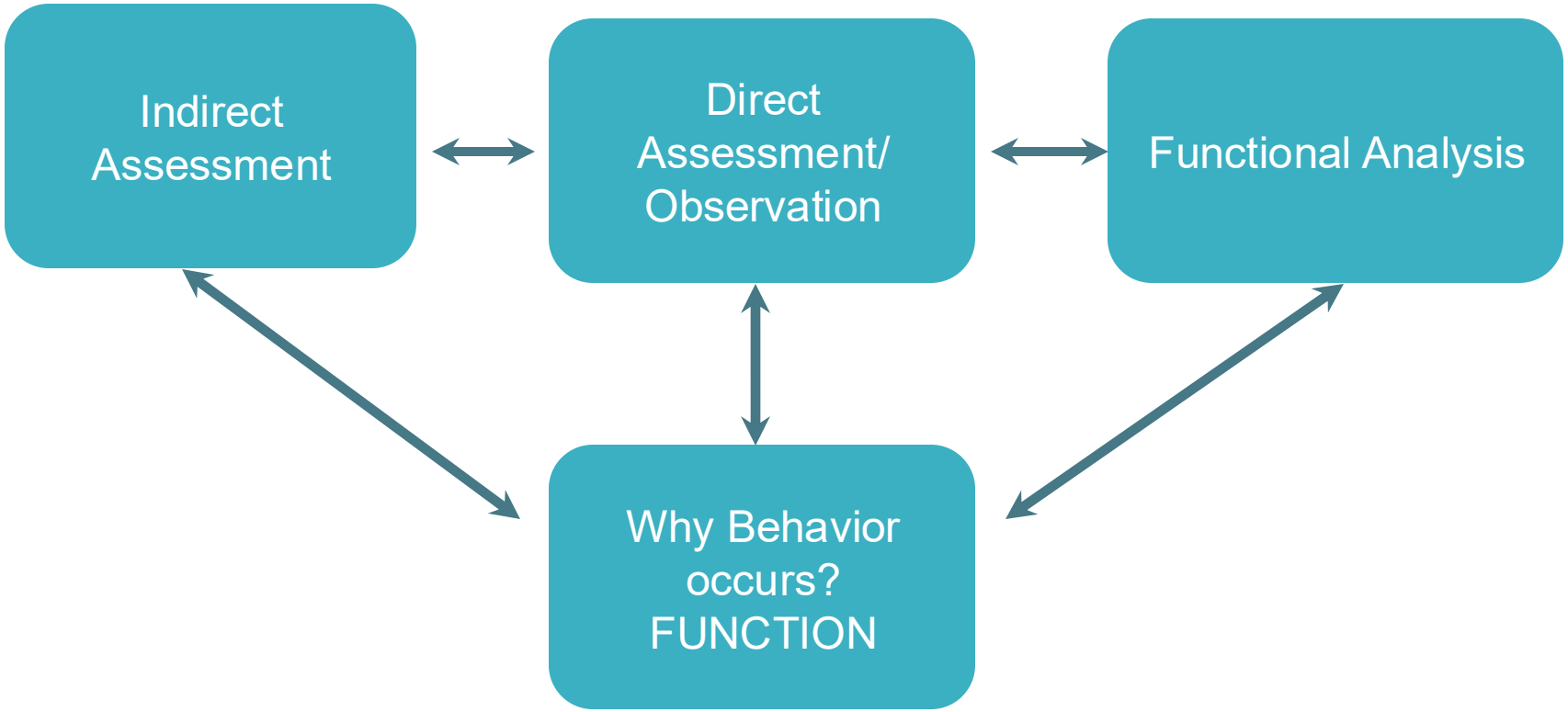
- The reason why problematic behavior continues to occur

- Treatment is based on identifying the function of the behavior, not on what the behavior looks like

Function of Behavior

- Escape/avoidance (e.g., rips paper to escape work)
- Gain Attention (e.g., aggression when mom on phone)
- Gain Tangible (e.g., Self-Injury for a toy)
- Sensory/Automatic (e.g., Self-Injury that appears repetitive)

What's Involved in a Functional Behavior Assessment?



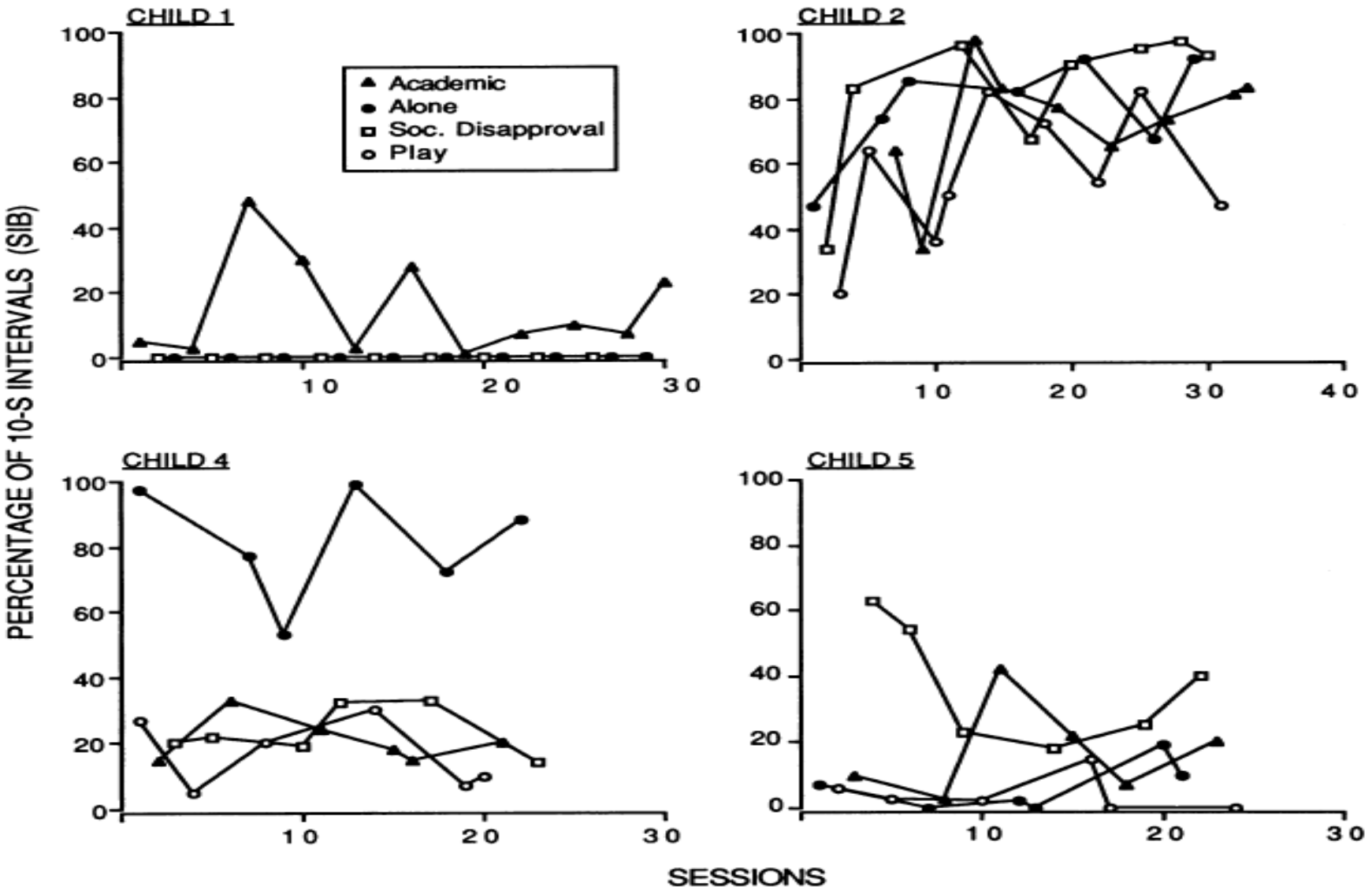


Figure 2. Percentage of intervals of self-injury for subjects 1, 2, 4, and 5 across sessions and experimental conditions.

Iwata, Dorsey, Slifer, Bauman & Richman, 1994

Rationale for Treatments Based on Function

- When function of problem behavior is known, treatment involves:
  - Interrupting the behavior-reinforcer relation
  - Providing known reinforcer for desired behavior

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Role of the Psychiatrist

Bio-behavioral Model

Behavior-Environment Interaction

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Psychiatrist Role

- A psychiatric evaluation; screen for common psychiatric issues seen with neurodevelopmental disorders and autism: ADHD, mood, irritability, psychosis; get history on medical, developmental, psychiatric treatment
- Make preliminary diagnoses for follow up

Psychiatrist Role

- **Assess for Impact of Medical Co-Morbidities:** Sleep disorders, Seizure disorders, GI problems, Syndrome-specific issues (cardiac, renal, endocrine, etc.)

How Psychiatric Issues Can Contribute to Disruptive Behavior

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- ADHD correlated behaviors:

Inattention/hyperactivity → elopement in public settings

- OCD Correlated Behaviors:

Compulsions being interrupted → aggression

- Depression correlated behaviors:

irritability → aggression or self-injury

Pharmacological Effects on Function

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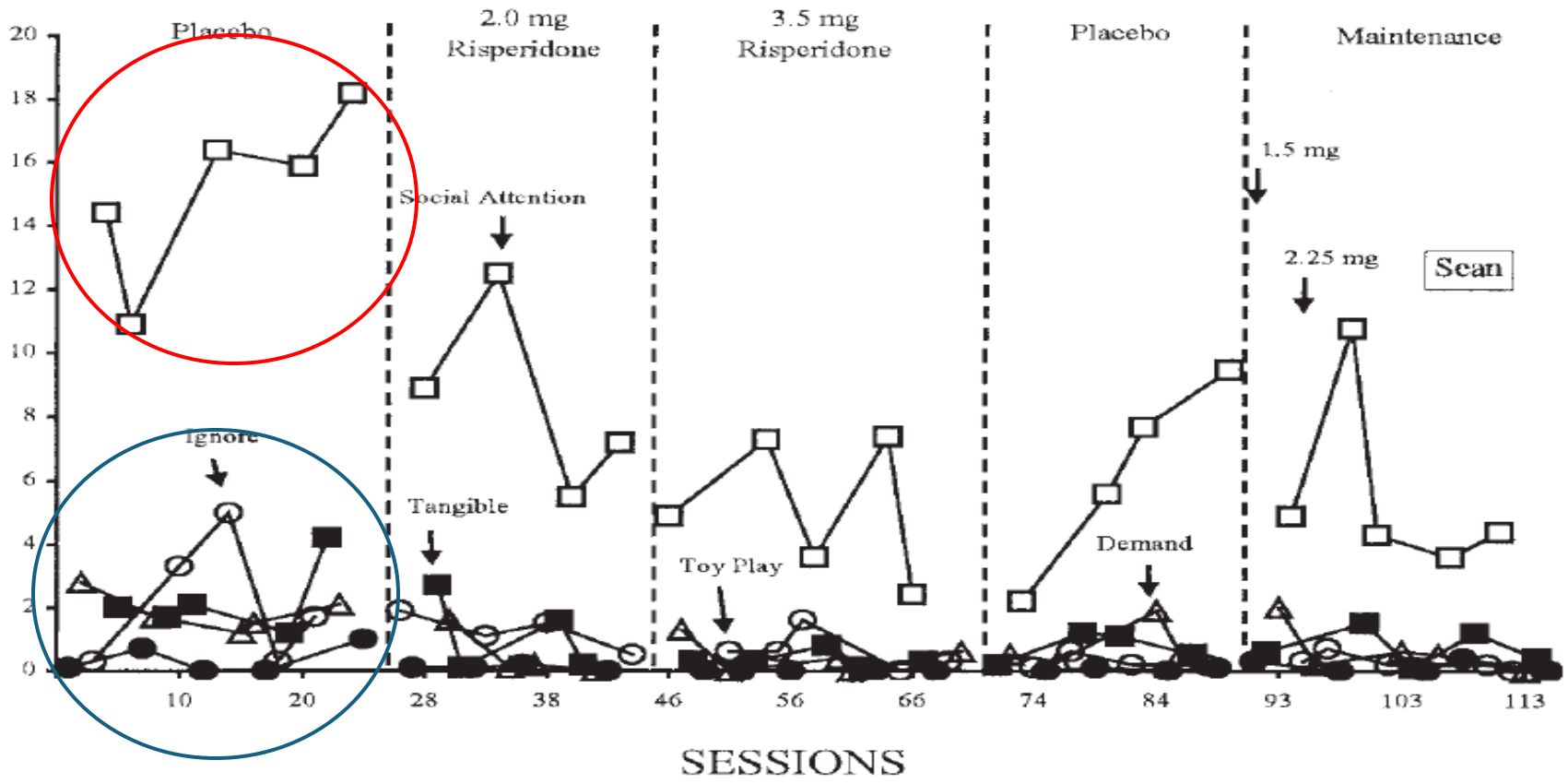

Fig. 1. Responses per minute of destructive behavior during all phases of the functional analysis for Reggie and Sean.

Crosland, Zarcone, Lindauer, et al. (2003)

How Medication Side Effects Can Contribute to Disruptive Behavior

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- Stimulants → irritability → disruptive behavior
- SSRI → akathisia (restlessness) → disruptive behavior
- Sedation from polypharmacy → irritability and noncompliance

How Medical Issues can Contribute to Disruptive Behavior

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- Sleep apnea → tiredness → irritability → aggression/self-injury/noncompliance
- Constipation → pain and discomfort → irritability → aggression/self-injury
- Hyperthyroidism → agitation and irritability

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Role of the Psychologist

Bio-behavioral Model

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Psychologist Role

- MH diagnosis evaluation
- Cognitive evaluation
- Use of verbally mediated therapy (e.g., CBT, DBT) if patient has cognitive/language capacity
- Collaboration with team on possible influence of MH diagnoses (e.g., anxiety, PTSD, depression)

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Role of the Speech Language Pathologist

Bio-behavioral Model

Behavior-Environment Interaction

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Learned experiences: Trauma (Pavlovian Conditioning), Skill repertoire, family experiences

Culture: Language, food traditions, social tendencies

Stimulus or Event	Response	Stimulus change
↓	↓	↓
Antecedent	**Behavior**	**Consequence**
What precedes the response	Specific response emitted	What follows the response
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Role of the SLP

- Evaluate language and communication deficits and strengths
- What role does an individual's communication abilities/difficulties play in regard to disruptive behavior?
- What mode of communication is recommended to target during therapy?

Components of the Evaluation

- Records review: question → are there goals in place that aim to teach communication skills to replace disruptive behavior?
- Current receptive and expressive language skills?
- Nonverbal communication (gestures, eye contact, sign) and social communication (purposes)

Augmentative/Alternative Communication (AAC)

- **For nonverbal and limited verbal children, what kinds of AAC supports are in place?:** visual supports (e.g. schedules, first → then), mobile technology (e.g. proloquo2go)
- **Where is AAC being used? (home, school, community)**
- **How independently does the child use the support?**

Recommendations – Two Sets of Goals

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- **Without disruptive behavior**
  - Increase vocabulary/ grammar
  - Increase non-verbal communication
  - Increasing social communication
- **With disruptive behavior**
  - Teach functional communication based on results of a functional behavioral assessment

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Role of the Occupational Therapist

Bio-behavioral Model

Role of the OT

- Patient specific sensory evaluation/ recommendations
  - Run individual sessions for further assessment and direct intervention
  - Develop a sensory profile
  - Establish level of support needed (e.g., ADLs)
  - Screen for specific developmental skills deficits that could impact severe bx
  - Focus strategies on reduction of severe behavior
- SIB- protective equipment recommendations and fitting

Role of the SW

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Case Manager/SW

- Lead the community planning meetings and is liaison between the clinical team and the community team ensuring appropriate community services identified
- Can provide individual and family therapy and support

Clinical Relevance

- Interdisciplinary teams allow for more comprehensive and prescriptive treatment planning and have been well established as improving patient care and family satisfaction (Ghebrenhiwet et al. 2016)

Summary

- Interdisciplinary teams are useful when assessing and treating children with IDD due to complexity of communication and sensory differences, medical/psychiatric comorbities, and environmental variables that all can contribute to the emergence and maintenance of disruptive behaviors

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