

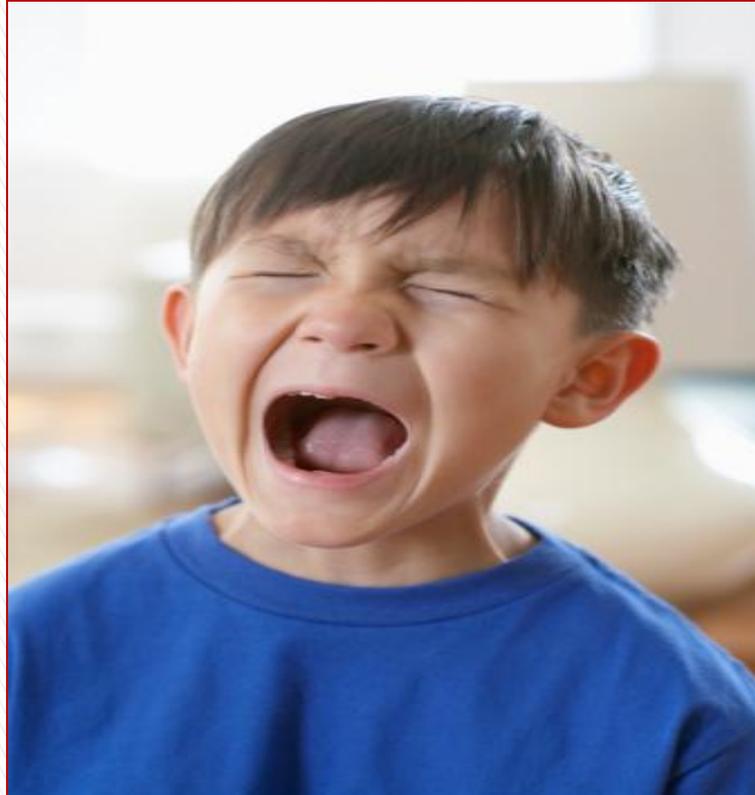


Evidence-Based Treatment of Challenging Behavior in Individuals with Autism

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**Understanding
the Causes of
Challenging
Behavior in
Individuals
with Autism
Spectrum
Disorders**



A Common Experience for Many: Or,

Functional Behavior Assessment 101

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

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- Annoying
 - Dangerous
 - Stigmatizing

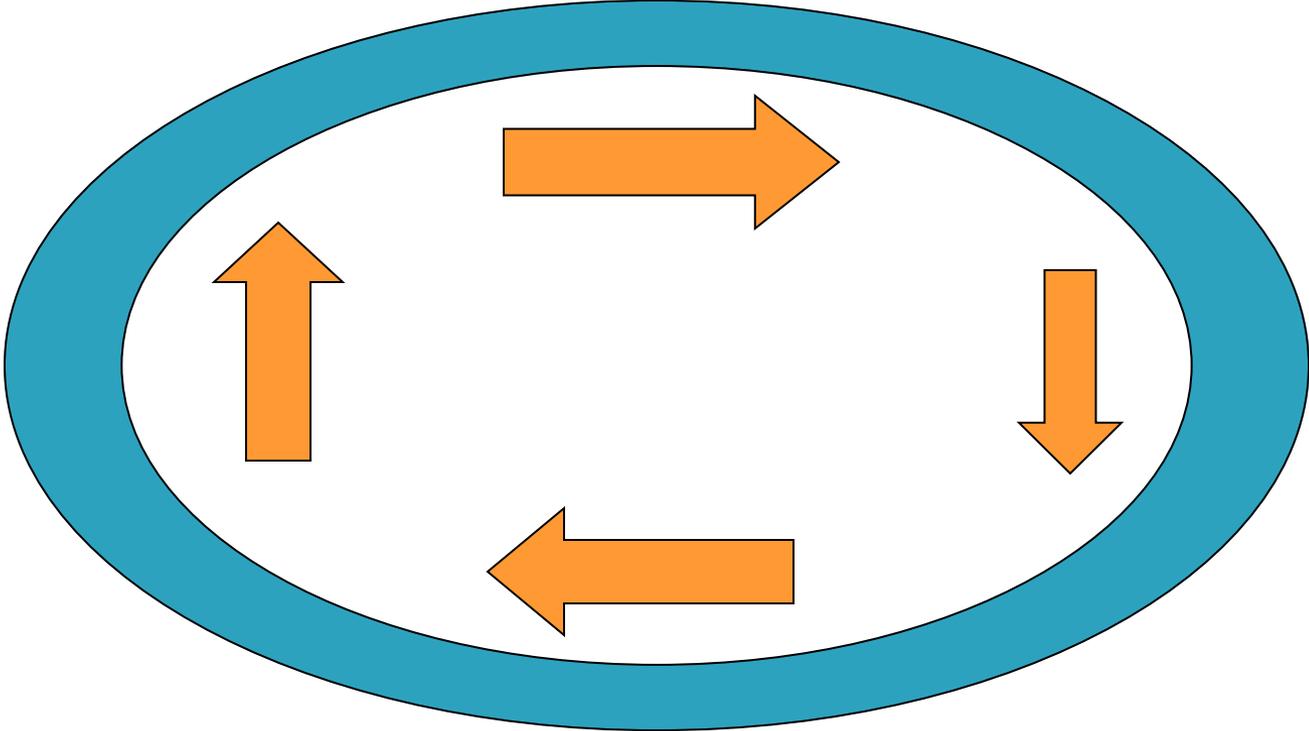
Forms and Functions of Problem Behavior

- ▶ 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
- 

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
- 

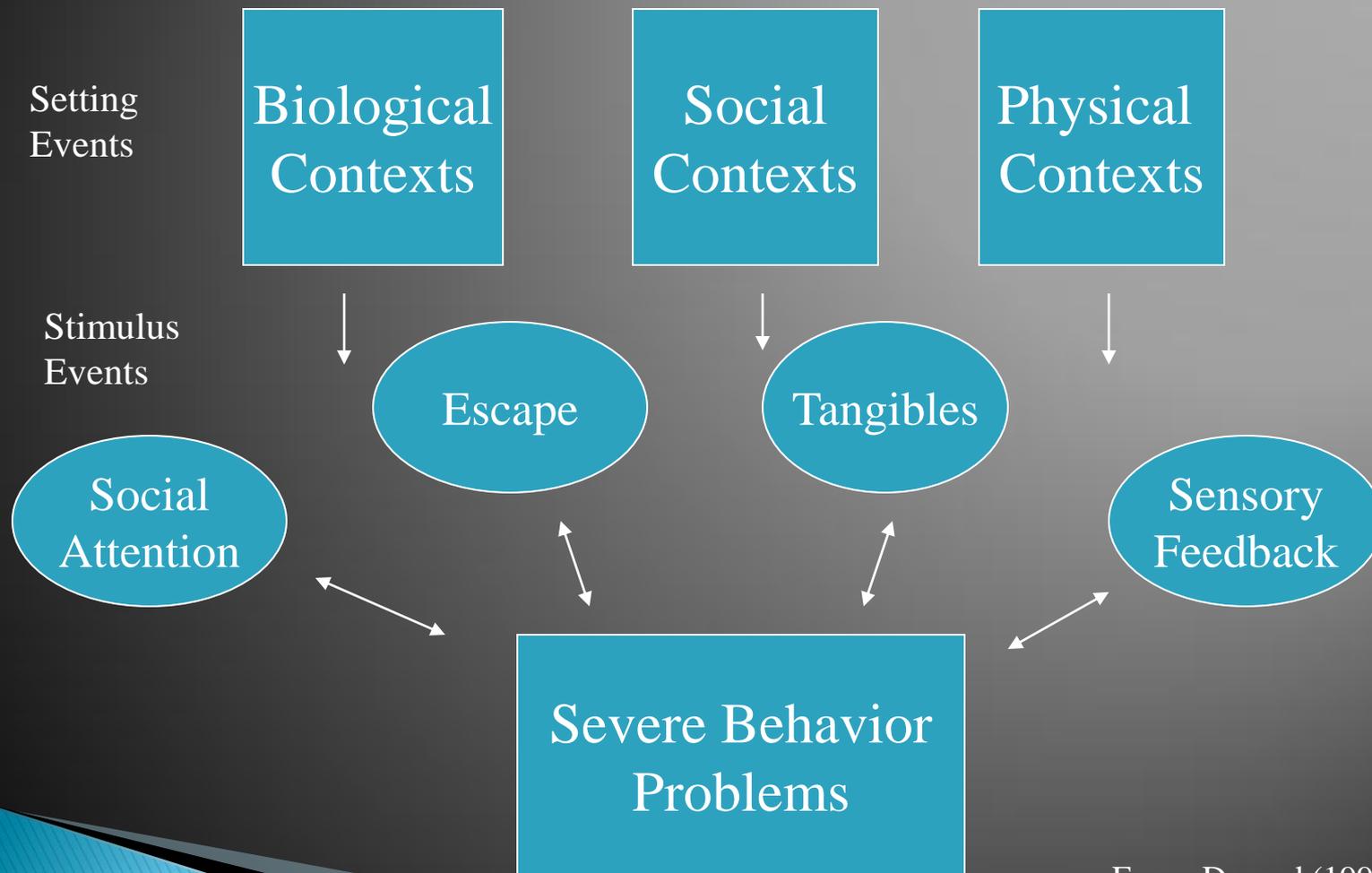
Levels of Behavioral Assessment and Intervention

- ▶ *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 Establishing Operations

Setting events 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



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
- 

Methods of Functional Assessment/Analysis

▶ **Indirect Methods**

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

FAST

Functional Analysis Screening Tool

Client: _____ Date: _____

Informant: _____ Interviewer: _____

To the Interviewer: The FAST identifies environmental and physical factors that may influence problem behaviors. It should be used only for screening purposes as part of a comprehensive functional analysis of the behavior. Administer the FAST to several individuals who interact with the client frequently. Then use the results as a guide for conducting a series of direct observations in different situations to verify behavioral functions and to identify other factors that may influence the problem behavior.

To the Informant: Complete the sections below. Then read each question carefully and answer it by circling "Yes" or "No." If you are uncertain about an answer, circle "N/A."

Informant-Client Relationship

1. Indicate your relationship to the person: Parent Instructor
 Therapist/Residential Staff (Other)
2. How long have you known the person? Years Months
3. Do you interact with the person daily? Yes No
4. In what situations do you usually interact with the person?
 Meals Academic training
 Leisure Work or vocational training
 Self-care (Other)

Problem Behavior Information

1. Problem behavior (check and describe):
 Aggression _____
 Self-Injury _____
 Stereotypy _____
 Property destruction _____
 Other _____
2. Frequency: Hourly Daily Weekly Less often
3. Severity: Mild: Disruptive but little risk to property or health
 Moderate: Property damage or minor injury
 Severe: Significant threat to health or safety
4. Situations in which the problem behavior is most likely:
Days/Times _____
Settings/Activities _____
Persons present _____
5. Situations in which the problem behavior is least likely:
Days/Times _____
Settings/Activities _____
Persons present _____
6. What is usually happening to the person right before the problem behavior occurs? _____
7. What usually happens to the person right after the problem behavior occurs? _____
8. Current treatments _____

1. Does the person usually engage in the problem behavior when (s)he is being ignored or when caregivers are paying attention to someone else? Yes No N/A
2. Does the person usually engage in the problem behavior when requests for preferred activities (games, snacks) are denied or when these items are taken away? Yes No N/A
3. When the problem behavior occurs, do you or other caregivers usually try to calm the person down or try to engage the person in preferred activities? Yes No N/A
4. Is the person usually well behaved when (s)he is getting lots of attention or when preferred items or activities are freely available? Yes No N/A
5. Is the person resistant when asked to perform a task or to participate in group activities? Yes No N/A
6. Does the person usually engage in the problem behavior when asked to perform a task or to participate in group activities? Yes No N/A
7. When the problem behavior occurs, is the person usually given a "break" from tasks? Yes No N/A
8. Is the person usually well behaved when (s)he is not required to do anything? Yes No N/A
9. Does the problem behavior seem to be a "ritual" or habit, repeatedly occurring the same way? Yes No N/A
10. Does the person usually engage in the problem behavior even when no one is around or watching? Yes No N/A
11. Does the person prefer engaging in the problem behavior over other types of leisure activities? Yes No N/A
12. Does the problem behavior appear to provide some sort of "sensory stimulation?" Yes No N/A
13. Does the person usually engage in the problem behavior more often when (s)he is ill? Yes No N/A
14. Is the problem behavior cyclical, occurring at high rates for several days and then stopping? Yes No N/A
15. Does the person have recurrent painful conditions such as ear infections or allergies? Yes No N/A
If so, please list _____
16. If the person is experiencing physical problems, and these are treated, does the problem behavior usually go away? Yes No N/A

Scoring Summary

Circle the number of each question that was answered "Yes."

Items	Circled	"Yes"	Total	Potential Source of Reinforcement
1	2	3	4	Social (attention/preferred items)
5	6	7	8	Social (escape)
9	10	11	12	Automatic (sensory stimulation)
13	14	15	16	Automatic (pain attenuation)

Methods of Functional Assessment/Analysis

- ▶ **Descriptive Analyses of Natural Conditions**
 - ABC analysis
 - Scatterplots
 - Direct observation and recording with interval or time-sampling procedures

Date	Time	Antecedent (What Happened Before)	Behavior (Briefly Describe)	Consequence (What You Did)	Child's Response To Consequences

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?

Date — > Time	Monday	Tuesday	Wed	Thursday	Friday	Saturday	Sunday
06:00 AM							
06:30 AM							
07:00 AM							
07:30 AM							
08:00 AM							
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10:00 AM							
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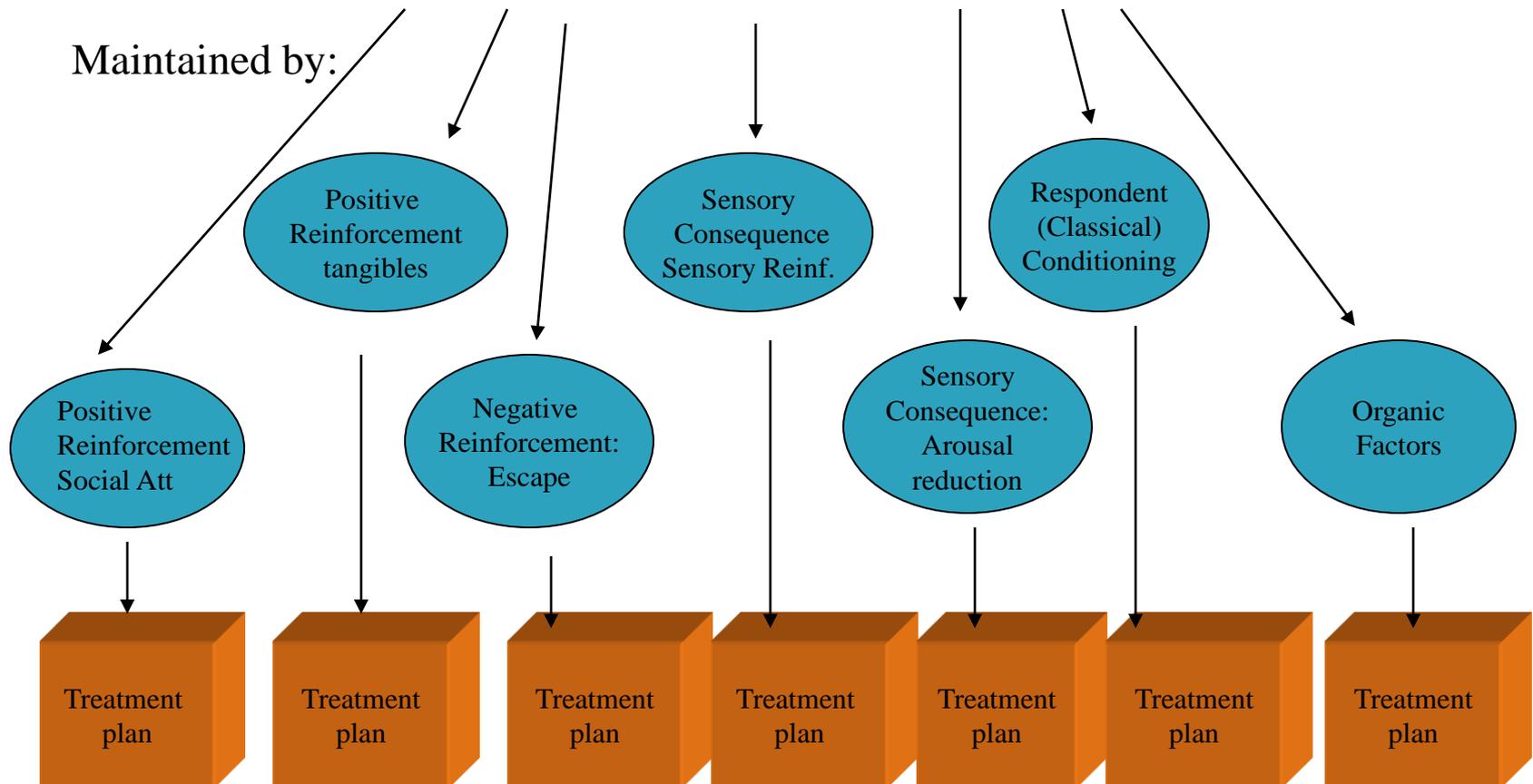
Functional Behavior Assessment/Analysis

- ▶ 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

*Strategies for Changing Challenging
Behavior in the Classroom, Home, and
Community*

Linking Assessment Data to Treatment Planning

Severe Challenging Behavior



Treatment is based on
Function
(not form)

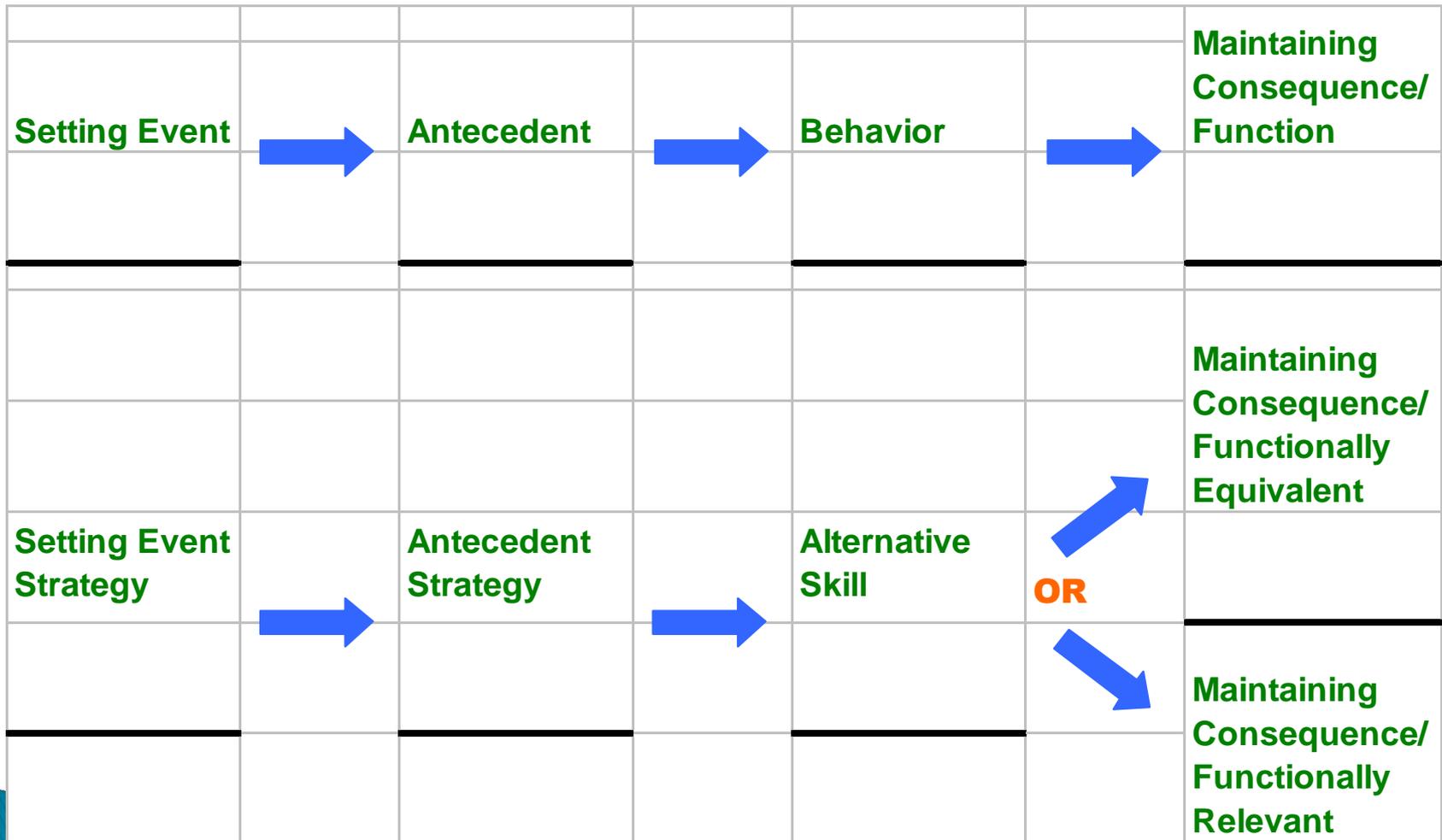
Teaching alternative, more appropriate, functional skills to replace problem behavior is the *real* task

Competing Behavior Model

To **compete** effectively with the function of behavior, interventions must result in outcomes that are **functionally equivalent** (*one for one replacement*) and/or **functionally relevant** (*skill to build competence*)



Competing Pathways & Behavior Support Planning



Replacement Skill Instruction

To produce enduring behavior change, we must teach students socially appropriate skills that enabled them to negotiate life's challenges

What are Replacement Skills?

- ▶ Skills that allow the student to:
 - Meet her own needs
 - Communicate his needs
 - Negotiate the environment
 - Regulate her own actions

Why Teach Replacement Skills?

- ▶ Decrease dependency on prompts
 - ▶ Expand competence to negotiate life's challenges
 - ▶ Increase social appropriateness
 - ▶ Replace behavior with a more appropriate alternative
- 

Replacement Skills

Replacement skills are just like any other academic skill – they must be taught directly and systematically using a

Model–Lead–Test –Feedback

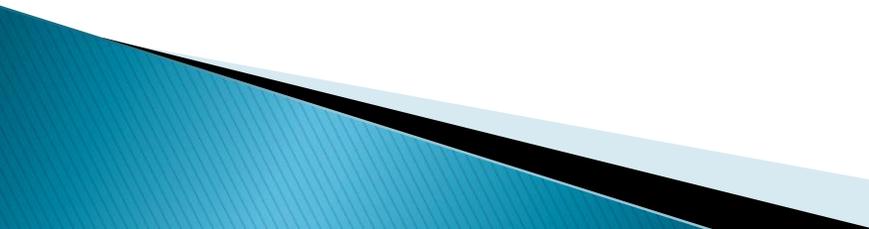
approach to instruction

When Teaching Replacement Skills Consider:

- ▶ How will I model the skill?
 - ▶ When will I provide supported practice opportunities?
 - ▶ How will I provide feedback and support?
 - ▶ How will I embed prompts in the environment to help the student use the skill?
- 

General Rules for 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
- 

- ▶ ***Rule 4:*** Behavior management strategies should be fully integrated with communication and social teaching programs
 - ▶ ***Rule 5:*** Behavioral excesses and deficits should be evaluated first within the context of the student's poor organizational skills, understanding of social expectations, arousal and anxiety problems, learning/information processing deficits, or breakdowns in routine, structure, or predictability
- 

Four Components of Intervention and Treatment Planning

1. Treatment plan must teach an alternative, more functional communicative behavior to take the place of the aberrant behavior.



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

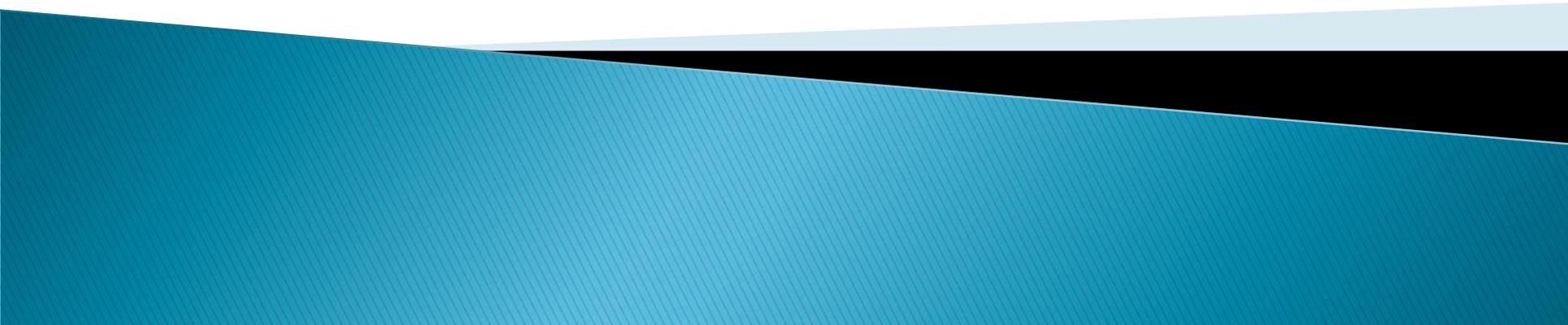
3. Treatment plan must modify antecedent conditions, setting events, or ecological variables that may occasion the challenging behavior.

 **Today's Schedule might be:**

 breakfast time	Breakfast Time	 video game
 swim lessons	Swim Lessons	 video game
 lunch	Lunch	<input type="text"/>
 nap	Nap	<input type="text"/>
		 video game
		 video game

4. 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

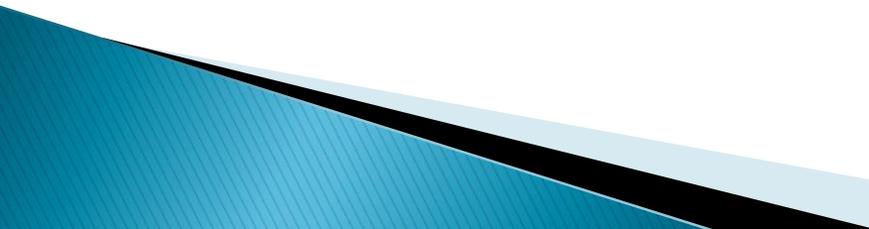
- ▶ The Purpose of Functional Communication Training (FCT) is to teach individuals communication behaviors as a replacement for maladaptive behavior.
- ▶ Teaching communicative behaviors that are functionally equivalent to maladaptive behaviors results in an increase in the former and a decrease in the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

Durand, V.M. (1990). Severe Behavior Problems: A Functional Communication Training Approach. New York: Guilford

FUNCTIONAL COMMUNICATION TRAINING: COMPONENTS

1. Define the target behavior.
 2. Conduct a functional analysis to determine communicative intent.
 3. Identify a functionally equivalent communicative response.
 4. Identify potential reinforcers.
- 

FUNCTIONAL COMMUNICATION TRAINING: COMPONENTS

5. Identify the communication methods for child's response
 - a. verbal
 - b. gestural (sign, picture symbol)
 - c. mechanical (tape recorded messages augmentative devices).
- 

FUNCTIONAL COMMUNICATION TRAINING: COMPONENTS

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: *An Example*

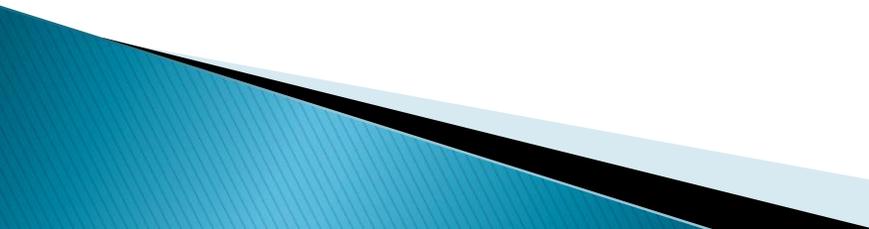
No

Not now, later



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)
 - ▶ Direct instruction in, and differential reinforcement of, functionally equivalent alternative (replacement) behavior
 - ▶ 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: Arousal Reduction

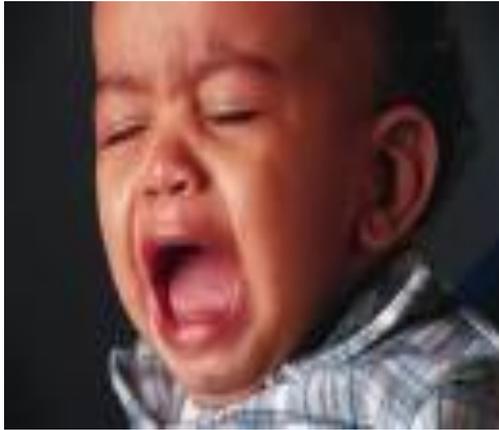
- ▶ Attenuate sensory consequences of the task, or the environment
- ▶ Direct instruction in strategies that will mitigate effects of overstimulation (relaxation training, exercise)

If problem behavior is maintained by :

Sensory Consequences: Automatic Reinforcement

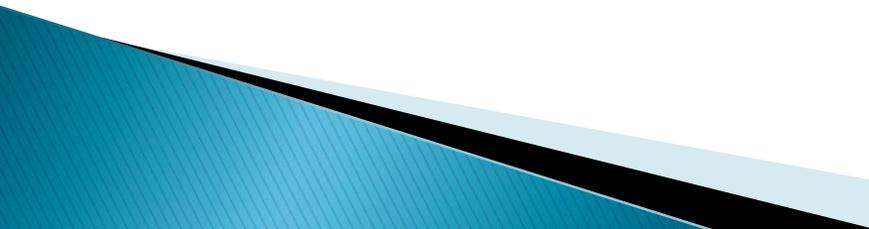
- ▶ Substitute a more appropriate, functionally compatible, sensory reinforcer
- ▶ Allow child to earn the sensory reinforcer
- ▶ Teach alternative behaviors that will access the same sensory consequence
- ▶ Enrich the environment with materials that will provide the preferred sensory consequence

Designing Responsive Environments: *Using Positive Supports*



*Seven Things You Can Do To Increase
Instructional Effectiveness And Reduce
Behavior Problems*

Strategies To Increase Instructional Effectiveness And Reduce Behavior Problems

1. Increase functional engagement
 2. Reinforce effectively
 3. Incorporate Functional Communication Training
 4. Increase choice-making
 5. Modify the environment
 6. Maximize use of differential reinforcement
 7. Use noncontingent reinforcement as appropriate
- 

Increase Functional Engagement

- ▶ Select tasks for the student that are:
 - Interesting
 - Inherently rewarding (if possible)
 - Available frequently
 - Within the client's capacity
 - Functional and useful



Rules for Reinforcement

- ▶ Contingency
- ▶ Consistency
- ▶ Contiguity



Functional Communication Training

- Responses chosen based on assessment results
- Practice communication response when child is not engaged in challenging behavior
- Provide visual support for communication response (e.g., large red stop sign to use for a break)
- Response must be honored every time in beginning
- Waiting taught after success with initial training



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.

Durand, V.M. (1990). Severe Behavior Problems: A Functional Communication Training Approach. New York: Guilford

Choice Making

- ▶ A form of communication training
 - Allows individuals to make choices and have control in their lives
- ▶ Choice making involves choosing between 2 *FUNCTIONAL* alternatives
 - “Do you want to work or take a break?”
 - “Do you want to work on math or spelling first?”
- ▶ Yes/No choices are typically not functional
 - Most common answer is “NO!”

Choice Making

- ▶ Visual supports for choice
 - ▶ Limit choice options
 - ▶ Offer choice options that you are willing to accept
 - ▶ With choice comes responsibility – we need to teach choice making
 - ▶ Provide more reinforcement for choices that are beneficial to your child
- 

Changing the environment where problem behavior occurs

- ▶ Increase positive interactions – Make it fun, exciting, and approachable
 - ▶ Remove things that lead to behavior
 - Escape – Reduce demands or make them easier
 - Attention – provide attention more frequently
 - ▶ Gradually build expectations when successful
- 

Differential Reinforcement

- ▶ What do we reinforce?
 - Anything but the challenging behavior
 - Alternative behaviors to the challenging behavior
 - Behaviors that are incompatible with the challenging behavior
 - Behaviors that occur at high or low rates

Noncontingent Reinforcement

- ▶ Reinforcing on a schedule regardless of behavior (I.e., preferred activity break every 15 minutes)
- ▶ Why does this work?
 - Contingency between problem behavior and reinforcement is disrupted
- ▶ Considerations
 - Inadvertent reinforcement of challenging behavior

Treatment Effectiveness: Evaluation and Troubleshooting



Components of a Treatment Plan that Enhance Effectiveness

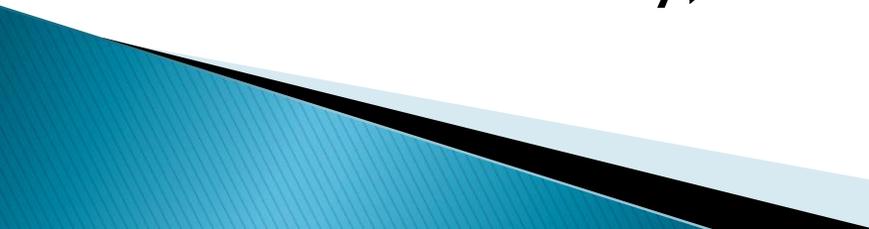
- ▶ ***Social validity***: the degree to which consumers and stakeholders view the intervention strategies, target behaviors selected, and outcomes achieved as appropriate.
 - ▶ ***Empirical validity***: whether the intervention will be beneficial to the child's eventual outcome, supporting longitudinal 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
 - ▶ ***Procedural reliability***. the degree to which the intervention plan was implemented correctly
- 

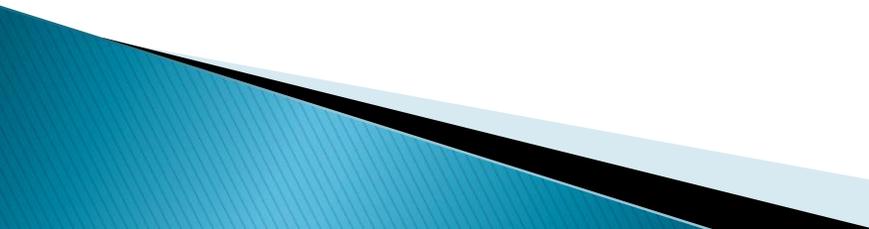
Common Treatment Errors:

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)
- 

Evaluating the Effectiveness
of Decision-Making:
*Process and Content
Considerations*

Process Considerations

- ▶ Accurate identification of the problem?
 - ▶ Relevant constituencies surveyed?
 - ▶ Behavior defined operationally?
 - ▶ Behavioral function identified through assessment?
 - ▶ Functionally equivalent, more acceptable behavior identified?
 - ▶ Mitigating variables identified (esp. setting events)?
 - ▶ Does the intervention plan teach the student prosocial behavior to replace the problem behavior?
 - ▶ Plan reviewed and accepted by team and parents?
 - ▶ Training and supervision in implementation of plan accounted for?
- 

Content Considerations and the Evaluation of Treatment Outcomes

- ▶ Anecdotal observation (home–school communication logs, incident reports, etc.)
 - ▶ Comparison of pre–post intervention rates
 - ▶ Direct observation in naturalistic or analog settings
- 

Safeguarding Health and Dignity During Treatment



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.
- 

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 (eg, self-injury that threatens health status), treatment plan should be reviewed by a human rights committee to safeguard client's rights.
- 

Special Problems in Assessing and Treating Aggression and Self-Injury

- ▶ Maintaining safety of person with ASD and others is essential
- ▶ 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

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

Questions, Comments, and Discussion

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Center for
Children with
Special Needs

