

# Analysis in Behavior Assessments

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# Two-part Didactic Plan

## Dr. Colombo

- Foundations of Behavior Assessment
- Analysis in Behavior Assessment

## Dr. Boelter

- Analysis in Treatment
- Reliance on science and research



# Foundations of Behavior Assessment

## Behavior Analysts Rely on Research and Scientific Principles

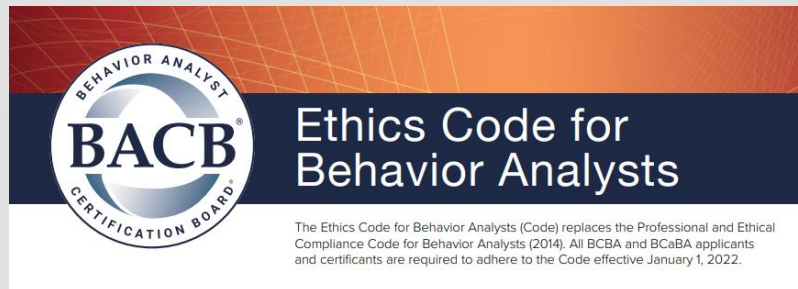
1. A reliance on scientific knowledge reduces the risk of harm to clients (Taylor et al., 2023; Weiss, 2018)
2. A reliance on research expedites access to effective treatment through decision-making (Brown et al., 2025; Colombo et al., 2020; Rosenberg & Schwartz, 2019; etc.)
3. Science helps us promote the least intrusive method with the greatest effect (Van Houten et al., 1988; Kelly et al., 2024)



# Foundations of Behavior Assessments

## BACB Ethical Code

- Requires reliance on scientific evidence in assessment



“Before selecting or designing behavior-change interventions behavior analysts select and design assessments that are conceptually consistent with behavioral principles; that are based on scientific evidence; and that best meet the diverse needs, context, and resources of the client and stakeholders.” BACB 2.13 (Selecting Designing and Implementing Assessments)

# Foundations of Behavior Assessment

“Behavior analysis is a natural science that seeks to understand the behavior of individuals”

## Operating assumptions:

- 1) Behavior is a function of biological and environmental events (physical phenomena)
- 2) Behavior analysts seek to identify the natural causes of behavior

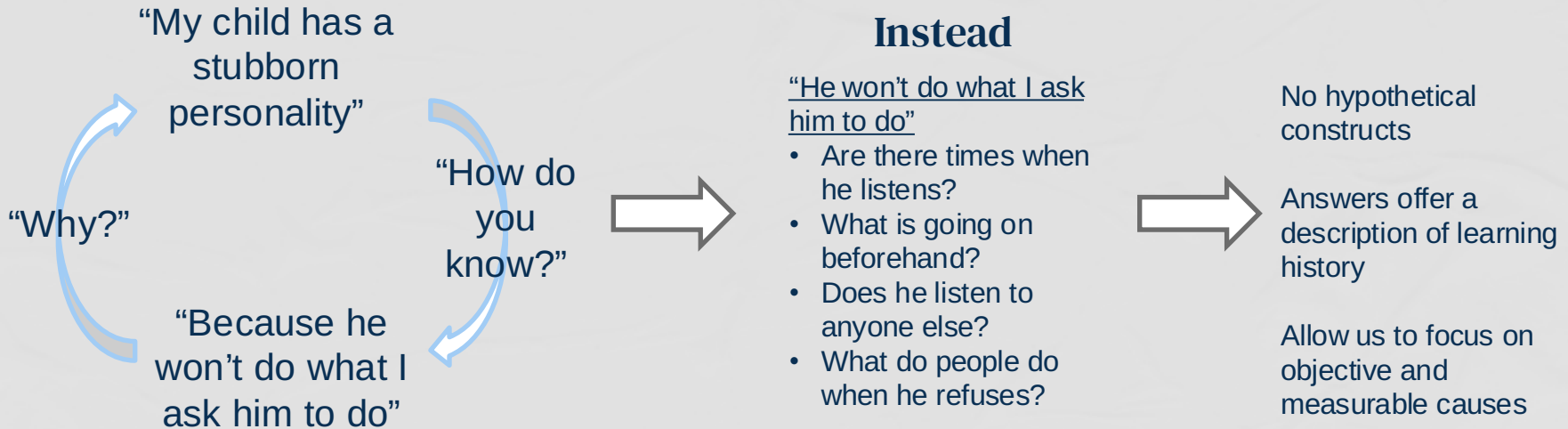




# Foundations of Behavior Assessment

## Parsimony

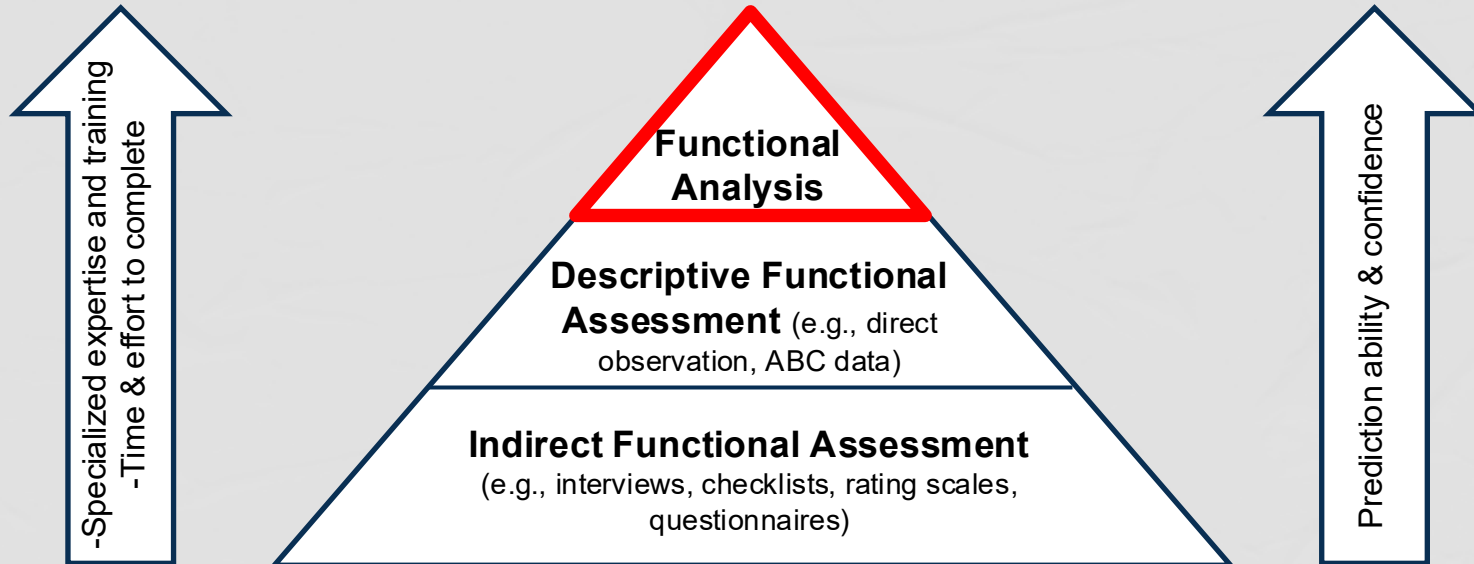
Ruling out the explanation with the fewest assumptions before considering more complex ones





# Foundations of Behavior Assessment

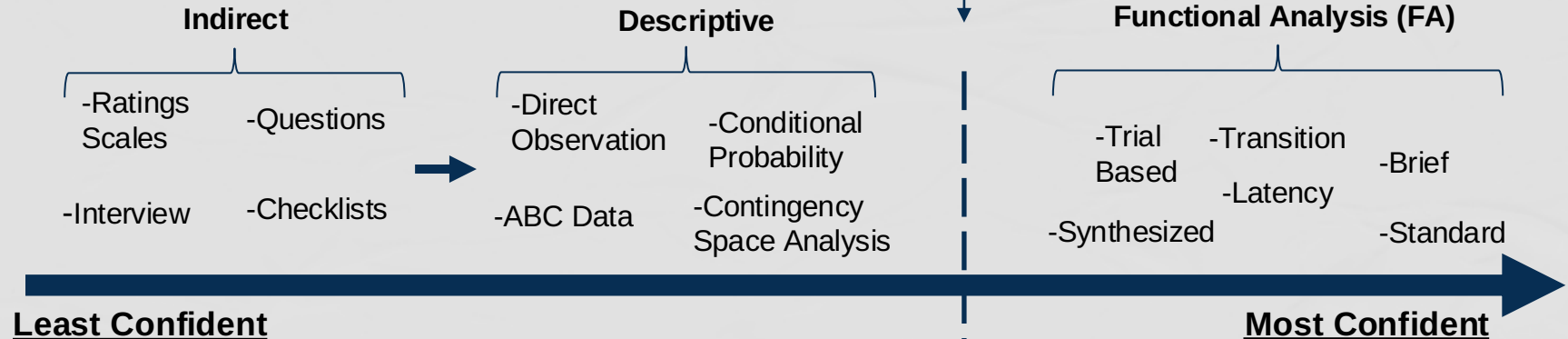
Goal of FBA is to identify functional variables (the WHY)





# Foundations of Behavior Assessment

**ANALYSIS:** systematically presenting some stimuli while withholding others



Reliability and validity scores are low (Borrero et al., 2010; Camp et al., 2009; Iwata et al., 2013; Kelley et al., 2011; Paclawskyj et al., 2001; Zarcone et al., 2001)



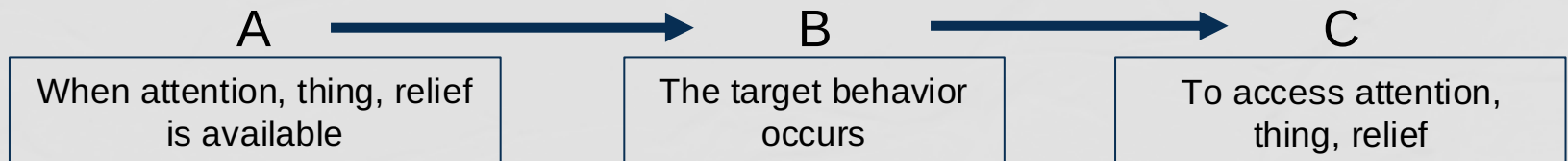
# Functional Analysis

## What is a functional variable?

- Anything that I can change that might have an effect on behavior (a book, a tablet, food, attention, requests, teachers, medication, sounds, etc.)
- I can present and remove a functional variable
- This means things like age, personality, diagnosis, or anything unobservable are not a functional variable (they can't be explanatory)

## How do we test functional variables?

- Antecedent-behavior-consequence (ABC) model (Melanson & Fahmie, 2023)
- Unit of analysis:





# Functional Analysis

Setting up a test of functional variables

- Test condition:  
When there is no attn → Target behavior occurs → Provide attention

Compared to...

- Control condition:
  - Remove any potential reason for the target behavior to occur
    - No requests, plenty of peer/adult attention, favorite activities



# Functional Analysis

So what do we know about functional analysis?

1. It is the gold standard of practice for developing functional interventions for challenging behavior (Miltenberger et al., 2019; Suchowierska-Stephany, 2024)
2. Hundreds of research studies verify its effectiveness (Melanson and Fahmie, 2023)
3. It's been replicated across
  1. Behaviors (self-injury, aggression, elopement, disruption, disrobing)
  2. Populations (early childhood, adolescent, adults)
  3. Settings (homes, schools, clinics, community)
  4. Modalities (in-person, telehealth, train-the-trainer)



# Functional Analysis

So what do we know about functional analysis?

4. Procedural variations have been study to improve contextual fit
  - **Latency** (Thomason et al., 2011)
  - **Low-rate behavior** (Tarbox et al., 2004)
  - **Precursor behavior** (Najdowski et al., 2008)
  - **Trial-based** (Bloom et al., 2011)
  - **Synthesized analysis** (Hanley et al., 2014)
  - **Transition behavior** (McCord et al., 2001)



# Functional Analysis

So what do we know about functional analysis?

5. Plenty of supports exist in the literature to help behavior analysts improve outcomes and ensure safety
  - Planning an FA safely (Deochand et al., 2020)
  - Selecting appropriate FA procedures (Brown et al., 2025)
  - Reducing time to identify a function (Henry et al., 2021)
  - Training teachers to implement FA (Iwata et al., 2000)



# Functional Analysis

Identifying the function of behavior with observable and measurable variables, means understanding the WHY.

Once I know why, I can more effectively help a child, teen, adult, advocate for their wants and needs.

Conducting FA supports self-advocacy and moves people away from past traumas through independence and improved quality of life.



Thank You

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