

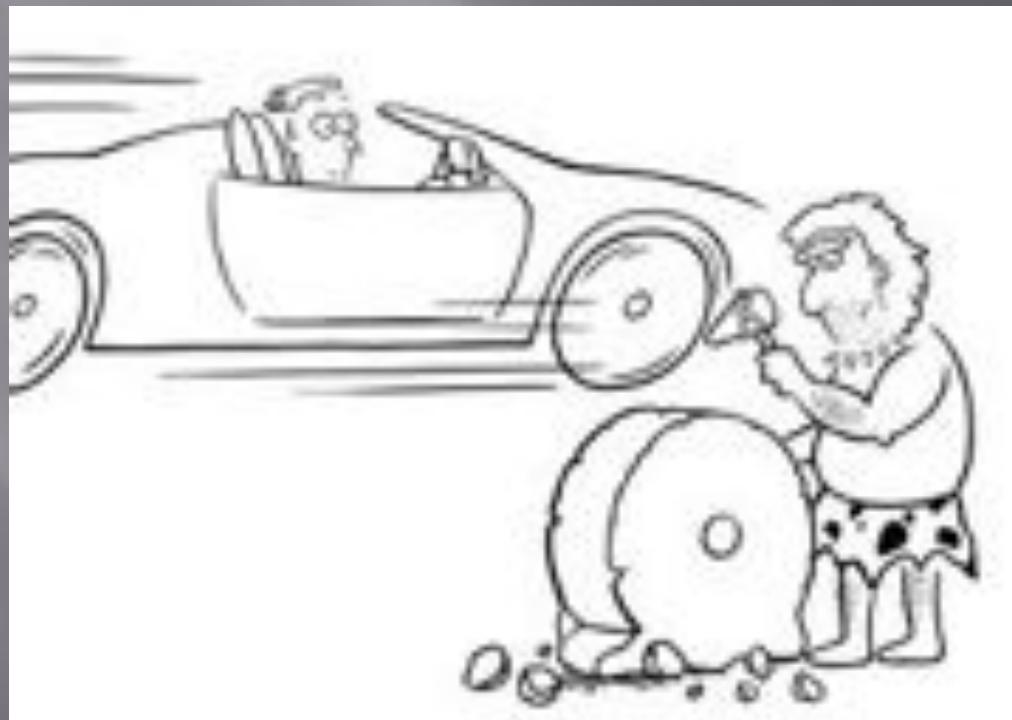
WAAAY BEYOND THE FUNCTIONAL ANALYSIS

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Do other fields have valuable methods that we could adopt & adapt to boost the effectiveness of our own tried and true procedures?



Overview

- ▣ Although the functional analysis has been “revolutionary” in the treatment of behavior problems, all too often the analysis merely scratches the surface of all of the variables that give rise to the behavior problem
- ▣ There are a number of variables that contribute to any behavior problem, that is, any problem (head banging) usually reflects a number of other problems related to a number of other variables

Overview

- ▣ There are many more questions that can be asked and answered about any behavior problem that would allow the practitioner to “go deeper” into the problem to come up with additional ways to attack the behavior problem
- ▣ We will look at what’s known as a root-cause analysis, cause mapping, a discrepancy analysis, and a categorization system for looking at frequently occurring kinds of problems that all contribute to a single behavior problem

Root-Cause Analysis

- ▣ ON www.thinkreliability.com they supply a definition of a Root-Cause Analysis (RCA) which is as follows:
- ▣ RCA is an approach for identifying the underlying causes of why an incident occurred so that the most effective **solutions** can be identified and implemented. It's typically used when something goes badly, but can also be used when something goes well. Within an organization, problem solving, incident investigation and root cause analysis are all fundamentally connected by three basic questions: What's the problem? Why did it happen and what will be done to prevent it?

Cause Mapping

- ▣ Cause mapping is like a root-cause analysis “on steroids” (thinkreliability.com)
- ▣ It involves using a visual diagram to look at all the contributing factors
- ▣ You could then even perform a root-cause analysis on each individual item in the map, so it’s like a branching root-cause analysis and we will do a couple at the end of the presentation

Root-Cause Analysis

- ▣ Now typically the analysis is performed on a single sentinel event, like an airline disaster and not on recurrent behavior problems, but the methods are the same
- ▣ An RCA involves asking at least 5 “why” questions as a 5-year-old would when you tell them why he must eat all his veggies
- ▣ A functional analysis pretty much stops at the first “why.”
- ▣ Why does he bite his teacher? It allows him to escape from his task. Done. Finished. Let’s move on to the next client...

Root-Cause Analysis Applied to Behavior Problems

- ▣ The root cause analysis can also be applied to the analysis of behavior problems.
- ▣ Why does Johnny destroy the materials during tasks?
- ▣ He wants to escape
- ▣ Teach a mand for “break”
- ▣ This is the typical scenario but it is incomplete
- ▣ You could also do a root-cause analysis of the escape to provide a wider range of treatment options.

Why?



Why?

- ▣ Usually we answer the question “Why does Johnny destroy the materials” but we stop at the first most obvious answer and we go no further
- ▣ The assumption is that we are complex creatures living in a complex world and there is never going to be a single variable responsible for the behavior problems we see
- ▣ We may choose to only concern ourselves with single variables (direct access, direct escape, socially-mediate access, socially-mediated escape [Cipani 2011]), but this doesn't mean that we will be providing the best treatment possible

Why?

- ▣ We can ask many follow-up “why” questions, the answers to which may provide us with a more thorough understanding of behavior problems and additional treatment components for consideration
- ▣ A couple of examples:

Root-Cause Analysis Applied to Behavior Problems

- Why does Johnny want to escape?
- He doesn't like the task?
- Does he hate all academics or just this task?
- If he hates this task, why does he hate this task?
- It requires reading and he isn't good at reading
- Why isn't he good at reading?
- He isn't fluent
- Why isn't he fluent?
- He stumbles over simple sight words
- Why does he have problems with sight words?
- Because he never practiced reading them quickly on flashcards..etc...



Root-Cause Analysis Applied to Behavior Problems

- ▣ Why does James hit other children?
- ▣ He wants attention from adults?
- ▣ He can talk, so why doesn't he simply ask for attention?
- ▣ Because asking for attention does not produce immediate attention and aggression does.
- ▣ Why can't he handle waiting for attention?
- ▣ Because teacher's don't tell him what to do while he is waiting for attention and because they won't tell him exactly when he can get attention

Root-Cause Analysis Applied to Behavior Problems

- ▣ Why don't teachers tell him what to do and when he can get attention?
- ▣ They do tell him, but they say he can't wait that long
- ▣ Why can't he wait that long?
- ▣ He is not accustomed to waiting, so he isn't good at it...etc....

How can we generate Mo' better questions?

- ▣ There are two other things you can do:
- ▣ 1 Use a “discrepancy analysis”
- ▣ 2 Use a categorized system of common types of problems, each with it's own subset of questions
- ▣ Both of these tactics used together can generate a tremendous number of ideas for treatment directions
- ▣ These multiple ideas are not used in the sense of any one of them can be chosen and then we wait and see what happens, but in the sense of each idea addressing a different variable, all of which conspire to create the behavior problems we are dealing with.

Discrepancy Analysis



Discrepancy Analysis

- ▣ Discrepancy Analysis (Macfarlane, 1998; Cipani & Schock 2007): An analysis of the reasons why the person exhibiting behavior problems does not respond in the same (acceptable) ways as a non-disabled peer who is exposed to the same situation
- ▣ This concept can be used to open up avenues for treatment by methodically coming up with as many reasons as possible why some people respond appropriately when others do not

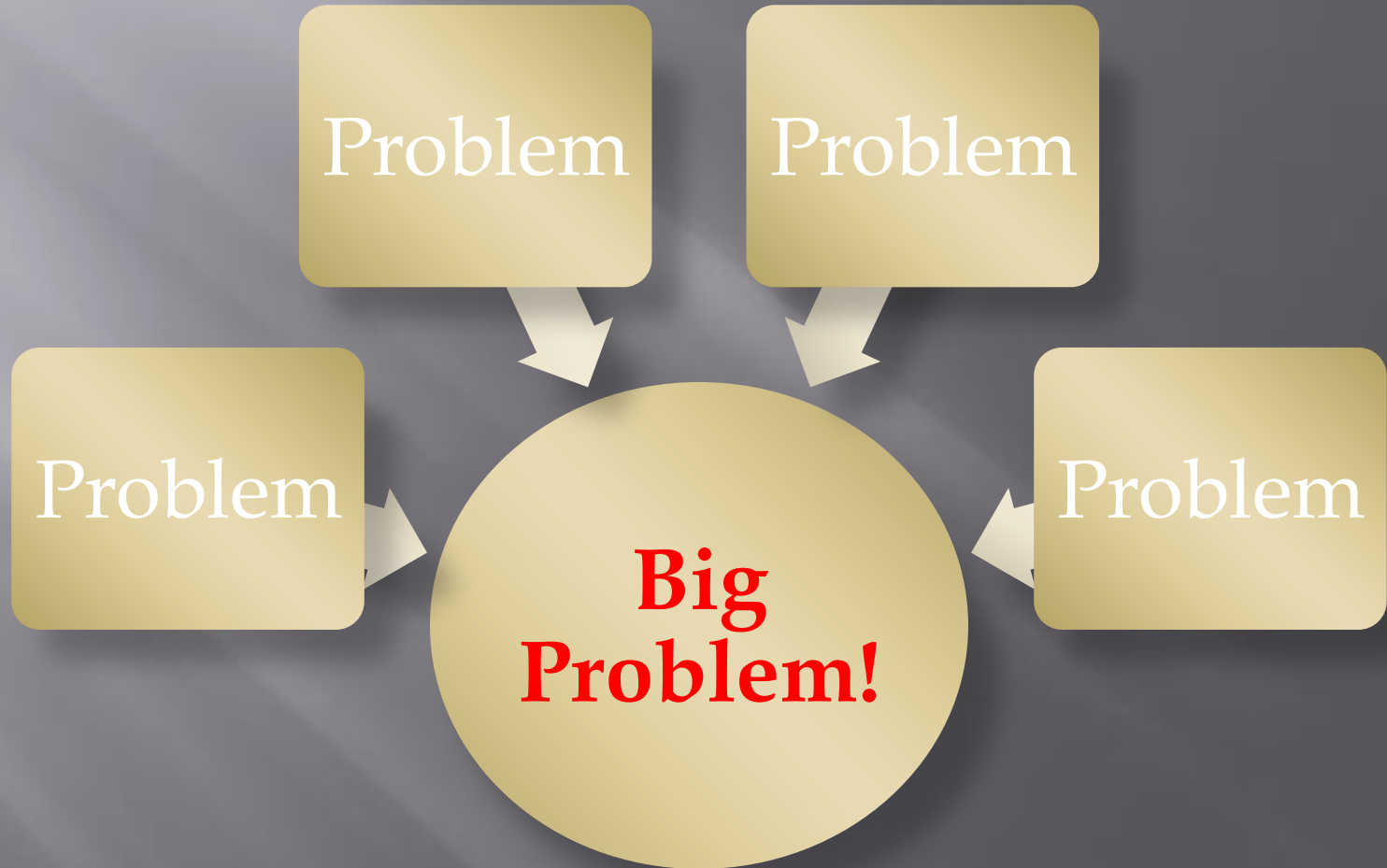
Discrepancy Analysis

- ▣ It's not as simple as saying "James has Autism and Perry does not" That's why he bites.
- ▣ This is not an analysis...yet this is very often how people explain differences in responding
- ▣ To perform a discrepancy analysis it is necessary to be able to come up with as many reasons as possible that can, together, explain the differences in responding

Discrepancy Analysis

- ▣ Children may behave very differently from adults when faced with similar situations
- ▣ Typically developing children may behavior very differently from children with disabilities when faced with similar situations
- ▣ We ourselves may behave very differently in public than we do in private when faced with similar situations
- ▣ We may behave very differently on a first date than after 15 years of marriage when faced with similar situations ...

Problems that cause problems



Problems that cause problems

- ▣ Behavior problems are caused by other problems, and not (typically) by a single problem...
- ▣ What kinds of other problems contribute to behavior problems?
- ▣ Although not exhaustive in any scientific sense, there are 5 common categories of problems that can be investigated to help us pin down a variety of causes for a single problem that we are facing

Problems that cause problems

- ▣ Please keep in mind that we as behavior analysts tend to focus more on what are known as proximal causes (immediate antecedents) and less on more distal causes (repertoire deficits and motivational operations that may have taken place hours before the behavior problem)

Problems with reinforcers



1. Problems with Reinforcers

- ▣ All sorts of problems can occur with reinforcers, and in some cases the reinforcer itself is the problem and in other cases it is some aspect of the reinforcer. Here are some areas of problems with reinforcement:
- ▣ Atypical/Unusual/Unacceptable reinforcers
- ▣ Intermittent reinforcers (not given consistently)
- ▣ Insufficient reinforcers (limited interests)
- ▣ Inconsistent reinforcers (given consistently but with inconsistent results)
- ▣ Uncontrolled reinforcers

1. Problems with Reinforcers

- ▣ Low-rate reinforcers
- ▣ Delayed reinforcers
- ▣ Reinforcer magnitude problems (too powerful and too weak)
- ▣ Reinforcer contingency problems (contingent on no behavior)

Problems with aversives



2. Problems with aversives

- ▣ Aversive stimulation of one form or another usually contributes to behavior problems and is one of the more “proximal” causes of behavior problems (taking candy from a baby), but in some cases can be more distal in nature (being abused one time which may affect behavior for years)
- ▣ What kinds of aversives do we experience?

Some categories of aversives

- ▣ Tasks
- ▣ Extinction conditions
- ▣ Blocked access
- ▣ Reinforcer removal
- ▣ Punishers
- ▣ Words associated with reinforcer loss/punishment
- ▣ Private aversives
- ▣ Response-produced aversives (incorrect, inefficient, ineffective)
- ▣ Atypical aversives
- ▣ Non-aversive events that SHOULD be aversive*

Problems with Adults/Caregivers



3. Problems with Adults/ caregivers

- ▣ Many behavior problems are prompted and maintained by problems with adults/caregivers
- ▣ Button-pushing/confrontation-seeking
- ▣ Over-dependence on adult/caregiver attention
- ▣ Adults/caregivers are often the nexus of powerful reinforcers/aversives

Problems with peers



4. Problems with peers

- ▣ Some problems occur primarily with peers. For children it might be siblings or classmates. For adults it may be housemates or other disabled persons in a day treatment program/workplace
- ▣ Teasing
- ▣ Peers as sources of uncontrolled reinforcement
- ▣ Peers as competition for attention (attention loss, attention party)
- ▣ Peer presence as a proximal cause (showing up)

Repertoire Problems



5. Repertoire problems

- ▣ Presence of problem repertoires including how many classes of bad behaviors (aggression, self-injury, pica, elopement) and how many members of each class (aggression =punching, kicking, biting, spitting, hair pulling, etc.)
- ▣ Absence of appropriate repertoires (specifically those repertoires that may help to decrease the motivation to engage in problem behaviors)
- ▣ Weak appropriate repertoires: Inconsistent, low-frequency, low-quality, long-latency

5. Repertoire problems

- ▣ Communication repertoires (extremely important)
- ▣ Independent repertoires (requires no adult/caregiver attention for sustained periods while engaged) This would include both play/leisure and academic/work skills
- ▣ Social repertoires (both with peers and adults/caregivers)
- ▣ Academic/Daily living skills repertoires
- ▣ Coping repertoires (extremely important) such as dealing with blocked access, learning to wait, dealing with punishment contingencies and learning to accept reasonable alternatives

Let's take an example

- ▣ When James is brought to the table to do academic tasks he begins to become aggressive within a couple of minutes. He is only aggressive with adults
- ▣ The behavior analyst determines that the behavior is escape maintained (duh)
- ▣ The treatment, as the child does not mand for escape is to teach him to say “all done”
- ▣ Sound familiar?
- ▣ It isn't wrong in any sense of the word or bad, but perhaps it's more of a surface analysis

Let's take an example

- ▣ We know THAT he wants to escape from work but we really don't know WHY he wants to escape from work and the WHY is super important
- ▣ Saying he wants to escape because the work is aversive doesn't get us anywhere. It might be helpful to know WHY it's aversive
- ▣ Aversive work is the most proximal cause, but there might be others as well

Discrepancy Analysis

- ▣ Do typically developing children ever want to escape from work?
- ▣ How do they try to do it?
- ▣ Do they ever get angry enough to be aggressive under some circumstances?
- ▣ Why don't they get angry enough when doing work to become aggressive?
- ▣ Typically developing children don't become aggressive over mild to moderate aversives

Discrepancy Analysis

- ▣ Why don't they become as angry?
- ▣ Do they have better skills at coping with mild aversives?
- ▣ Have they come into contact with more of them?
- ▣ Are there meaningful consequences for their aggressive behavior when it does occur?
- ▣ Is the suffering of others aversive to them?

Discrepancy Analysis

- ▣ Do typically developing children get really angry but still refrain from aggression?
- ▣ What do they do when they become really angry? Whine, complain, make snide remarks,
- ▣ Can a child with a significant disability do the same things?
- ▣ What is the self-control repertoire of typically developing children and that of those with disabilities?

Let's look at the 5 categories:

1. Reinforcers

- ▣ Atypical/Unusual/Unacceptable reinforcers
- ▣ Intermittent reinforcers (not given consistently)
- ▣ Insufficient reinforcers (limited interests)
- ▣ Inconsistent reinforcers (given consistently but with inconsistent results)
- ▣ Uncontrolled reinforcers (what does he escape to?)
- ▣ Low-rate reinforcers (possible)
- ▣ Delayed reinforcers (possible)
- ▣ Reinforcer magnitude problems (too powerful and too weak)(possible)
- ▣ Reinforcer contingency problems (contingent on no behavior)

Let's look at the 5 categories:

2. Aversives

- ▣ Tasks (is there something about THIS task he doesn't like or is it a problem with ALL tasks?)
- ▣ Extinction conditions
- ▣ Blocked access (is there a reinforcer at the table that he can't get until he works?)
- ▣ Reinforcer removal (was he taken from something else to come work?)
- ▣ Words associated with reinforcer loss/punishment (is he told "no" when he makes an error?)

Let's look at the 5 categories:

2. Aversives

- ▣ Private aversives
- ▣ Response-produced aversives (incorrect, inefficient, ineffective)(possible if he makes many errors)
- ▣ Atypical aversives (not really)
- ▣ Non-aversive events that SHOULD be aversive (it doesn't seem to bother him to hit the teacher..why don't other children hit the teacher?)

Let's look at the 5 categories:

3. Adults/Caregivers

- ▣ Button-pushing/confrontation-seeking
- ▣ Over-dependence on adult/caregiver attention
- ▣ Adults/caregivers are often the nexus of powerful reinforcers/aversives (does this teacher normally deliver more reinforcers or more aversives...hmmmm)

Let's look at the 5 categories:

4. Peers

- ❑ Some problems occur primarily with peers. For children it might be siblings or classmates. For adults it may be housemates or other disabled persons in a day treatment program/workplace (no)
- ❑ Teasing (no)
- ❑ Peers as sources of uncontrolled reinforcement (no)
- ❑ Peers as competition for attention (attention loss, attention party) (no)
- ❑ Peer presence as a proximal cause (no)

Let's look at the 5 categories:

5. Repertoire Problems

- ▣ Presence of problem repertoires (yes)
- ▣ Absence of appropriate repertoires (ability to do the task?)
- ▣ Weak appropriate repertoires: Inconsistent, low-frequency, low-quality, long-latency

Let's look at the 5 categories:

5. Repertoire Problems

- ▣ Communication repertoires (yes)
- ▣ Independent repertoires (requires no adult/caregiver attention for sustained periods while engaged) This would include both play/leisure and academic/work skills
- ▣ Social repertoires (both with peers and adults/caregivers)
- ▣ Academic/Daily living skills repertoires (academic)
- ▣ Coping repertoires: such as dealing with blocked access, learning to wait, dealing with punishment contingencies and learning to accept reasonable alternatives (may have some bearing in this case)

Example 2

- ▣ Anna bites whenever someone moves something that she has put into a certain position. If she places a book on the table and the teacher moves it slightly she will try to bite the teacher.
- ▣ Biting is identified as the problem, but is it the only problem?

Which categories can we rule out?

- ▣ Is this a problem with reinforcers? (could be blocked access to an atypical reinforcer)
- ▣ Is this a problem with aversives? (yes)
- ▣ Is this a problem with adults? (possible)
- ▣ Is this a problem with peers? (possible)
- ▣ Is this a problem with repertoires? (yes)

Which categories apply?

- ▣ What is the problem?
- ▣ Atypical aversives (small deviation of a placed object)
- ▣ Repertoire problems
 - Inability to tolerate minor aversive events and stay calm
 - Inability to mand to have the item put back in place
 - The biting repertoire is her “go to” behavior and is very strong occurring under a variety of conditions reliably.

Example 3

- ▣ James hits peers and hitting appears to be maintained by teacher attention (she comes over and separates him from his peer and talks to him). He is typically working independently for a few minutes when this happens.
- ▣ Hitting is identified as THE problem but what are the other problems that might be present?

Which categories apply?

- ▣ Problems with reinforcers
 - Low rate (When working independently, teacher interactions are low)
 - Insufficient (He wants teacher attention most and is less interested in other things)
 - Uncontrolled (the teacher attends every time)
- ▣ Problems with peers
 - He doesn't care about hurting peers because peers compete for teacher attention. Their presence may signal less teacher attention for James

Which categories apply?

- ▣ Problems with adults
 - Overdependence on teacher attention
- ▣ Repertoire problems
 - Independent repertoires (can't work more than a few minutes before stopping work)
 - Communication repertoires (asking the teacher to check his work)
 - Social repertoires with peers (he doesn't know how to interact with peers in ways that might produce reinforcement)
 - Coping repertoires (he doesn't wait very well, he asks for the teacher and when she is busy he punches with in a couple of minutes)

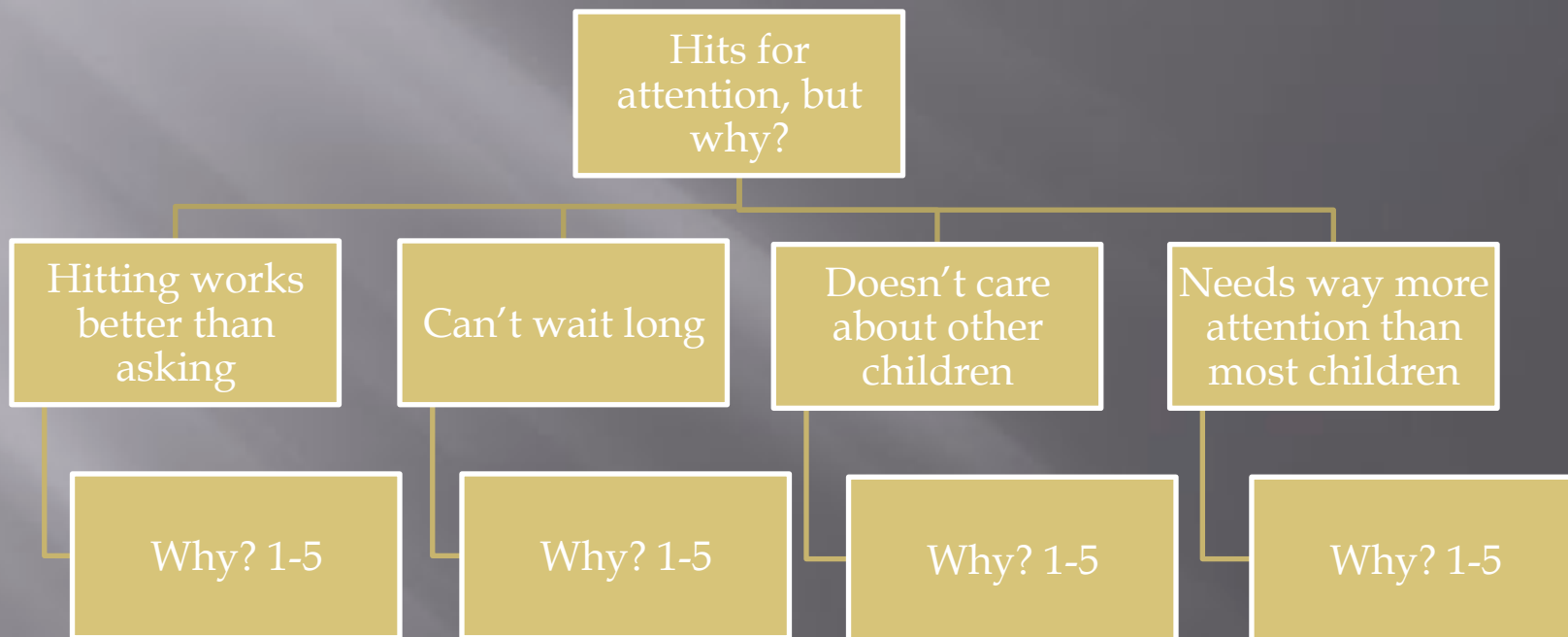
Root Cause Analysis Applied to Behavior Problems

- ▣ You can even use a branching root cause analysis (cause mapping) that attacks different aspects of the problem
- ▣ James hits peers for teacher attention. Why does James hit children, but the other children don't?
- ▣ The other children like their peers, whereas James doesn't like the other children
- ▣ Why doesn't he like the other children?
- ▣ Because they compete with him for attention...

Root Cause Analysis Applied to Behavior Problems

- ▣ Why does James need attention so badly?
- ▣ He has few other interests that compete with interacting with adults
- ▣ Why does he have few other interests?
- ▣ He isn't very good at doing many things
- ▣ Why isn't he very good at doing things?
- ▣ Because people were choosing the wrong curriculum and using poor teaching strategies
- ▣ Why were they using the wrong curriculum?
- ▣ Because James wasn't assessed properly....etc...

BRANCHING ROOT CAUSE ANALYSIS (cause mapping)



Hitting works better than asking

- ▣ Why?
- ▣ Hitting produces a faster, more reliable reaction
- ▣ Why?
- ▣ Hitting is a safety issue and must be stopped
- ▣ Why?
- ▣ Because a child might get injured
- ▣ Why does that matter
- ▣ Because it's unethical to allow the injury and because it might result in litigation
- ▣ Why?

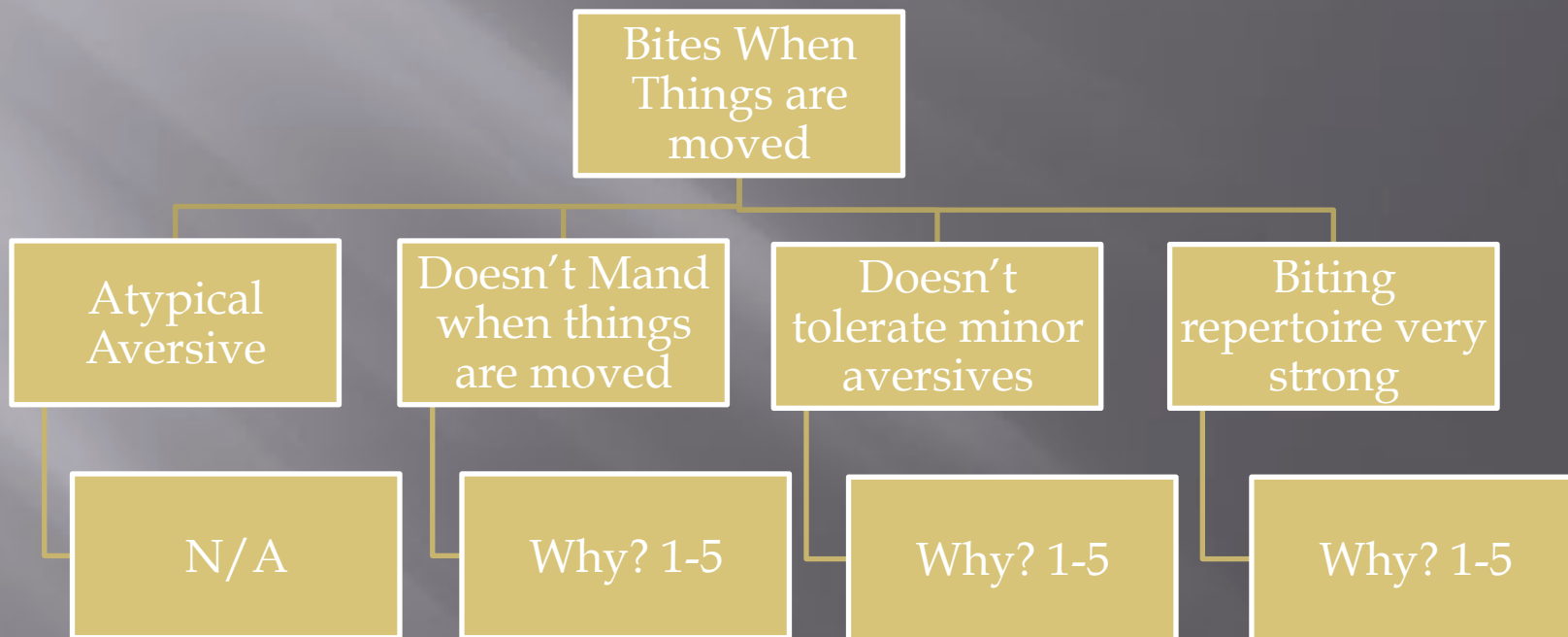
The child can't wait long for attention

- ▣ Why?
- ▣ The child doesn't know exactly when the teacher will attend to him
- ▣ Why?
- ▣ The teacher gives a non-specific response "I'm helping a student, I'll help you when I'm done."
- ▣ Why?
- ▣ The teacher does not realize the importance of starting with short, reliable, predictable wait times and then increasing them
- ▣ Why?
- ▣ Waiting has never been identified as a problem, only aggression
- ▣ Why?

Doesn't care about other children

- ▣ Why?
- ▣ The other children are aversive
- ▣ Why?
- ▣ They don't provide reinforcement to the child and they often signal the loss of teacher attention
- ▣ Why?
- ▣ Because no one arranged for the other children to deliver reinforcers and no one arranged conditions where the child gets more attention when his peers approach
- ▣ Why?
- ▣ Because the teacher didn't read Merrill's book!

BRANCHING ROOT CAUSE ANALYSIS (cause mapping)



Atypical Aversive

- ▣ I've written N/A here because honestly it may be difficult to figure out how something came to function as an aversive. We might know how to change this, but it may be difficult to trace the origins of the problem, which may have been going on for years

Doesn't mand when things are moved

- ▣ Why?
- ▣ Was never taught to mand when faced with changes in the environment, she was only taught to mand for food
- ▣ Why?
- ▣ There was an incomplete analysis of the problem
- ▣ Why?
- ▣ Because everyone adopted a tactic of never moving things that he has placed
- ▣ Why?
- ▣ Because she will bite if you move things!

Doesn't tolerate minor aversives

- ▣ Why?
- ▣ She has never had opportunity to LEARN to tolerate aversives
- ▣ Why?
- ▣ People eliminate as many aversives as possible
- ▣ Why?
- ▣ It never occurred to them that it will be necessary to introduce aversives on purpose to teach her what to do
- ▣ Why?
- ▣ They were trained to “support” the child by removing antecedent stimuli that contribute to the behavior problem

Biting repertoire very strong

- ▣ Why?
- ▣ She bites when exposed to a variety of minor aversives
- ▣ Why?
- ▣ She gets physiologically aroused when exposed to aversives which increases the probability of aggression.
- ▣ Why does physiological arousal increase the probability of aggression?
- ▣ It is most likely an unconditioned response that functions to increase the chances of survival

Biting repertoire very strong

- ▣ Why else could the repertoire be strong?
- ▣ Everyone hates getting bitten
- ▣ Produces immediate reactions
- ▣ May have resulted in having the item put back
- ▣ May occur not only as a reaction to aversive stimulation but may have been reinforced by access at some point in the past

Summary

- ❑ These were just some hypothetical examples of how you could use root-cause analysis, discrepancy analysis, cause-mapping and a system for categorizing common factors in the development and maintenance of behavior problems
- ❑ Stopping at “the behavior is maintained by access to attention” is not so much incorrect as it is incomplete. That someone wants attention and has learned to get it the wrong way rarely reflects (if ever) a single variable
- ❑ Could some variables in the causal chain be more potent than others? Certainly, and sometimes we just “go after” what we believe to be the more potent ones
- ❑ Why not, however, go after as many as you can?

Summary

- ▣ The F/A is a great jumping off point, but should not be considered to do-all be-all of well-crafted, thorough, personalized intervention
- ▣ Behavior problems can and should be attacked from several angles and the ability to “step back” and look at multiple links in the causal chain (both proximal and distal) can help us better understand why behavior problems develop and how they are maintained and generalize from one setting to another.

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Understanding and Treating
Problem Behaviors in Schools**



Merrill Winston, Ph.D., BCBA-D

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