

Georgia Southern University

Georgia Southern Commons

Georgia Association for Positive Behavior
Support Conference

2015 Presentations

Conducting Functional Behavior Assessments and Functional Analyses in Schools

Andrea Zawoyski

University of Georgia, zawoyski@uga.edu

Dana T. Zavatkey

Marcus Autism Center

Follow this and additional works at: <https://digitalcommons.georgiasouthern.edu/gapbs>

Recommended Citation

Zawoyski, Andrea and Zavatkey, Dana T., "Conducting Functional Behavior Assessments and Functional Analyses in Schools" (2015). *Georgia Association for Positive Behavior Support Conference*. 48.
<https://digitalcommons.georgiasouthern.edu/gapbs/2015/2015/48>

This presentation is brought to you for free and open access by the Conferences & Events at Georgia Southern Commons. It has been accepted for inclusion in Georgia Association for Positive Behavior Support Conference by an authorized administrator of Georgia Southern Commons. For more information, please contact digitalcommons@georgiasouthern.edu.

Conducting Functional Behavior Assessments and Functional Analyses in Schools

Andrea M. Zawoyski, MA, BCBA

University of Georgia

Dana T. Zavatkey, PhD, BCBA-D, NCSP

Marcus Autism Center

Emory University School of Medicine



The University of Georgia



Functional Behavior Assessment (FBA)

What is it?

Functional Behavioral Assessment

- Method for identifying the variables that reliably predict and maintain problem behavior (Carr et al., 1994; O'Neill et al., 1997)
- Multi-faceted process
- Goals
 - Identify the **function** of problem behavior – *why* is it happening?
 - Design a **function-based treatment**
 - Treatment is more likely to be effective when it addresses the function of problem behavior
 - Teach appropriate replacement behaviors using positive interventions

Philosophical Assumptions of FBA

- **Problem behavior serves a function.**
- The goal of intervention is education, not simply behavior reduction.
- Problem behavior does not occur in a vacuum.
- Problem behavior is best understood by investigating the environmental variables surrounding it.

IDEA 1997 & 2004

- Mandates the use of (FBA) in schools when:
 - “patterns of student behavior that are likely to cause harm to themselves, other students, or staff”
 - A child with a disability who is removed from a setting
- BUT....
 - IDEA does not clearly define the process for completing an FBA
 - Only says...the child shall “**receive a FBA, behavior intervention services and modifications**”

What are the components?

- IDEIA (2004) does not provide a concrete description of an FBA
- Allows for flexibility, but often leads to incomplete assessment
- Most school districts think an FBA is comprised of these components:
 - Checklists
 - Rating Scales
 - Anecdotal notes
 - Possibly, A-B-C observations
- But there's more!

Comprehensive FBA

- **Comprehensive FBA** includes both descriptive and experimental analyses (Dunlap et al., 1993)
- Systematically determines
 - Antecedent which precedes the behavior
 - Consequence maintaining the behavior
- A comprehensive FBA is a problem-solving process that directs practitioners to a systematically determined, function-based intervention
 - Checklists with multiple “recipe” interventions are not based on function
 - One size does not fit all!
 - There are no behavioral interventions that work for every child
 - Some procedures will be effective for one child and not for another
 - Some procedures will be effective for a certain behavior of one child and not a different behavior for the same child

Why would you want to do a comprehensive FBA?

- Accountability....Accountability...!
 - Function-based hypotheses can only be made based on good data
 - Good data: specific, systematic, collected in multiple settings, over longer periods of time
- Comprehensive FBAs result in better and more efficient intervention planning
 - Interventions on a BIP need to be “functionally related”

FBA: An Information Gathering Process

- **Setting**- where and when does the problem behavior occur?
 - Where: Classroom, Gym, Library, Playground, Work Area, Occupational Therapy Room, Lunchroom, Bathroom, Bus
 - When: In the morning, in the afternoon, from 11:00am-12:00pm
- **People**- with whom does the problem behavior occur?
 - Primary Teacher, Paraprofessionals, Peers, School Counselor , Occupational Therapist, Speech Therapist, Lunchroom Worker, Principal
- **Activity**- with what is the child involved when the problem behavior occurs?
 - One-on-One Instruction, Math, Arrival/Dismissal to or from class, Recess, Snack, Unstructured time, Working as part of a small/large group, Toileting, Working Independently

FBA: An Information Gathering Process

- Know the ABCs!
- Antecedents
- Behavior
- Consequences

Antecedents

- Occur before a target behavior
- Some can reliably predict a behavior
- Some can be changed to alter or prevent behavior
- Antecedents are said to.....
 - *Occasion* behavior
 - *Set up* behavior
 - *Trigger* behavior
- Common Antecedents: reprimands, presentation of difficult tasks, attention given to another student, loss of a privilege, a break in the routine, a particular sound, sight, etc.
- There is always an antecedent

Target Behavior/Problem Behavior

- Behavior of interest
- Definition
 - Empirical/Observable
 - Must be able to see the behavior to record it
 - Must be Operationally Defined
 - describe observable events not mental constructs
 - Can't see “feelings”, can't observe “states of mind”
 - Stranger Test
 - Anyone off of the street should be able to tell you whether or not a behavior is being demonstrated after reading a definition
 - Dead Man Test
 - If a dead person can do it, it's not a behavior

Operational Definition Example

- Non-example: “Getting angry and hurting people”
 - Observable/measurable?
 - Stranger test?
 - Dead man’s test?
- Example: “Using an open hand to make contact with another person from a distance of 6 inches or greater”
 - Observable/measurable?
 - Stranger test?
 - Dead man’s test?

Behaviors Typically Assessed With FBA In School Settings

- Aggression- hitting, biting, scratching, and kicking
- Tantrums- yelling, crying, screaming, and flopping
- Property Destruction- throwing desks, tearing books and paper
- Off-task- Leaving desk, looking around classroom, etc
- Noncompliance- refusing to complete assignments and refusing to follow directions
- Self-injurious Behavior- head-banging, biting self, hitting self, etc

Consequences

- Consequences occur following a target behavior
 - These events follow a behavior in time
 - Involves presentation or removal of a stimulus
- Consequences can make behavior more or less likely to occur in the future
- Common Consequences: Teacher/peer attention, removal of materials, time-out, removal from classroom, access to tangible items
- There is always a consequence

Effects of Consequences on Behavior

	Increases future likelihood of that behavior	Decreases future likelihood of that behavior
Presentation of a stimulus contingent on a behavior	Positive Reinforcement	Positive Punishment (Type I)
Removal of a stimulus contingent on a behavior	Negative Reinforcement	Negative Punishment (Type II)

We reinforce/punish *behavior*, not people

Defined by **effect on future behavior**

(Just because you gave candy doesn't mean behavior was reinforced)

Functions of Behavior: Positive Reinforcement

- Attention
 - To request help
 - Just to get attention
 - Some like reprimands
 - Peer attention
- Tangible
 - Toys
 - Food
 - Academic materials
- Preferred activities
 - First in line
 - Recess activities

Functions of Behavior: Negative Reinforcement

- Negative Reinforcement (Escape/Avoidance)
 - Delay or to get out of doing something
 - Academics, chores, transitions
 - Avoid people
 - Teacher, peers, unknown people
 - Avoid activities
 - classroom/group, chores/tasks, toileting
 - Avoid demands
 - Avoid work all together

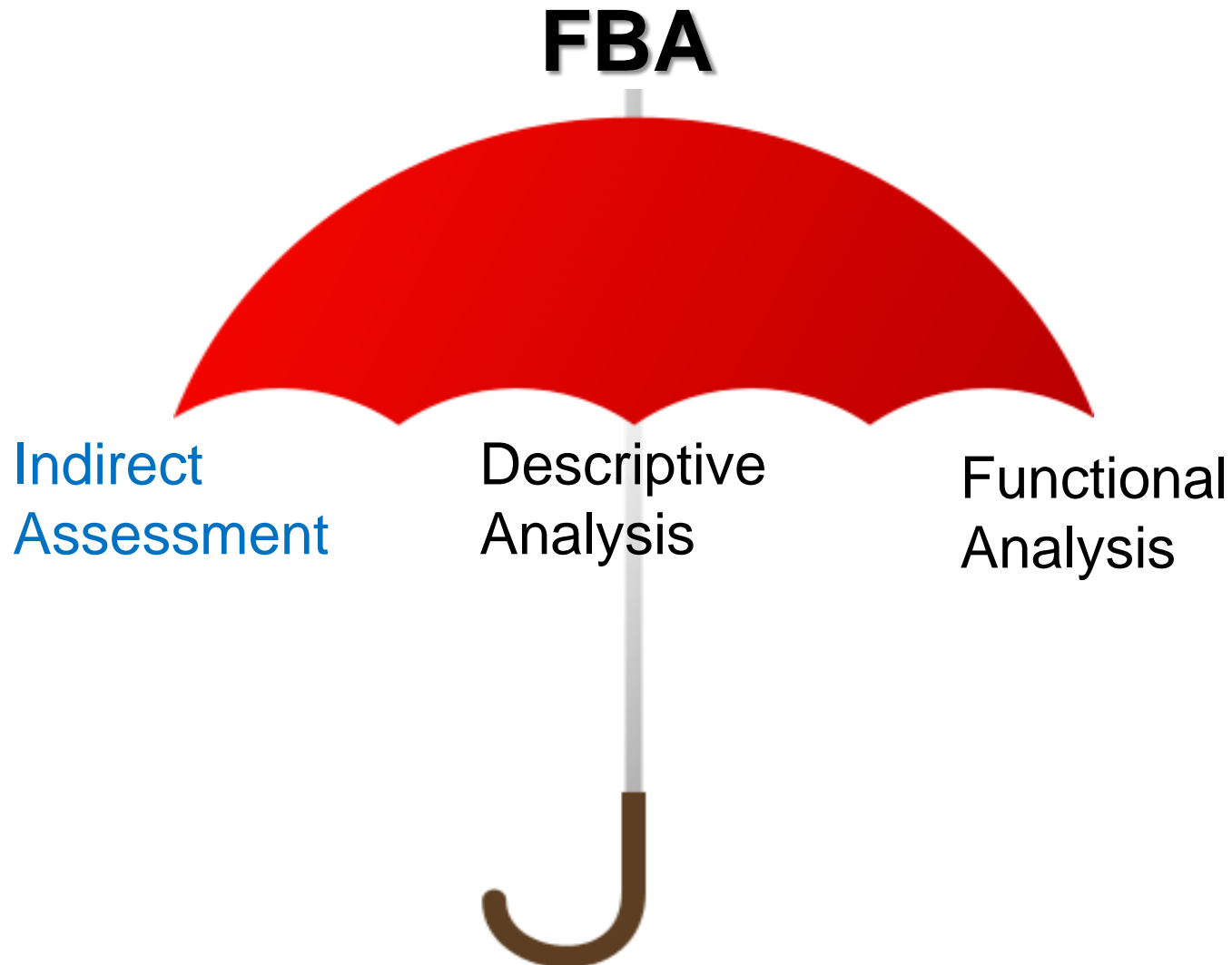
Functions of Behavior: Automatic Reinforcement

- Problem behavior may persist independent of social consequences
- Problem behavior may be positively or negatively reinforced by consequences produced by the behavior itself
- Positive Reinforcement
 - Pressing on eyes: visual stimulation (seeing stars)
 - Biting hand: provides pressure
- Negative Reinforcement
 - Pressing on eyes: alleviates headache
 - Scratching a bug bite: stops itching/discomfort

Functions of Problem Behavior: Hypotheses

- Problem behavior is maintained by positive reinforcement in the form of attention
- Problem behavior is maintained by positive reinforcement in the form of access to tangible items or preferred activity
- Problem behavior is maintained by negative reinforcement in the form of escape from aversive task demands/conditions
- Problem behavior is maintained by automatic reinforcement.

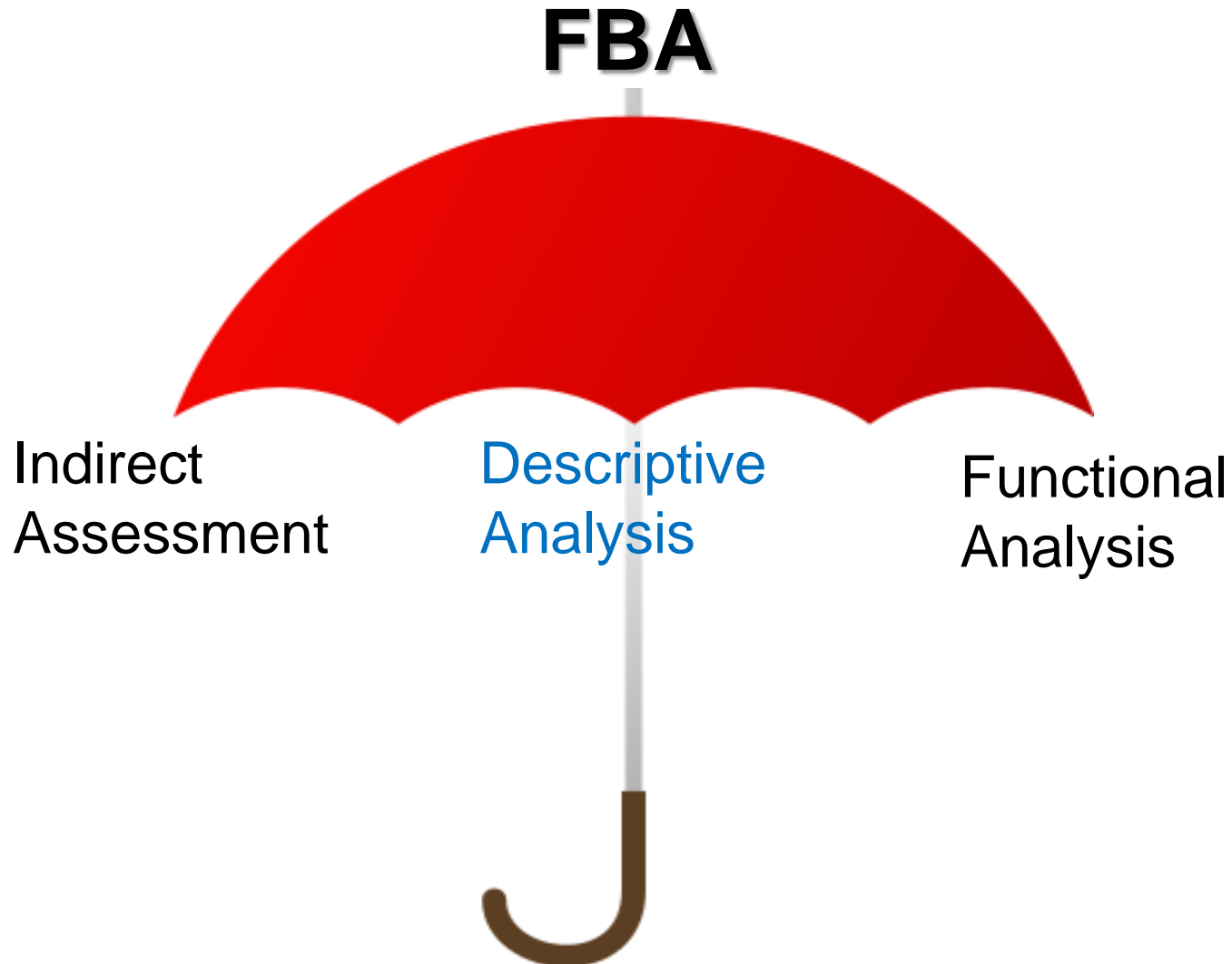
FBA: A Multi-Component Process



Indirect Assessment

- Record review
 - Attendance history
 - Standardized test scores
 - Medical, social, disciplinary history
 - Results of previous FBA or related assessments
 - **Previous interventions**
 - Recent IEP
- Interviews
 - A description of the problem behavior
 - The triggers for the problem behavior
 - The reaction the problem behavior evokes from others
- Questionnaires/Rating Scales

FBA: A Multi-Component Process



Descriptive Analysis Methods

- Direct Observation
- Scatterplot
- ABC Recording

Direct Observation Data Collection: Recording Methods

Method	When to use it	Materials
<u>Event Recording</u> (Total number of times the target behavior occurs)	Behavior with discrete start and end, very short in duration (e.g., hitting, kicking)	Tally Marks or Counter/Clicker Data Sheet
<u>Duration Recording</u> (How long the target behavior lasts)	Behavior with long duration (e.g., in-seat behavior, activity engagement)	Timer/Stopwatch Data Sheet
<u>Whole Interval</u> (behavior is marked as “occurring” in an interval if it occurs for the entire interval)	Behavior with long duration *Underestimates	Stop watch/Clock/Timer Data Sheet Beep Tape/Interval Timer
<u>Partial Interval</u> (behavior is marked as “occurring” in an interval if it occurs at any time within the interval)	Behavior with short duration *Generally overestimates (underestimates very high frequency behavior)	Stop watch/Clock/Timer Data Sheet Beep Tape/Interval Timer
<u>Momentary Time Sampling</u> (behavior is marked as “occurring” in an interval if it occurs at the end of the interval)	Behavior with high frequency and long duration (e.g., in-seat behavior, activity engagement)	Stop watch/Clock/Timer Data Sheet

...is this enough?

- You could simply record when, how long and/or how many behaviors are exhibited in one day.

But,.....

- Incomplete picture
- Does not answer “why” or “when”
- Is a good measure of baseline but is not comprehensive enough to be used to determine function

Scatterplot

- Observer records presence or absence of target behavior occurring during intervals of time
- Reveals temporal patterns of behavior associated with specific environmental events
 - Setting, personal states, medication effects
- Provides optimal times to directly observe problem behavior

ABC Recording

- Antecedent, Behavior, Consequence (ABC)
- Purpose: to identify hypothesized triggers and the environmental variables that maintain a behavior
- Collect data when the target behavior is observed
- Record the occurrence of the problem behavior (B) and the events that immediately precede (A) and follow (C) it
- Just the facts!
 - Avoid recording inferences
 - “Intentionally hurt teacher” vs. “Hit teacher/aggression”
- Many ways to make data sheets



Student Name: _____

Date: _____

[illegible]

Student Name: _____

Date: _____

ABC –Data Collection								
Time/ Instructor	Antecedent		Behavior			Consequence		Notes
	No Attention Sit with group Transitioning	Denial of Preferred item Place Demand _____	Scream____ Flopping____ Kick Furniture_____	Hit____ Kick person ____	Throw Item_____ Bite_____	Verbal Attention Escape from area Receive Preferred Item _____	Escape from task Physical Att	
	No Attention Sit with group Transitioning	Denial of Preferred item Place Demand _____	Scream____ Flopping____ Kick Furniture_____	Hit____ Kick person ____	Throw Item_____ Bite_____	Verbal Attention Escape from area Receive Preferred Item _____	Escape from task Physical Att	
	No Attention Sit with group Transitioning	Denial of Preferred item Place Demand _____	Scream____ Flopping____ Kick Furniture_____	Hit____ Kick person ____	Throw Item_____ Bite_____	Verbal Attention Escape from area Receive Preferred Item _____	Escape from task Physical Att	
	No Attention Sit with group Transitioning	Denial of Preferred item Place Demand _____	Scream____ Flopping____ Kick Furniture_____	Hit____ Kick person ____	Throw Item_____ Bite_____	Verbal Attention Escape from area Receive Preferred Item _____	Escape from task Physical Att	
	No Attention Sit with group Transitioning	Denial of Preferred item Place Demand _____	Scream____ Flopping____ Kick Furniture_____	Hit____ Kick person ____	Throw Item_____ Bite_____	Verbal Attention Escape from area Receive Preferred Item _____	Escape from task Physical Att	
	No Attention Sit with group Transitioning	Denial of Preferred item Place Demand _____	Scream____ Flopping____ Kick Furniture_____	Hit____ Kick person ____	Throw Item_____ Bite_____	Verbal Attention Escape from area Receive Preferred Item _____	Escape from task Physical Att	
	No Attention Sit with group Transitioning	Denial of Preferred item Place Demand _____	Scream____ Flopping____ Kick Furniture_____	Hit____ Kick person ____	Throw Item_____ Bite_____	Verbal Attention Escape from area Receive Preferred Item _____	Escape from task Physical Att	

Time	A	B	C
7-730			
730-8			
8-830			
830-9			
9-930			
930-10			
10-1030			
1030-11			
11-1130			
1130-12			
12-1230			
1230-1			
1-130			
130-2			
2-230			

Time	A	B	C
7-730			
730-8			
8-830			
830-9			
9-930			
930-10			
10-1030			
1030-11			
11-1130			
1130-12			
12-1230			
1230-1			
1-130			
130-2			
2-230			

Time	A	B	C
7-730			
730-8			
8-830			
830-9			
9-930			
930-10			
10-1030			
1030-11			
11-1130			
1130-12			
12-1230			
1230-1			
1-130			
130-2			
2-230			

Time	A	B	C
7-730			
730-8			
8-830			
830-9			
9-930			
930-10			
10-1030			
1030-11			
11-1130			
1130-12			
12-1230			
1230-1			
1-130			
130-2			
2-230			

Time	A	B	C
7-730			
730-8			
8-830			
830-9			
9-930			
930-10			
10-1030			
1030-11			
11-1130			
1130-12			
12-1230			
1230-1			
1-130			
130-2			
2-230			

Time	A	B	C
7-730			
730-8			
8-830			
830-9			
9-930			
930-10			
10-1030			
1030-11			
11-1130			
1130-12			
12-1230			
1230-1			
1-130			
130-2			
2-230			

Antecedents

DA = Divided Attention

DT = Denied Tangible

TD = Task Demand (tmr, tchr)

TD-R = Task Demand Redirect

Behaviors

S=Successful

BI=B

VS = Verbal Screaming

VT = Verbal Threat

ATO = Aggression toward others

ATP = Aggression toward property

NC = Non-Compliance

DB = Disrupting Behavior

O = Other

SIB = Self Injurious Behavior

Consequences

PRD = Physical Redirection

ATT = Attention

GRD = Gestural Redirection

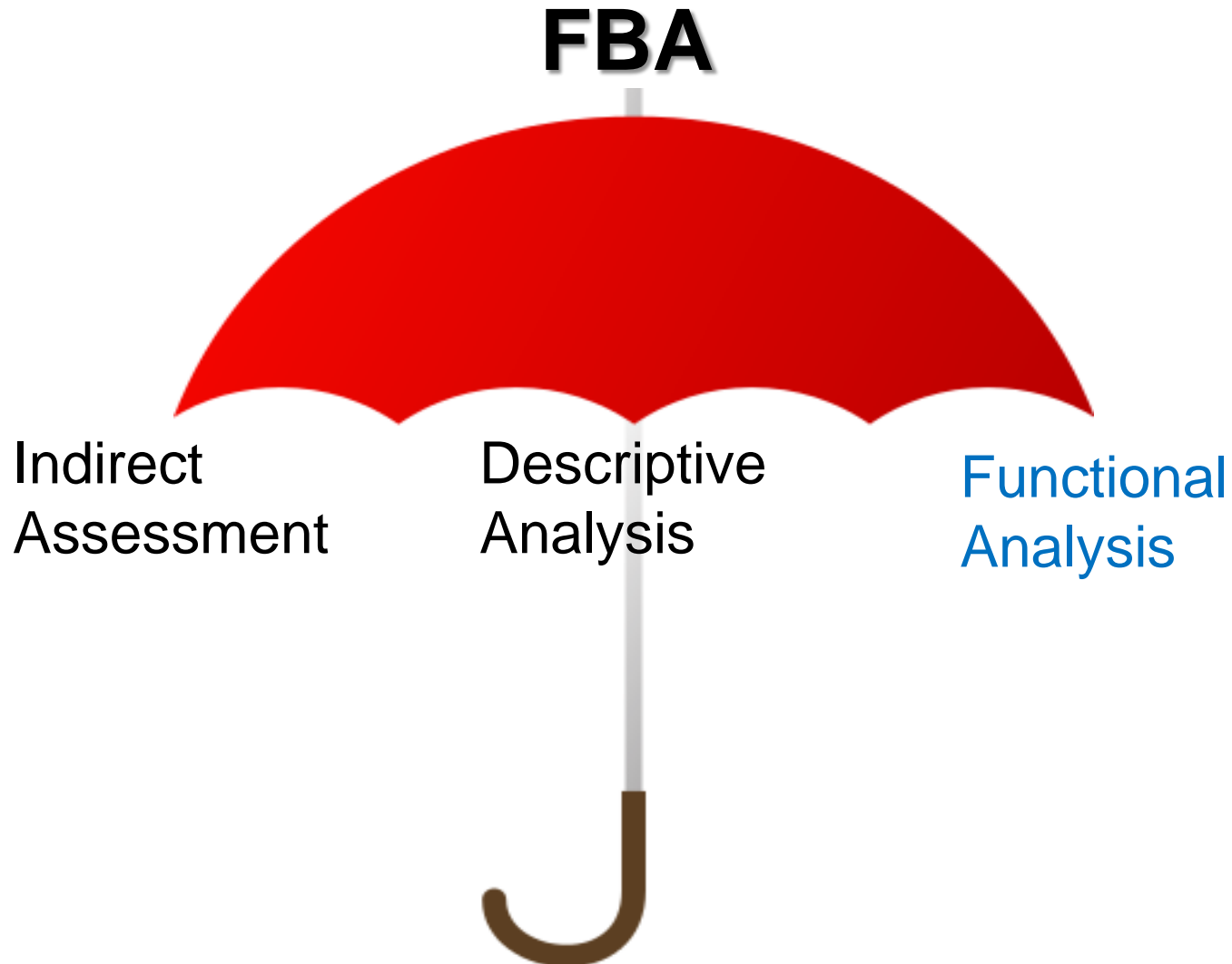
Analyzing Data

- Data recorded are worthless if not analyzed
- Analysis needed to make functional hypotheses
- All hypotheses need to be based directly on data collected – not on “hunches”
 - Data can change your “opinion”

FBA: Indirect Assessment and Descriptive Analysis

- Successful FBAs can be conducted with indirect assessment and descriptive analysis only
- Good for very straightforward cases
 - Teacher attention always follows kicking
 - Escape from demands always follows screaming
- Caution: Only hypotheses can be made; you do not have enough information to determine a causal relationship
- Cases are not always straightforward...

FBA: A Multi-Component Process



When to Conduct a Functional Analysis (FA)

- Descriptive data suggest more than one function
- Descriptive data are unclear (no consistent antecedents and consequences are obvious)
- Descriptive data contradict strong informant report
- Descriptive data suggest a clear function but then treatment is ineffective

What is a Functional Analysis?

It is an experiment!

STAND BACK



**I'M GOING TO TRY
SCIENCE**

- Methodology devised by Iwata, Dorsey, Slifer, Bauman, & Richman (1982/1994)
- Designed to identify environmental causes of behavior
- Experimental manipulation of environmental conditions
 - Control of variables
 - Manipulate variables in isolation/one at a time

Benefits of Conducting FAs

- Ability to identify environmental determinants behavior
- Possesses a high degree of precision
- Allow for the development of individualized treatment plans based on sound empirical data
- Result in a higher degree of treatment success
- Difficult to isolate variables in a classroom

How does it work?

- In an FA, the experimental conditions create a **state of deprivation**.
- We want to find out: If given a specific state of deprivation, will an individual engage in problem behavior because in the past it has contacted a specific reinforcer?

“State of Deprivation”: Establishing Operation

- An establishing operation has two major effects (Michael, 1993):
 - It increases the momentary effectiveness of a stimulus as reinforcer
 - It increases the momentary frequency of all behavior associated with attaining a certain reinforcer in the past
- Example: You just ran 10 miles at noon in July
 - Deprivation from water (establishing operation)
 - Increases the momentary effectiveness of water as a reinforcer (you would do anything for water!)
 - Increases the momentary frequency of all behavior associated with getting water (finding a water fountain, vending machine, even drinking from the sink!)

Wait...we want to evoke problem behavior?

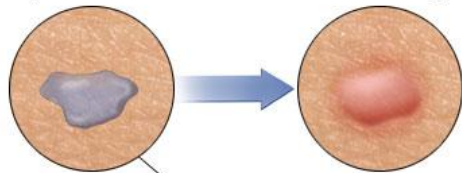
- Attempt to create situations that will CAUSE the behavior
- Determine functional relationship between problem behavior and environment (causal explanation)
- If you can identify what is causing the problem– you can use the reinforcer (in some cases) to reinforce an appropriate response
- We want to know under which conditions this behavior is likely and unlikely to occur

Allergy Test Analogy (Hanley, 2012)

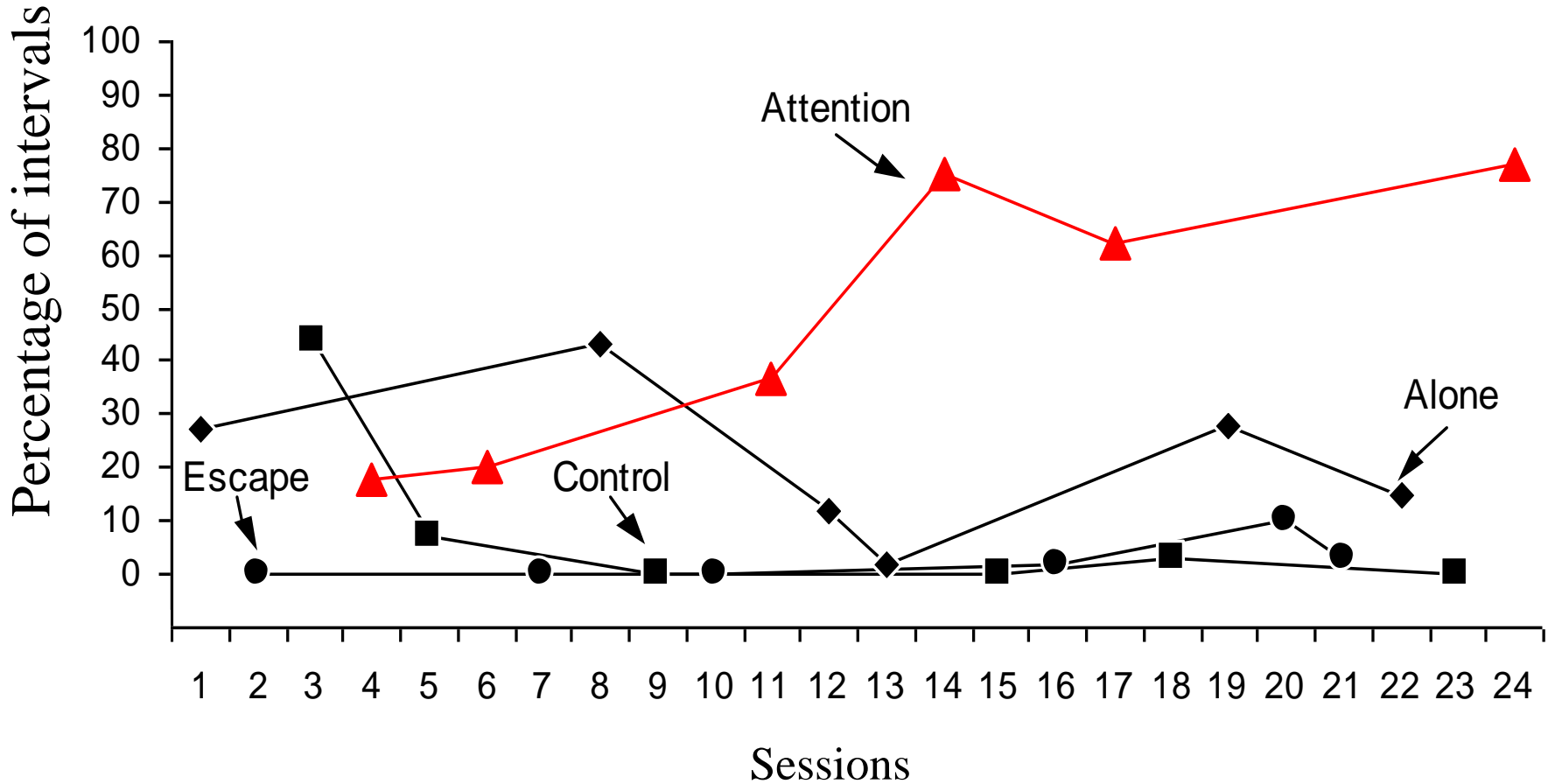
- Exposure to allergens in small doses within a controlled setting
- Allergists also include a “control” condition (saline injection)
- Repeated administrations
- “Flare up” = What you are allergic to
- For FAs, “Flare up” in data = Function

Allergen solution
is placed on skin

Positive test: Skin
is red and itchy



“Flare up” in Attention



Iwata et al. (1982/1994) Conditions

- **Social Disapproval** (test for positive reinforcement)
 - EO: Deprivation from attention
 - Reinforcer: Attention provided contingent on problem behavior
- **Escape from Academic Demands** (test for negative reinforcement)
 - EO: Continuous task presentation
 - Reinforcer: Break provided contingent on problem behavior
- **Alone** (test for automatic reinforcement)
 - EO: Austere environment (deprivation from attention/tangibles, no demands)
 - No programmed consequences for problem behavior
- **Unstructured Play** (Control)
 - Enriched environment (attention, tangibles), no demands
 - No programmed consequences for problem behavior

Limitations to Conducting FAs

- Limitations
 - Perceived as being too time consuming.
 - Perceived as requiring a high degree of expertise
 - May result in increase in problem behavior
 - Difficulty in assessing low-frequency behaviors
- Often, to work within the framework of the school setting, changes have to be made to address the critiques and concerns
- These considerations are described as we go through planning the FA in a school setting

Conducting a School-Based FA

Checklist

- Who will conduct the FA?
- Where will it be conducted?
- What conditions will be included?
- How will data be collected?
- How long will sessions be?
- When is it over?

Who will conduct the FA?

- FAs require at least two people (therapist and data collector)
- Must be overseen by a qualified professional
- Hanley (2012) recommends that a qualified Board Certified Behavior Analyst (BCBA) oversee the FA
- Teachers can be coached to run sessions under supervision
 - Increases ecological validity
 - Works well when problem behavior occurs only when teacher is present

Where will the FA be conducted?

Location	Pros	Cons
In the classroom during instruction (other students present)	Ecologically valid (same students, sounds, tasks, staff)	Most likely to have confounds (disruptions, elopement from area, peer interaction); highly disruptive to classroom
In the classroom when other students have left	Some similar features (same sights, sounds), fewer confounds; less likely to disturb other students/classroom activities	Less valid for testing certain variables – diverted attention, peer attention, seeing others engage in preferred activities; elopement from area
In a different, empty classroom	May have some similar features; fewer confounds	Less ecologically valid; less valid for variables involving classroom peers
In another room (e.g., small storage room)	Highly controlled environment (few distractions, elopement within room not a concern), most similar to a clinical setting	Poor ecological validity (lacks similarity to target environment); less valid for variables involving classroom peers

Room Arrangement

- Total control would entail no distracting stimuli
- Anything else around is a potential confound
 - Block doors
 - From the inside and from the outside
 - Block access to preferred areas/objects
 - Remove from the room or block with objects
 - Block other students
 - Set up partitions

Partitions, Doors, Pads

- Divide part of the room into a session area
- Use:
 - Furniture: bookshelves, desks, tables, other dividing materials
 - Gym Mats (also for safety)
- Child will more than likely:
 - Pull on pads
 - Try to access doors
 - Lean on partitions
 - Crawl under tables
- These behaviors might be equally distributed across conditions
- These might go down over time
 - Blocking may punish the response

Door

Teacher Desk

Circle Time Table

Desk

Desk

Desk

Desk

Desk

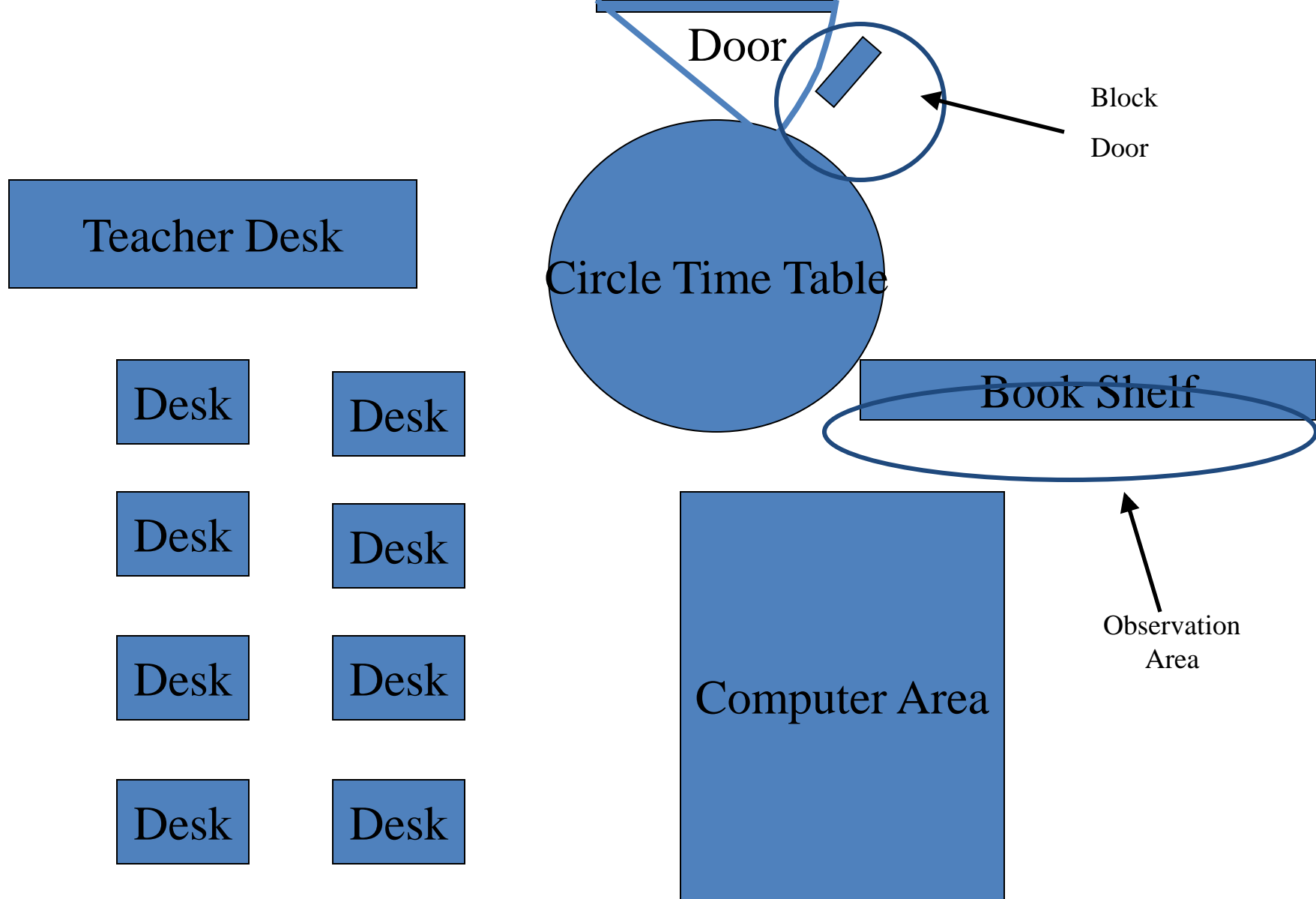
Desk

Desk

Desk

Computer Area

Book Shelf



What conditions will be included?

- What data collected in the indirect and direct triggers inclusion of certain conditions into the analysis?
- Include all those implicated in indirect or descriptive assessment, plus a control condition

When to use an attention condition

- Target behavior increases when you are busy doing something else
- Your reprimands are ineffective (increase target behavior)
- Your attempts to calm down/de-escalate/"talk through it" only increase target behavior
- Target behavior gets worse when peers attend to it

Attention condition: Procedures

- Give the child a moderately preferred item
- Tell the child that you have some work to do
- Pretend to read a book/magazine or go on a phone
- Contingent on problem behavior, provide a reprimand or disapproving statement (e.g., “Stop” or “Don’t do that!”) or a statement of concern (e.g., “Please stop, that hurts!”)
- High levels of target behavior in this condition suggest:
Positive Reinforcement

When to use an escape condition

- Happens during work
- You stop presenting some task due to behavior
- You make changes, delays, postpones, or ends activities to calm him down
- You wait until student calms down before doing work again
- You give a “sensory break” when behavior occur
- You “wait until the child is ready to work”

Escape condition: Procedures

- Present an academic/non-preferred task
 - You should be able to prompt the task easily and quickly (e.g., “stand up” might be difficult)
- Use a 3-step prompting procedure (verbal, model, physical) to ensure compliance
- Provide mild praise for compliance with verbal/model prompt
- Contingent on problem behavior, remove the task and turn away for 30 seconds
- After 30 seconds, continue presenting the task
- High levels of target behavior in this condition suggest:
Negative Reinforcement

When to use a tangible condition

- Transitions from free time to work time
 - If you take his....
 - If you don't let her have her...
 - Teacher give items to him or allows access to something to calm him down
-
- Caution: Likelihood of false positive outcome (Shirley, Iwata, & Kahng, 1999) – only include when you have reason to believe this is a possible function (use indirect/direct sources)

Tangible condition: Procedures

- Identify preferred stimulus
- Provide access for 2 minutes before the session starts
- At the start of the session, remove the preferred stimulus
- Contingent on target behavior, allow access to the stimulus for 30 seconds
- High levels of target behavior in this condition suggest: Positive Reinforcement (access to tangibles)

When to include an alone condition

- “It would happen if she was alone in a room by herself”
- They’re “stimming”
- Happens when no one is around
- “Happens all the time, regardless of what we do”
- Behaviors often found to be maintained by automatic reinforcement
 - Mouthing
 - Hair pulling, hair twirling
 - Hand flapping

Alone condition: Procedures

- Child left completely alone for the condition
- No socially mediated consequences
- Reinforcement derives from the behavior itself, not socially mediated
- High levels of target behavior in this condition suggest: Automatic Reinforcement

Control condition: What does it mean?

- To control for something....
- To rule out an effect by something....
- To provide something in one context so that it's presence (and potential effect on behavior) in another context can be evaluated across the two contexts
- To rule out potential effects of some extraneous variable by providing those extraneous variables in at least two contexts
 - Person could be reacting to the presence of the therapist, to their attention, to certain materials. Etc.

Toy Play (Control) condition: Procedures

- Engage child in play with toys etc.
- Therapist stays within 3-4 ft making neutral statements, and praising appropriate play
- Controls for variables that exist in other conditions
experimenter presence, proximity, verbalizations,
praise, toys

Other Conditions: Flexibility in FAs

- If descriptive assessment suggests that problem behavior may be maintained by other variables, consider adding individualized conditions
- **Diverted Attention**
- **Interrupt**
- **Social Avoidance**
- **Escape from “other”**

Condition Length

- Seminal research/Clinical practice - 10-15 minute session
- In school settings almost always start with 5 minutes
- Shorter sessions
 - Trial-based (Bloom, Iwata, Fritz, Roscoe, & Carreau, 2011)
 - Latency
 - Acceptable correspondence with traditional FA
- Shorter Session Length: Less disruption to class, faster analysis but might not be long enough to produce EO
- Longer Session Length: Standard, should be long enough to produce EO, but more disruptive, time-consuming

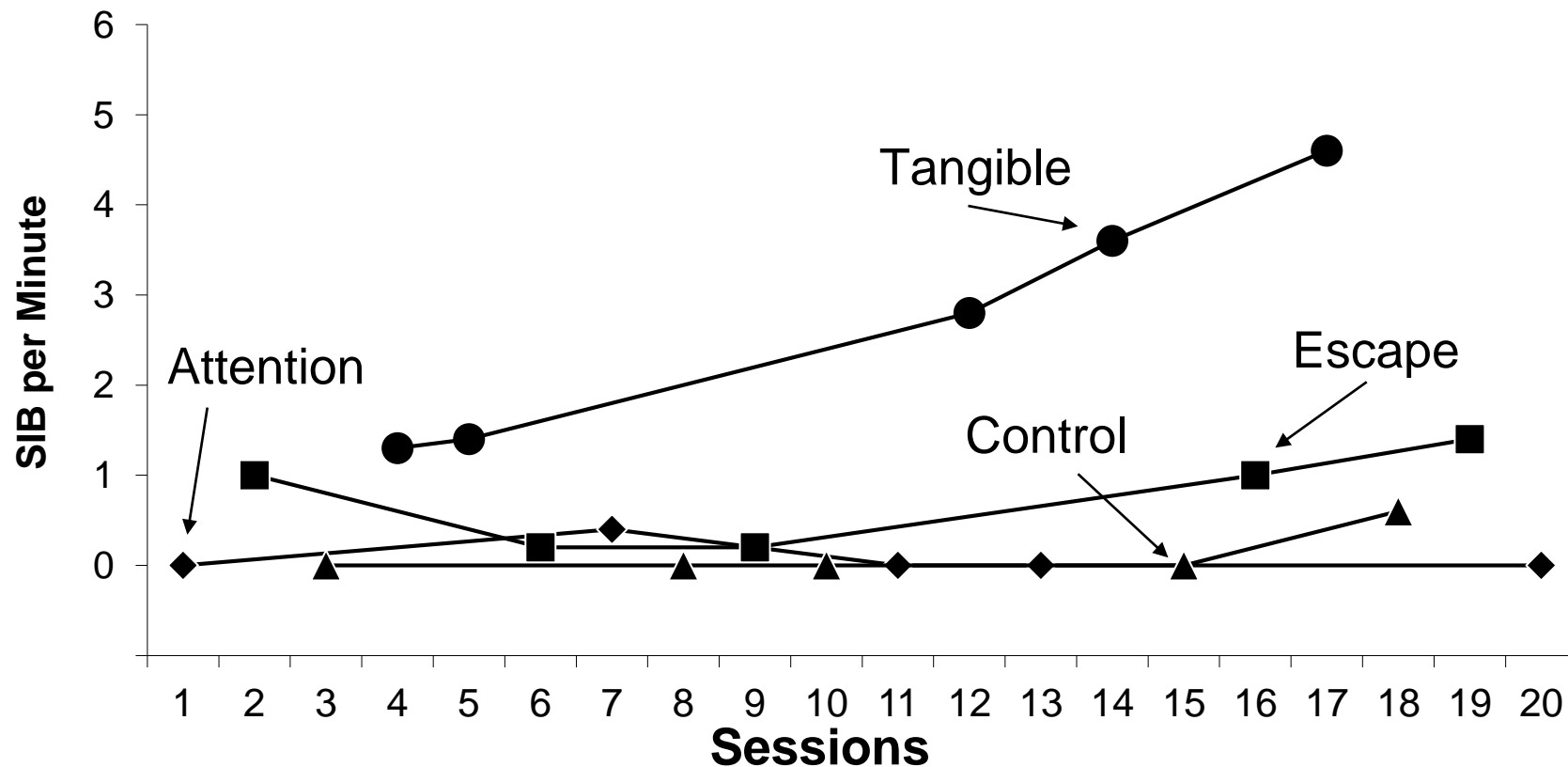
Safety

- Some conditions may be unsafe for a school setting
 - Peer attention (you cannot use peers to conduct FAs)
 - Alone (you cannot leave a child alone in a room)
 - In clinics, these sessions are conducted in rooms equipped with a one-way mirror
 - Instead, try an Ignore condition
 - Same as an alone condition, except an adult is present in the room and ignores the child (the data collector is also present and is always watching the child)
- Not all behaviors are safe to assess within the school setting without additional supports or equipment
 - Use gloves and protective equipment when available (e.g., arm guards, shoulder guards, helmets)

How will data be collected?

- Typically event recording
 - Calculate rate of target behavior per session
- Can also do duration recording
- Time sampling methods for very high frequency behavior (e.g., partial interval)
- Use pencil/paper and a timer
- Apps for phone and ipad!

Data Presentation and Analysis



When is it over?

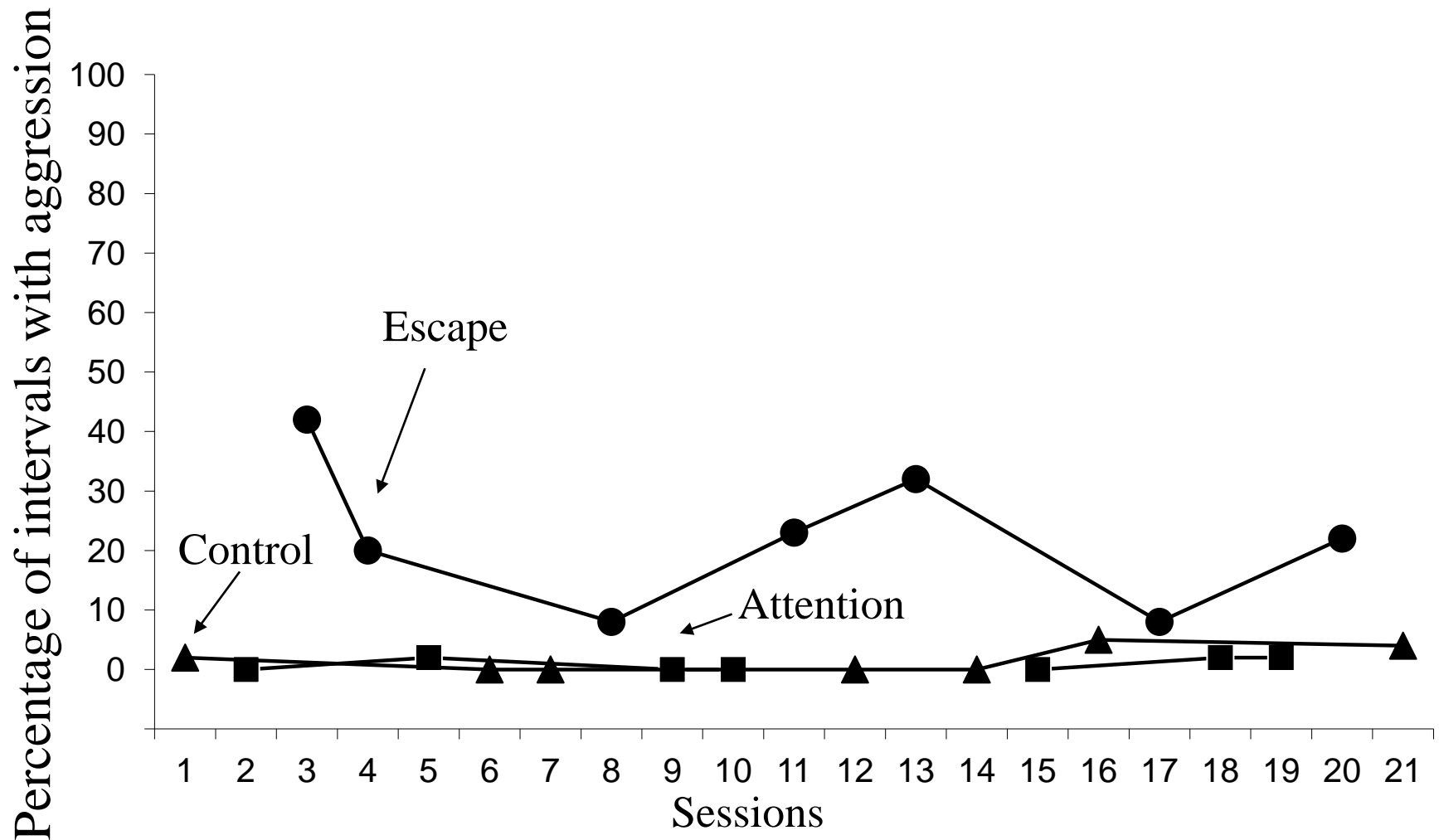
- You have to run multiple series
 - At least two, absolute minimum
 - Try not to set in advance - the data should guide your decision making
- At least one series has to be elevated from control
- At least one series has to be elevated above all others
- If all are elevated*
- If all are low*
 - *This should also trigger re-examination of other data

Addressing the Critiques of Conducting FAs in a School Setting

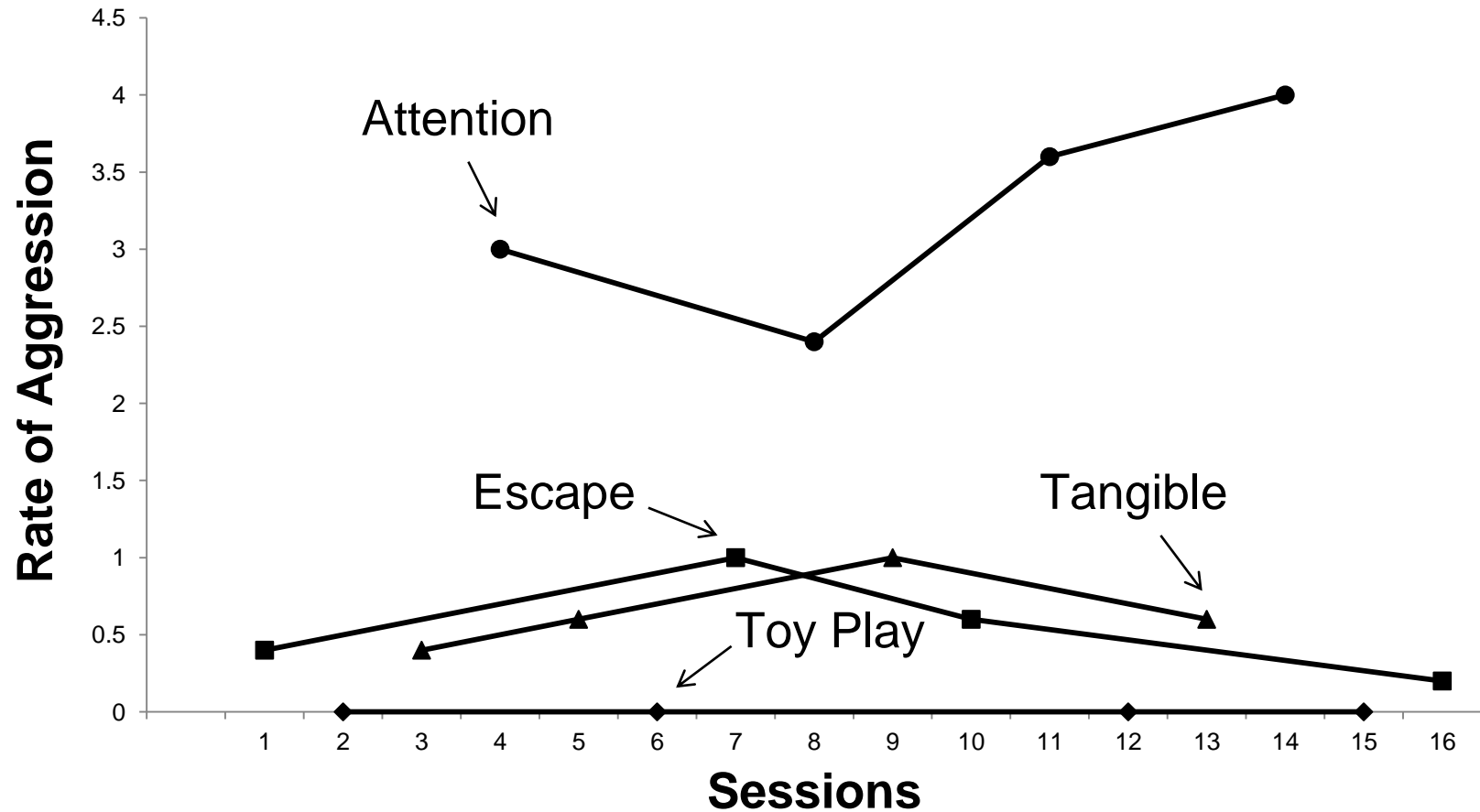
- Is school setting appropriate?
 - Many different settings can be used in a school building including classroom, other rooms, adapting classroom schedule, etc.
 - Requires a qualified individual to oversee sessions
- Analysis is too time consuming
 - Trial-based FA, Latency-based FA
 - Shortened session length
 - Conducting only conditions indicated in descriptive assessment
- Removal of students from classroom instruction
 - Conducting sessions during classroom instruction
 - Weigh costs and benefits- loss of some instruction (which may not be of high quality due to problem behavior) might be worth it

Let's Analyze some Data!

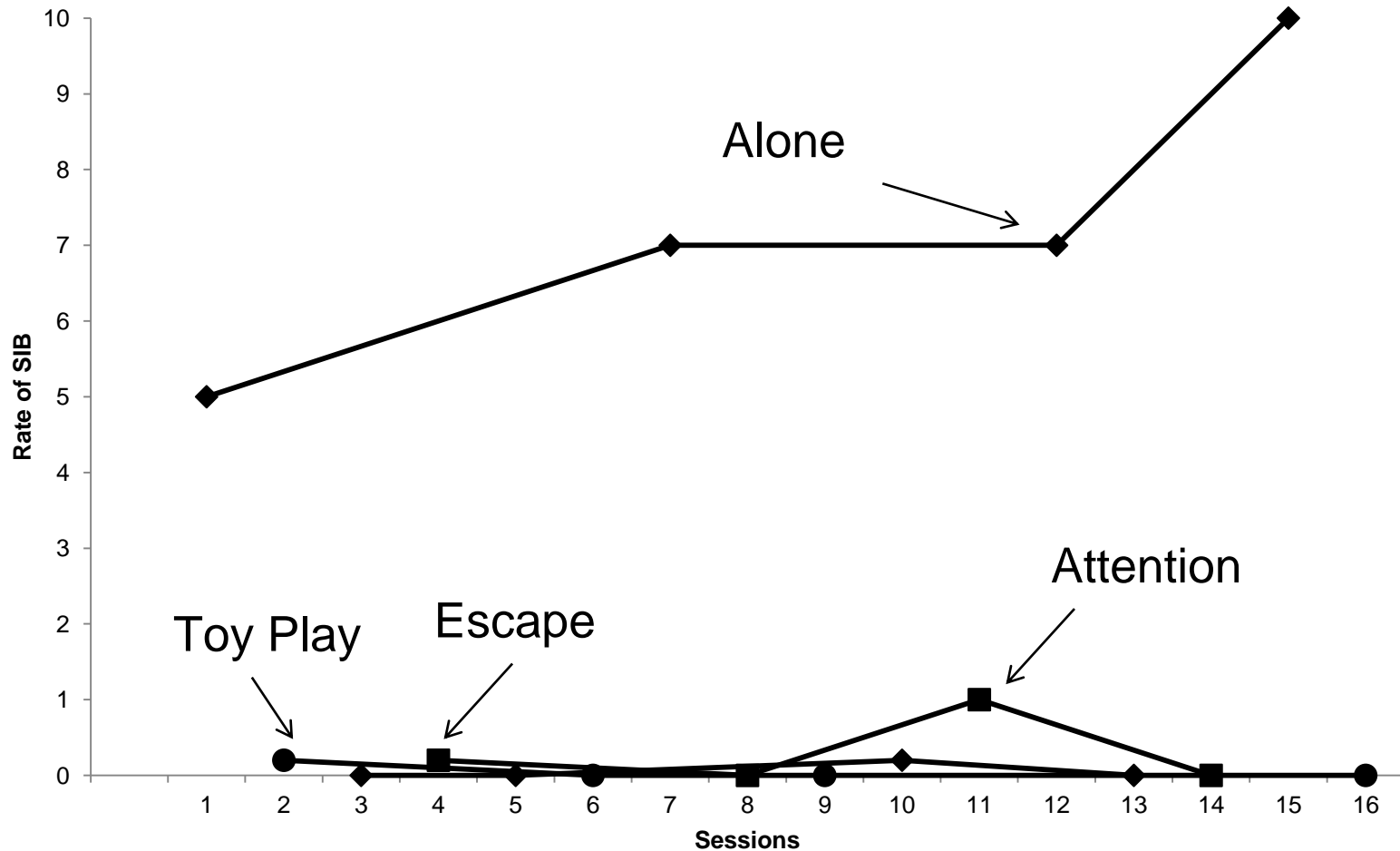
What is the function?



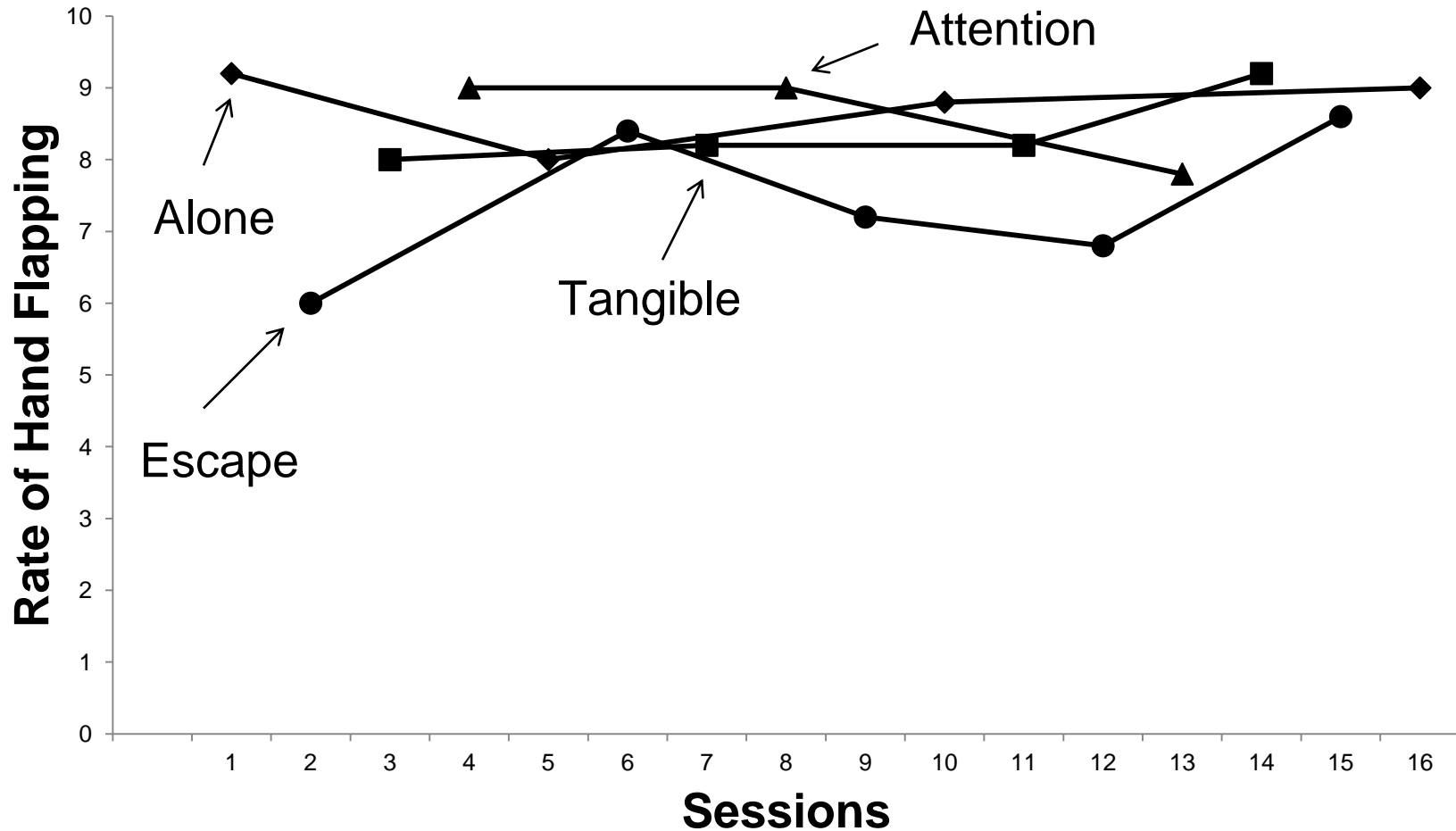
What is the function?



What is the function?



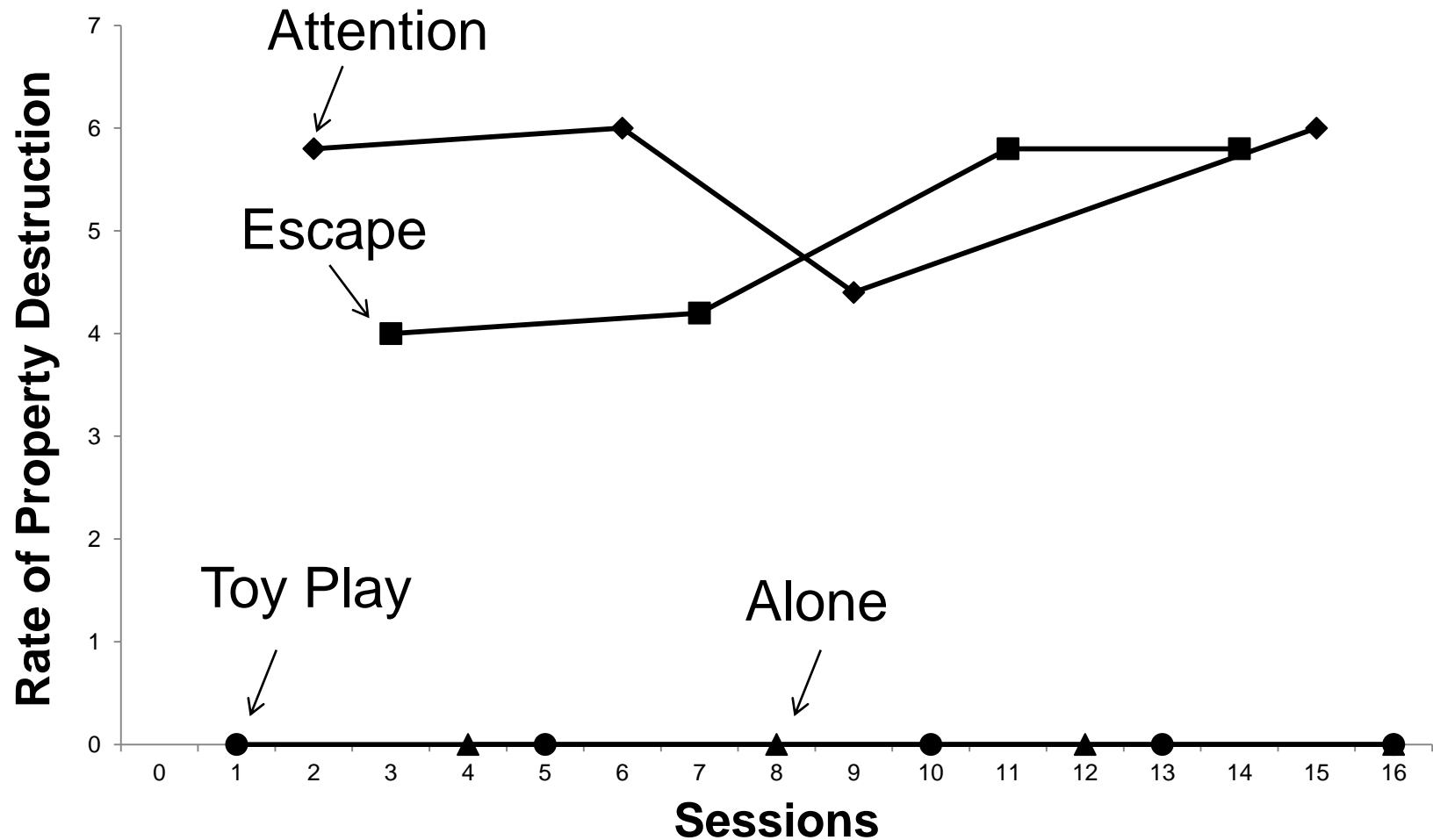
What is the function?



What if more than one series is elevated?

- Multiply Maintained/Multiple Control
 - When to run more series, when to be satisfied that the results suggest multiple control
 - Ask yourself about confounds that could elevate one condition artificially

Multiply maintained graph



Based on the FBA Information...

- Plan changes within the ABCs!
- **Antecedents:** You can determine ways to manipulate the antecedents (triggers) to prevent problem behavior from occurring
 - Alter environment to decrease aversiveness of setting/activity
- **Behavior:** You can teach replacement behaviors that will allow the student to achieve same “pay off”
 - Teach appropriate behavior to replace inappropriate behavior
 - New behaviors need to serve the same “function”
- **Consequences:** You can change the consequences to make appropriate behavior more likely to occur instead of problem behavior
 - Differential Reinforcement of alternative/replacement behavior
 - Extinction
 - Behavior Reduction techniques

Case Examples

Alex: FBA without FA

- Background
 - Five-year-old male, SDD eligibility
 - Pre-Kindergarten, self-contained classroom
 - One teacher, two paraprofessionals
- Target Behavior
 - **Aggression:** any instance or attempt in which Alex engages in hitting, biting, scratching, shoving, or grabbing from a distance of six inches or greater directed towards an adult or student
 - **Non-compliance:** any instance in which Alex does not complete educational task demands or behavioral demands within 3s, or for extended tasks, instances in which Alex fails to remain oriented towards instructional materials
 - **Self-gagging:** any instance or attempt in which two or more of Alex's fingers cross the plane of his mouth

Alex: Procedures

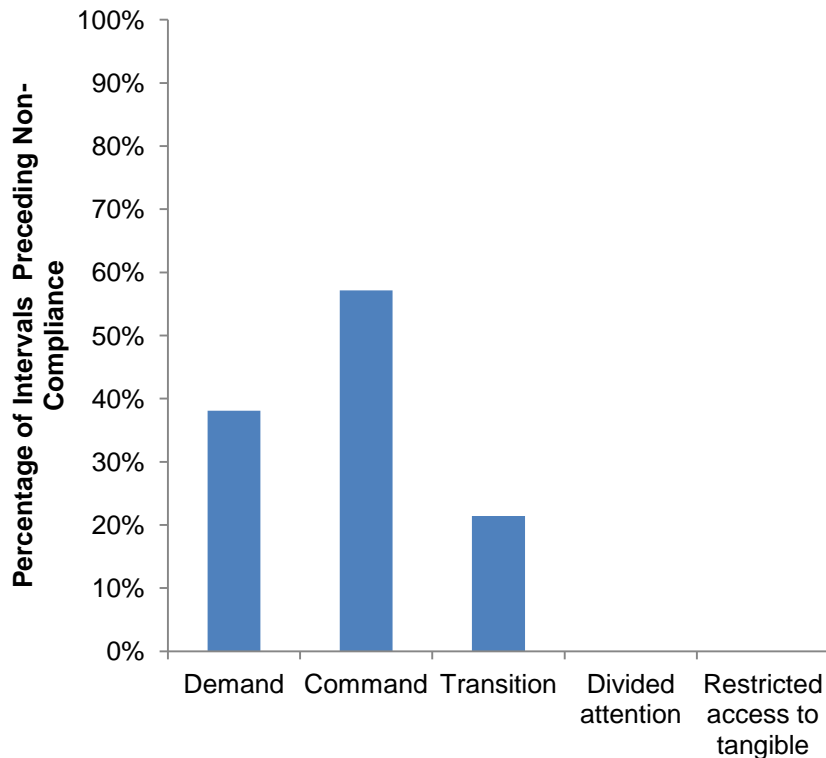
- Indirect Methods
 - Parent Interview
 - Functional Assessment Informant Record for Teachers – 2nd Edition (FAIR-T-II)
 - Record Review
- Descriptive Methods
 - ABC Data Collection
 - Partial Interval Recordings
 - Recorded when antecedents, instances of target behavior, and consequences occurred during 10 second intervals

Alex: ABC Observation

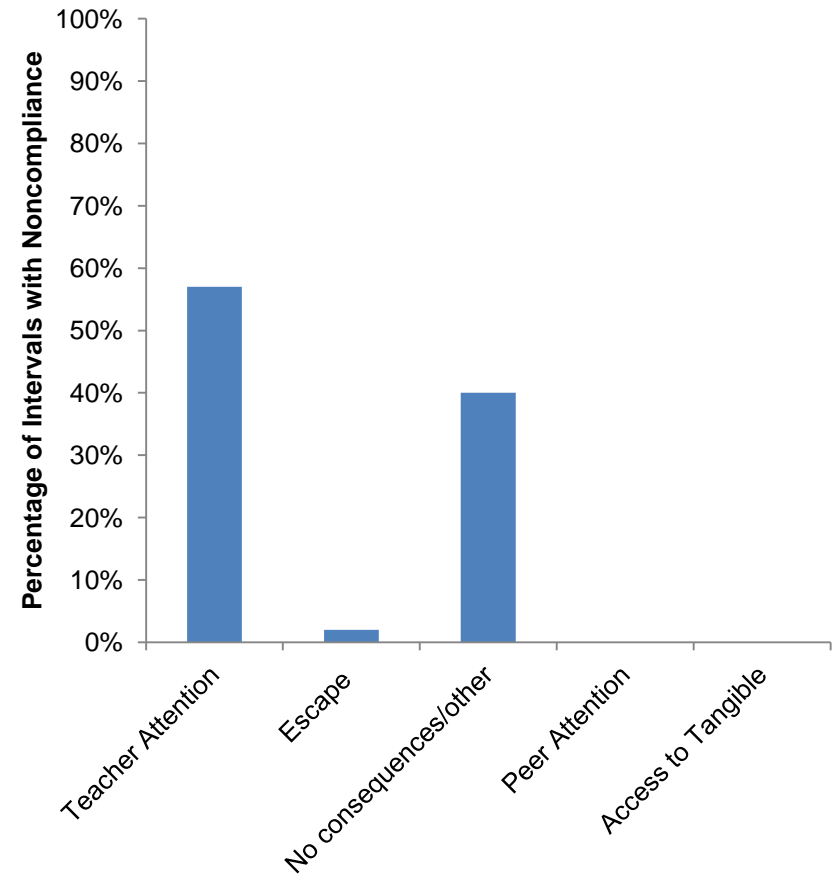
Antecedent	Behavior	Consequence
<i>Tangible Access Denied:</i> Paraprofessional denied access to a cup	<i>Aggression:</i> Alex grabbed/scratched the paraprofessional <i>Self-gagging:</i> Alex placed the fingers on both of his hands inside his mouth	<i>Teacher Attention:</i> Physical attention, reprimands/coaxing, social disapproval

Alex: Partial Interval Recording

Antecedents to Non-Compliance



Consequences to Non-Compliance



Alex: Hypotheses

- Without an FA, the function(s) of problem behavior can only be **hypothesized**
- **Hypothesized functions for Alex's problem behavior:**
 - Aggression: tangible function, possible attention and escape
 - Self-gagging: tangible function, possible attention and escape functions
 - Non-compliance: escape/attention function

Alex: Recommendations

- Antecedent Strategies
 - Schedule
 - Structured instruction (discrete trials)
- Replacement Behavior
 - For aggression and self-gagging: Teach Alex how to request preferred items
- Consequence Strategies
 - For non-compliance: 3-step prompting to ensure compliance
 - Reduce attention in response to problem behavior

Eric: FBA with FA

- Background
 - Twelve-year-old male, Autism/SLI eligibility
 - 5th grade, self-contained classroom
 - One teacher, two paraprofessionals
- Target Behavior
 - **Aggression:** any instance/attempt of hitting, scratching, kicking, pinching, hair pulling, or biting another person, with instances/attempts of hitting and kicking occurring from a distance of six inches or greater

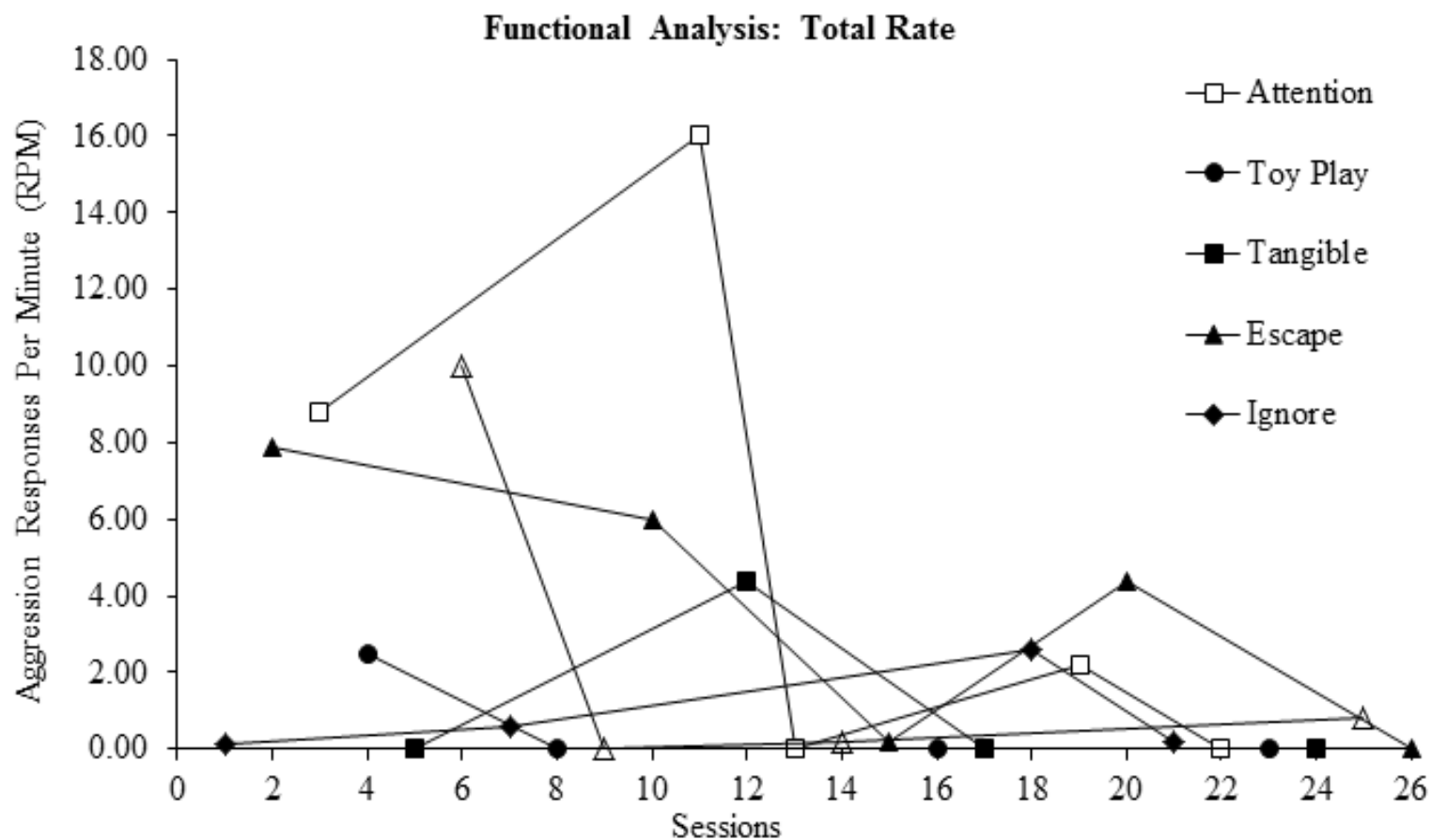
Eric: Indirect and Direct Methods

- Indirect Methods
 - Teacher Interview
 - Parent Interview
- Direct Classroom Observation
- Reasons for conducting FA
 - Seemingly multiple functions
 - Difficulty identifying clear antecedents
 - Variability across days

Eric: FA

- Conditions included
 - Attention
 - Escape
 - Ignore
 - Toy Play
 - Tangible
- Conducted in a small storage room
- Two therapists

Eric: FA Results



Eric: Results and Recommendations

- Rates of aggression were highest in the attention and escape conditions
- Highly variable data
 - Uncontrolled factors (hunger, sickness, deprivation/satiation of attention)
- Multiply-maintained
 - Used aggression as a means to access all reinforcers
- Functional Communication Training
 - Teach Eric how to appropriately access reinforcers
 - Asking for a break
 - Asking for attention
 - Ignore/Block instances of aggression

Take-homes

- Comprehensive FBAs may seem more time-consuming, but they are more likely to direct you to a successful intervention (less trial-and-error)
- FAs are a component of the FBA process
- FAs are experiments designed to systematically test hypotheses and determine the function of target behavior

Thank you!

- Questions?
- Comments?
- Contact us:
 - Andrea.Zawoyski@choa.org
 - Dana.Zavatkay@choa.org