Practical Assessment and Treatment of Severe Problem Behavior

Gregory P. Hanley. Ph.D., BCBA-D

WESTERN NEW ENGLAND UNIVERSITY WNE

University of Massachusetts Medical School UMASS

National Autism Conference
Penn State University
August, 2014

Autism is characterized by:

Impairments in

language development
social interaction

and

Excessive repetitive behavior

With Autism, there is a higher likelihood of problem behavior

Meltdowns

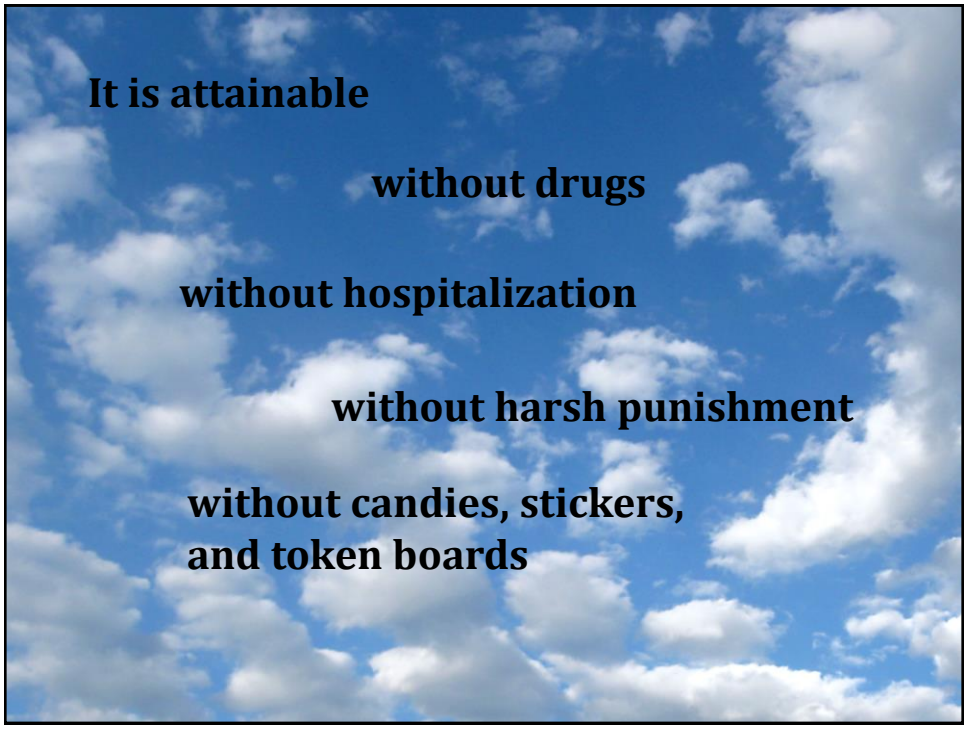
Aggression

Self-injury

Chronic stereotypy

Sleep problems

References: Baghdadli, Pascal, Grisi, & Aussilloux, 2003; Horner et al., 2002; Kim et al., 2000; Murphy, Healy, & Leader, 2009; Thompson, 2009

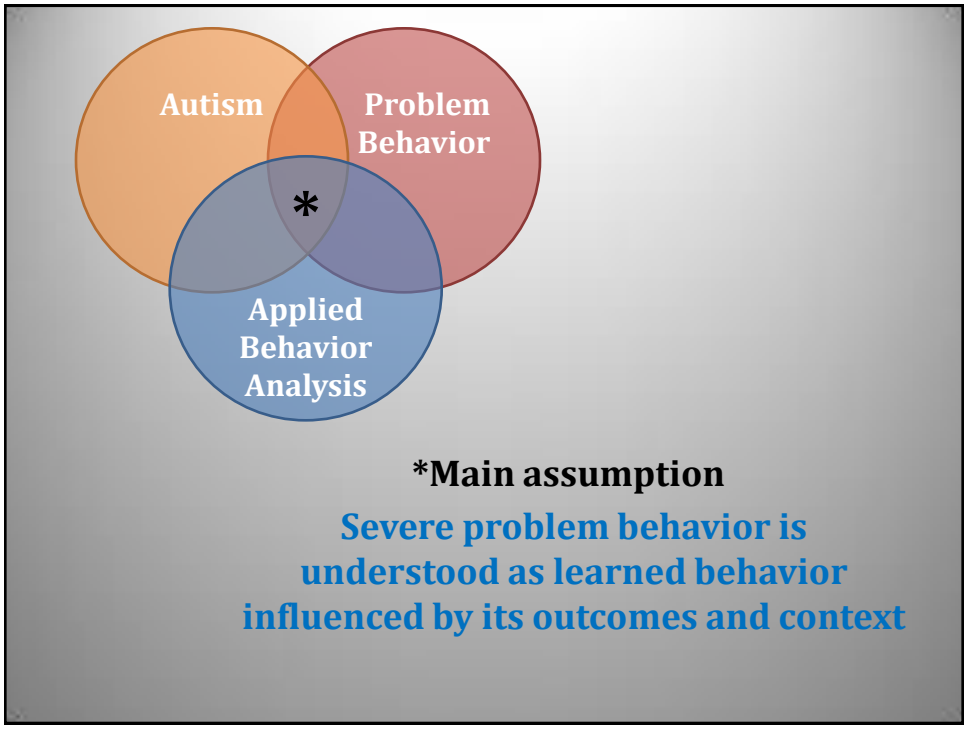

It is attainable
without drugs
without hospitalization
without harsh punishment
without candies, stickers,
and token boards


It is attainable
by first
understanding why
the child is
engaging in the
problem behavior


It is attainable
when children are taught skills to help them navigate our complex social world


It is attainable
while showing complete respect for their preferences
without altering their rich and unique personalities


It is attainable
with proper assessment and treatment by a BCBA


Autism
Problem Behavior
*
Applied Behavior Analysis
*Main assumption
Severe problem behavior is understood as learned behavior influenced by its outcomes and context

Assumptions Regarding Problem Behavior

Problem behavior serves a purpose for the child

Assumptions Regarding Problem Behavior

Problem behavior is a primarily function of particular environmental conditions (not of their diagnoses)

Assumptions Regarding Problem Behavior

There are not aggressive kids per se but contexts that support aggression

Assumptions Regarding Problem Behavior

Extraordinary behavior can develop and persist under rather ordinary conditions

Assumptions Regarding Problem Behavior

If the problem behavior is persisting, it is being reinforced

Assumptions Regarding Problem Behavior

The answers to how to help children with their problem behaviors can be found in understanding the effect their problem behavior is having on the environment

To determine the personally relevant outcomes and context that influence problem behavior

behavior analysts conduct functional assessments

What is a functional assessment?

(You can't hold it in your hand)

It is a *process*

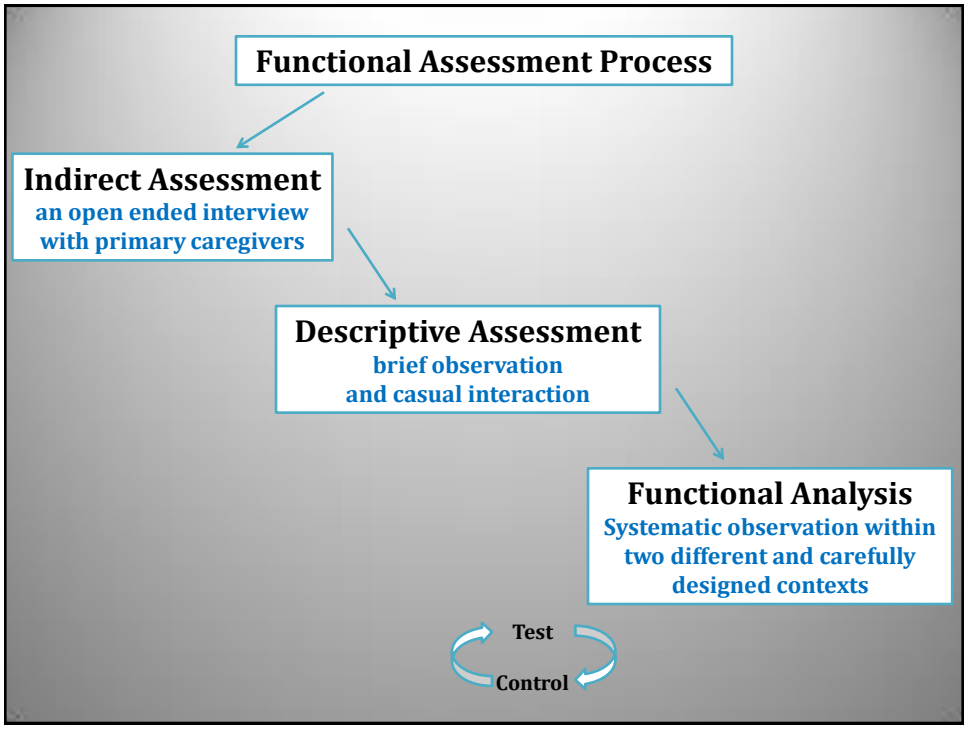
through which the variables influencing problem behavior are identified

Why conduct a functional assessment?

In order to identify

an effective
precise
personally relevant,
and
humane treatment

for problem behavior



These are not experimental techniques awaiting validation

435 studies with *functional analyses* and 981 distinct functional analyses have been published between 1961 and 2012

- Beavers, Iwata, & Lerman, 2013; Hanley, Iwata, & McCord, 2001

The functional analysis is integral to the success of the process

Larger reductions in problem behavior were evident when a *functional analysis* was part of the functional assessment process

- Campbell, 2002; Kahng, Iwata, and Lewin, 2003

But,

most people,

including most practicing behavior analysts who work with children with autism

have shied away from conducting functional analyses

It has taken a lot of research, but there are no longer obstacles to conducting functional assessments including functional analyses


Perspectives

Functional Assessment of Problem Behavior: Dispelling Myths, Overcoming Implementation Obstacles, and Developing New Lore

Gregory P. Hanley, Western New England University

54 | PERSPECTIVES

Behavior Analysis in Practice, 5(1), 54-72

Free pdf:
http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3546636/pdf

Producing Meaningful Improvements in Problem Behavior of Children with Autism via Synthesized Analyses and Treatments

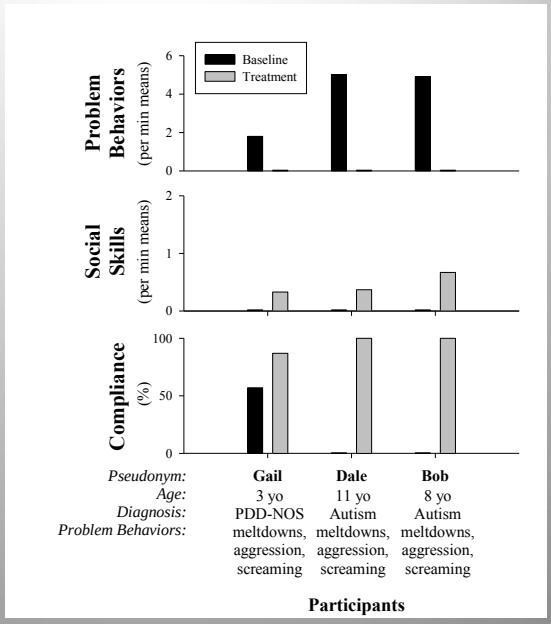
Hanley, Jin, Vanselow, & Hanratty (in press) *JABA*;

url to awkward video introducing the article:
http://www.youtube.com/watch?v=qbQxeQ5S3Vo

Participants

Pseudonym:	**Gail**	**Dale**	**Bob**
Age:	3 yo	11 yo	8 yo
Diagnosis:	PDD-NOS	Autism	Autism
Problem Behaviors:	meltdowns, aggression, screaming	meltdowns, aggression, screaming	meltdowns, aggression, screaming

Outcomes
(aggregated)



Functional Assessment and Treatment Model

Steps (abbreviated)	
1	Functional Assessment Process
2	Functional Communication Training
3	Delay and Denial Tolerance Training
4	Treatment Extension

Case Example (Gail, 3 yo, dx: PDD-NOS)

Hypotheses:

Gail engages in meltdowns and aggression in order to obtain:

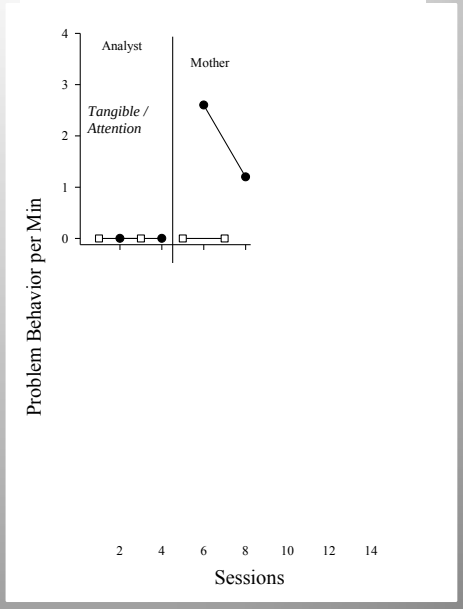
(1) preferred (tangible) items,
(2) maternal attention,
(3) or both

Case Example (Gail, 3 yo, dx: PDD-NOS)

Hypotheses:

Gail engages in meltdowns and aggression in order to obtain:

(1) preferred (tangible) items,
(2) maternal attention,
(3) or both

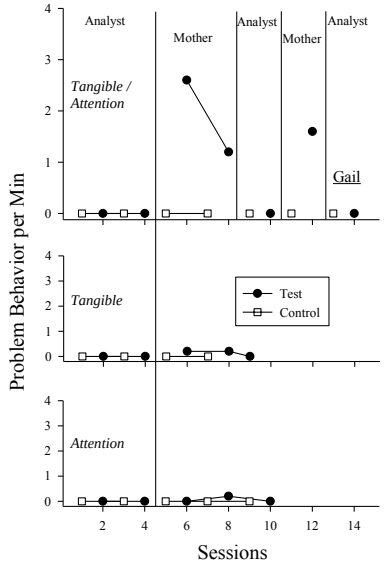


Case Example (Gail. 3 yo. dx: PDD-NOS)

Hypotheses:

Gail engages in meltdowns and aggression in order to obtain:

preferred (tangible) items,
And maternal attention,

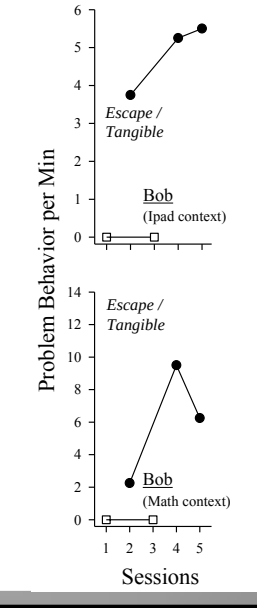


Case Example (Bob, 8 yo. dx: Autism)

Hypothesis:

Bob engages in meltdowns and aggression in order to obtain:

"His way" in the form of escape from adult instructions and access to preferred ways of interacting with electronics or academic materials

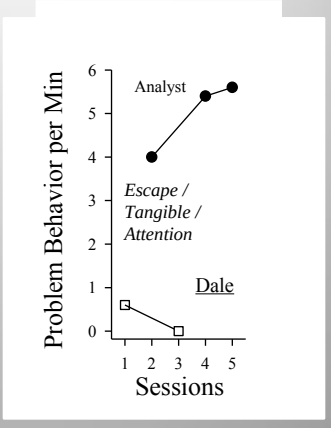


Case Example (Dale, 11 yo, dx: Autism)

Hypothesis:

Dale engages in meltdowns and aggression in order to obtain:

"His way" in the form of escape from adult instructions and access to preferred (tangible) items, and adult attention.



Ten Unique Aspects of our Approach

1. **Closed-ended indirect assessments (MAS, QABF, FAST) are never used in the process**

Closed ended indirect assessment are unreliable

Without reliability, questions regarding their validity are moot.

More important is that closed ended assessments do not yield any specific information to design an analysis

Ten Unique Aspects of our Approach

2. Extensive descriptive assessments (those requiring more than 30 min) are never part of the process

DAs are:

- **time-consuming**
- **require complex data collection and analysis**
- **usually suggest invalid relations**

(St. Peter et al., 2005; Thompson & Iwata, 2007)

Descriptive assessments can suggest prevalence but can never demonstrate relevance

Two Take Home Points with DAs

1. **Conduct an informal observation and write down some possible controlling variables**

2. **Conduct closed DAs when you know what you are looking for….**
   - **E.g., treatment integrity assessments**

Ten Unique Aspects of our Approach

3. An open-ended interview is always part of the process (as is one brief and informal observation)

Goals of interview are to:

a) Develop rapport with parents
b) Develop "function hunches"
c) Identify idiosyncratic aspects of contingencies
d) Set up a safe and efficient analysis

- ***Open-ended*** **indirect assessments (akin to clinical interviews) allow for discoveries which can then be verified in a functional analysis**

Take home point

Indirect assessments/descriptive assessments and functional analyses are not substitutable; they are complimentary

Open ended assessment allows for discovery of possible factors whereas functional analyses allow you to demonstrate the relevance of those factors….

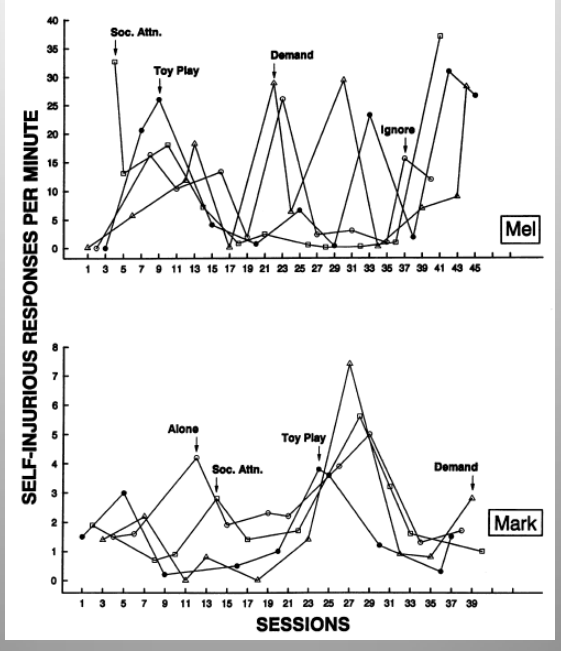
Therefore, use both of them….both are essential.

Ten Unique Aspects of our Approach

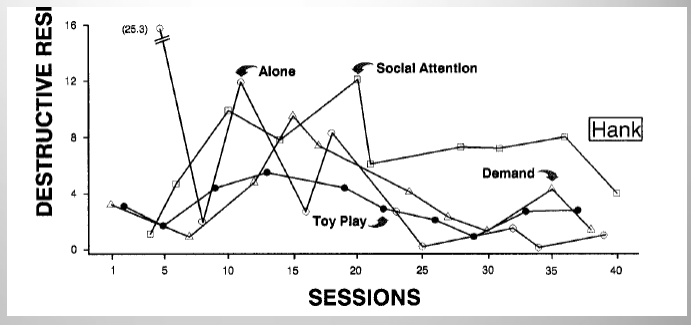
4. A standard 4 or 5 condition analysis (with the play condition as the control, e.g., Iwata et al., 1982) is never part of the process

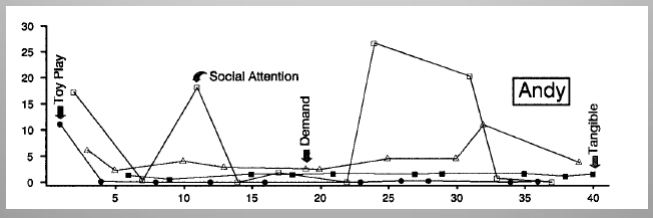
We think it is a mistake to standardize a powerful idiographic assessment

Some standard analyses published a while ago

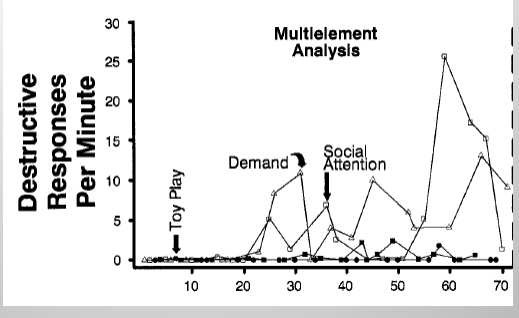


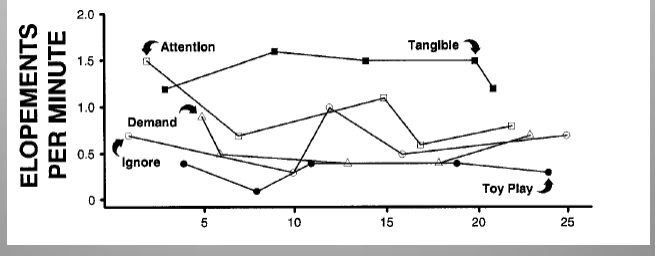
Some standard analyses published a while ago

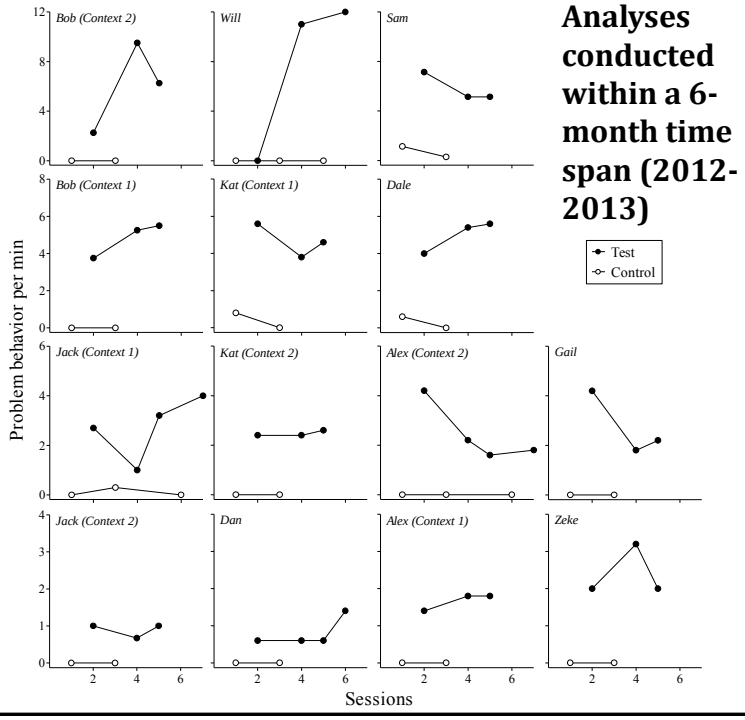




Some standard analyses published a while ago







Analyses conducted within a 6-month time span (2012-2013)

Ten Unique Aspects of our Approach

5. A two-condition analysis designed from the open-ended interview is always part of the process

Functional analysis:

Direct observation of behavior under at least *two* conditions in which some event is manipulated

Two Conditions:

Test: Contains the contingency thought to maintain severe problem behavior

Control: *Does not* contain the contingency thought to maintain severe problem behavior

Ten Unique Aspects of our Approach

6. We synthesize multiple contingencies into one test condition, if the interview suggests the contingencies are operating simultaneously

(e.g., we don't worry about whether we can determine if the behavior is maintained by positive or negative reinforcement)

Why might problem behavior occur?

- **Single contingencies:**

1. **Attention or toys** (social-positive reinforcement)
2. **Escape/avoidance** (social-negative reinforcement)
3. **Sensory/non-social** (automatic reinforcement)

- **Combinatorial contingencies:**

1. **Attention *and* Toys**
2. **Escape *to* toys**
3. **Escape *to* toys *and* attention**
4. **Escape *to* automatic reinforcement**
5. **Control (often specified via excessive and varied requests)**
6. **Access to rituals, preferred conversations**

Ten Unique Aspects of our Approach

6. We synthesize multiple contingencies into one test condition, if the interview suggests the contingencies are operating simultaneously

(e.g., we don't worry about whether we can determine if the behavior is maintained by positive or negative reinforcement)

Main Result: **Our analyses are short and safe.**

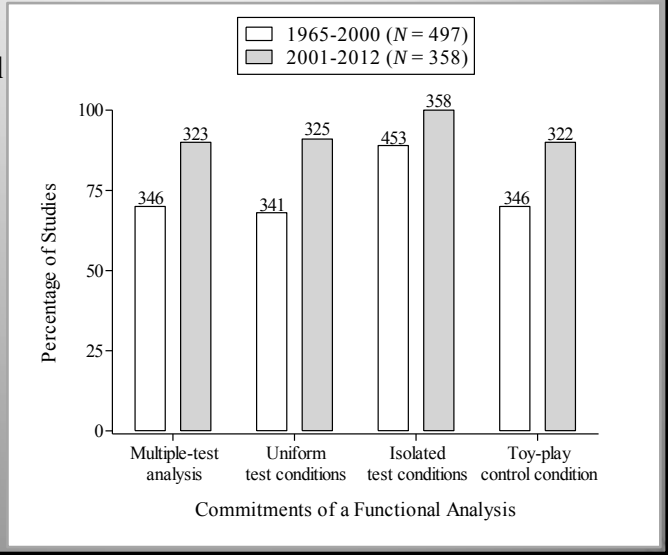
Safety improved by:

- providing all reinforcers immediately and for every problem behavior in the test condition
- always using a "No EO" control condition

An unfortunate standardization of functional analysis has developed in last 10 years

Standard Functional Analysis

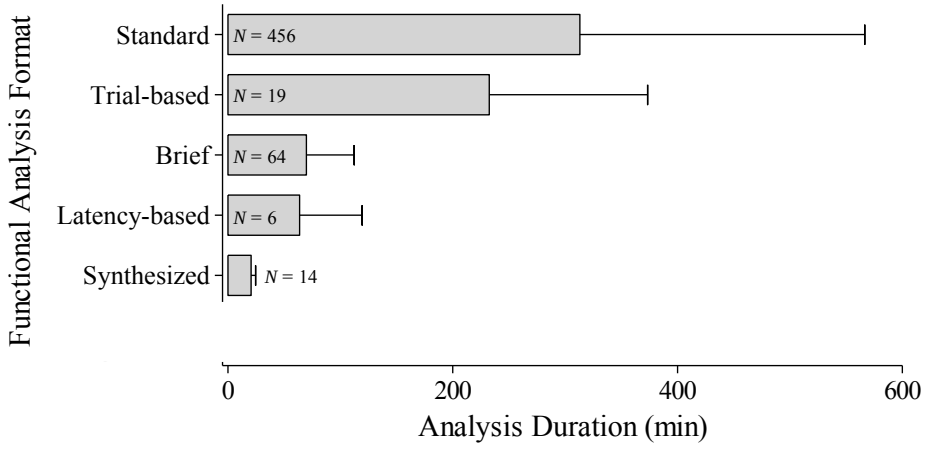
- Multiple tests
- Uniform tests
- Isolated tests
- Toy-play control



Consider an Interview-informed Synthesized Contingency Analysis

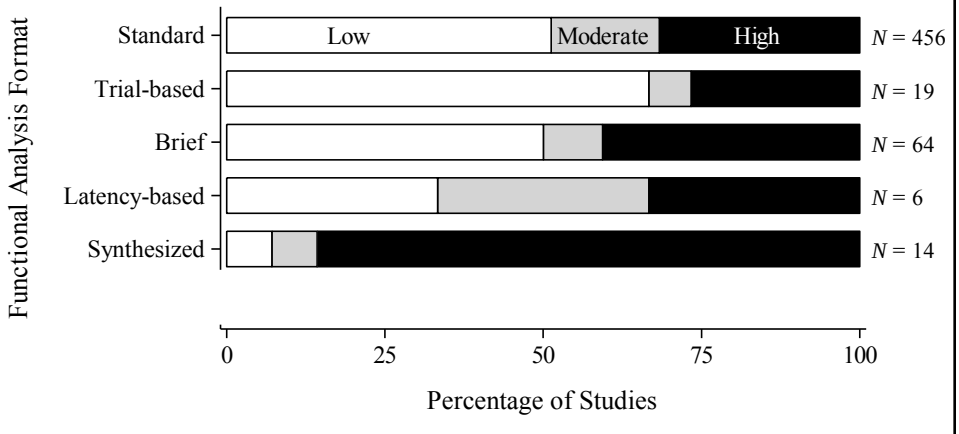
Standard Functional Analysis		Synthesized Contingency Analysis
• Multiple tests	→	• Single-test
• Uniform tests	→	• Individualized test
• Isolated contingencies	→	• Synthesized contingencies
• Toy-play control	→	• Test-specific control

Towards an efficient analysis



Towards a more controlled analysis

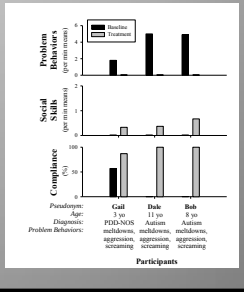
Towards a more controlled analysis



Remember what an informed analysis provides

1. A valid demonstration of the function of behavior
2. A stable and sensitive baseline from which to evaluate treatment
3. A properly motivating set of condition to teach functional communication
   - or other important skills like:
     - delay/denial tolerance
     - independent play
     - compliance with adult instructions

And, socially meaningful outcomes →



Activity

Billy is a 5-year old boy with severe self-injurious behavior (hand-to-head hitting).

Carefully describe an ecologically and experimentally valid assessment process that would allow one to discover and demonstrate the function of his behavior.

Billy is a 5-year old boy with severe hand-to-head hitting. Describe the functional assessment process.

- **1st step: Open ended interview & brief observation of child**
  - From this, function hunches should emerge
  - The specific conditions to emulate in a functional analysis should be apparent
  - The behaviors to include in the *contingency class* should be apparent
- **2nd step: Functional analysis:**
  - Observing and measuring problem behavior while manipulating the suspected contingency
  - Manipulation occurs via two rapidly alternating conditions
    - Test condition contains suspected contingency
      - Suspected reinforcer is available immediately and only following problem behavior
    - Control condition does not have suspected contingency
      - Suspected reinforcer is usually provided freely (i.e., noncontingently)
  - High rates in test condition relative to control condition confirms hypothesis that child's hitting is reinforced by _____

Questions?

Some **Test** Condition Tips

- **Select topographically similar behavior as the target of the analysis or topographies that cluster when emitted**
  - Consider safe precursors
  - Carefully consider whether to include dangerous behavior in the contingency class
- **Schedule consequences to occur immediately following each target behavior (and withhold the same consequences for all other behaviors).**

p.8

Some **Control** Condition Tips

- **Set up the same as the test condition except:**
  - **correlate the condition with a different salient stimulus**
  - **remove the putative reinforcement contingency**
- **"No EO" is the best control condition**
- **Probably better than:**
  - **Extinction**
  - **Noncontingent reinforcement**
  - **Differential reinforcment**
    - **of other behavior**
    - **of an alternative behavior**
  - **Compound schedule (FT / DRO)**

p.8

Role Play

- **Select a unique contingency**
- **Discuss what the Test and Control conditions would look like**
- **Practice the Test and Control conditions**
- **Share role play with entire group**

Questions?

p.7

Designing own analysis

1) What target behavior(s)?
2) What behaviors will be measured and how?
3) Safety precautions? Consent?
4) What reinforcers will be arranged in the test condition?
5) How will the value of the reinforcer be established?
6) How will the control condition be arranged?
7) What Sds will be incorporated in test/control conditions?
8) What materials will be available in all conditions?
9) How long will sessions be? How long in between sessions?
10) Where will they be conducted and by whom?
11) What session order will be used (what will the design be)?
12) Who will graph and interpret the results?

Other Myths!

1. Compared to other assessment types, functional analyses are more time-consuming, complex, risky, impossible to "sell" to constituents, less ecologically valid.
2. Problem behavior is shaped during a functional analysis, or irrelevant functional relations are created during a functional analysis.
3. Functional analyses can't address:
   - low rate problem behavior,
   - covert problem behavior,
   - extremely dangerous problem behavior,
   - problem behavior influenced by constantly changing reinforcers

See: Hanley, G. P. (2012). Functional assessment of problem behavior: Dispelling myths, overcoming implementation obstacles, and developing new lore. *Behavior Analysis in Practice, 5*, 54-72

Functional Assessment and Treatment Model

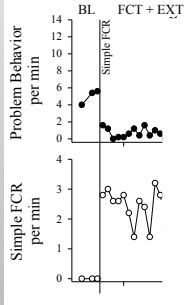
	Steps (expanded)
1	✓ Interview
2	✓ Functional Analysis
3	Functional Communication Training
4	Complex FCT
5	Tolerance Response Training
6	Easy Response Chaining
7	Difficult Response Chaining
8	Treatment Extension

Treatment Analysis

Dale

11-year old boy

diagnosed with Autism

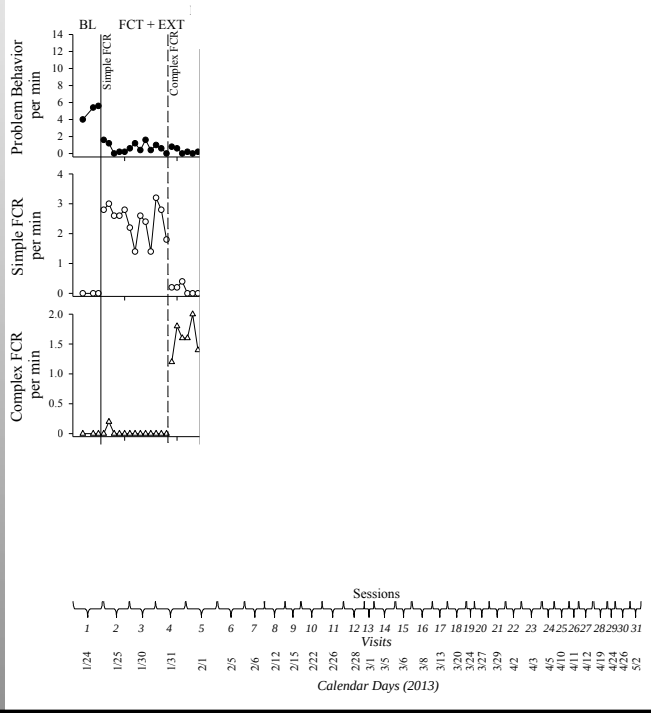


Treatment Analysis

Dale

11-year old boy

diagnosed with Autism

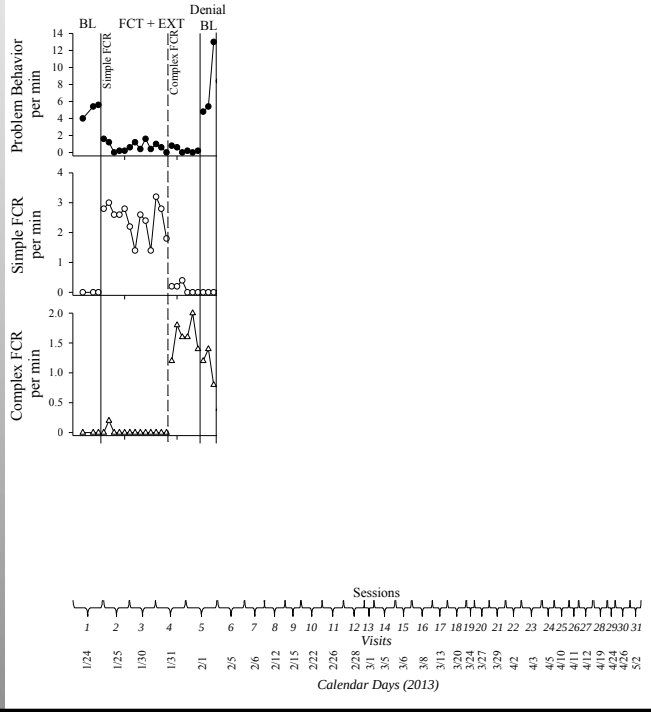


Treatment Analysis

Dale

11-year old boy

diagnosed with Autism

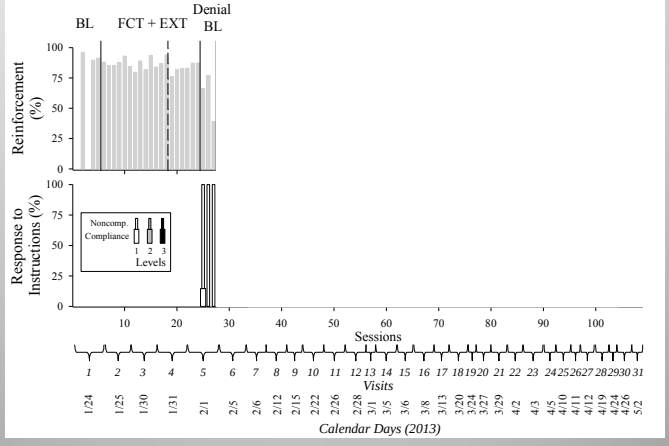


Treatment Analysis

Dale

11-year old boy

diagnosed with Autism

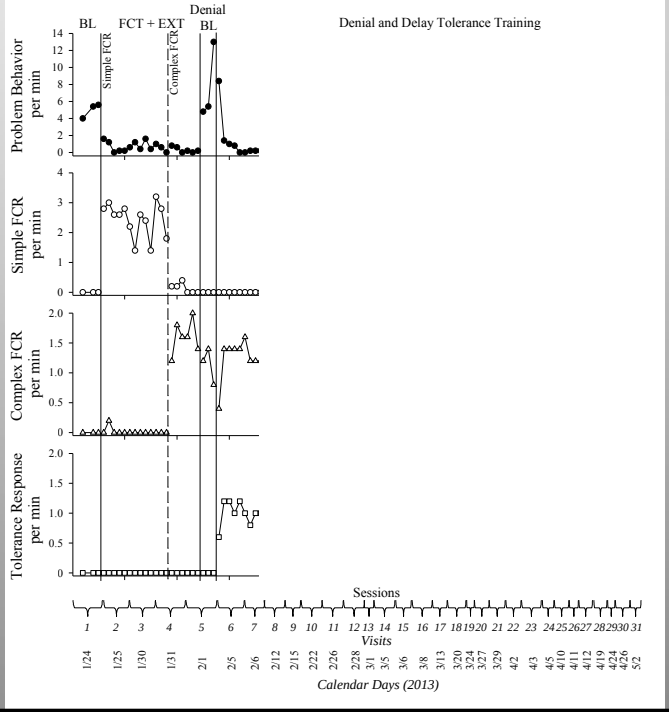


Treatment Analysis

Dale

11-year old boy

diagnosed with Autism

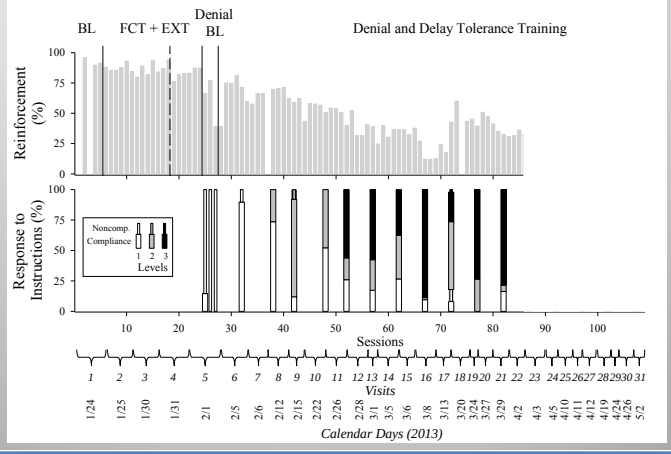


Treatment Analysis

Dale

11-year old boy

diagnosed with Autism



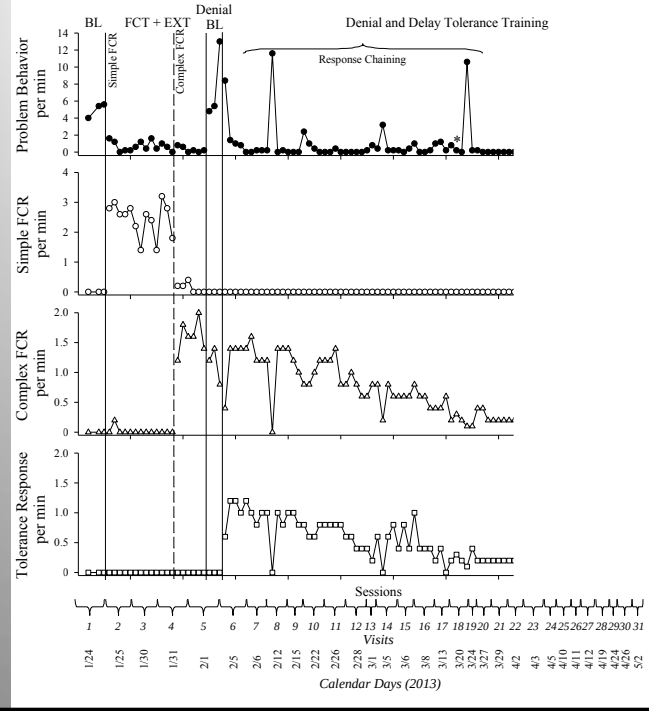
Levels		
1	Simple motor movements	Walk over here, stand up, sit down, clap your hands, touch your (shoulder, head, toes)
2	Simple academics	Draw a circle, write your name, copy what I write
	Homework/Task preparation	Unzip your backpack, take out the book, erase the board come to the board, put these books on the book shelf
3	Complex academic: Reading skills	Read this paragraph, Answer this question…., Sound out the words
	Complex academic: Math skills	Solve this (addition, subtraction etc…)
	Self-help skills	Wash your hands, do this chore (e.g., organizing chairs)
	Play skills	Throw or kick the ball

Treatment Analysis

Dale

11-year old boy

diagnosed with Autism

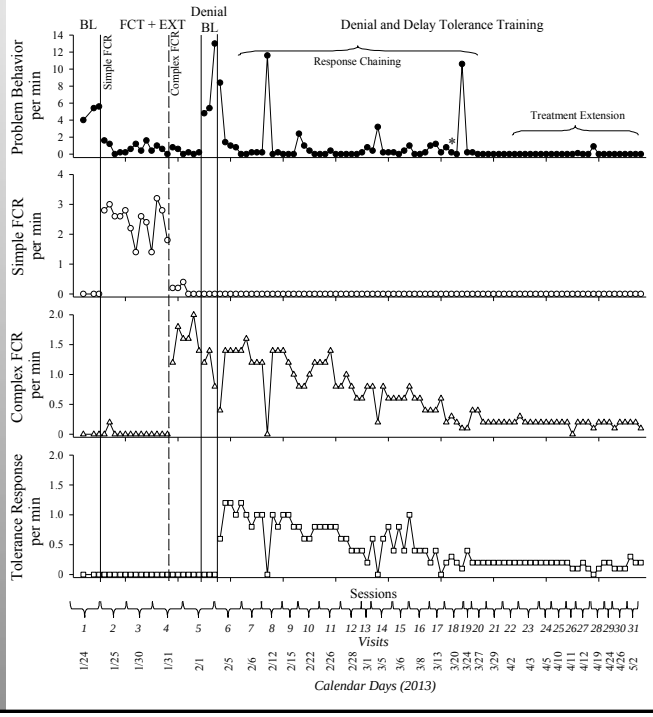


Treatment Analysis

Dale

11-year old boy

diagnosed with Autism

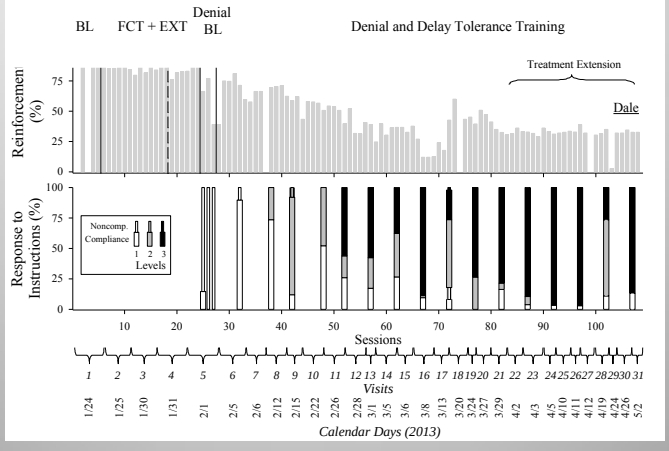


Treatment Analysis

Dale

11-year old boy

diagnosed with Autism



- **Three analysts alternated while parents observed the sessions**
- **Following training, the father was introduced after the analyst presented the evocative trial and halfway through the session; the mother was present in the session room**
- **The mother implemented treatment in the session room**
- **Parents varied the type and amount of instructions during the delay period**
- **Parents implemented treatment in the home while novel instructions were introduced**

	Steps
1*	Interview
2*	Functional Analysis
3	Functional Communication Training
4	Complex FCT
5	Tolerance Response Training
6	Easy Response Chaining
7*	Difficult Response Chaining
8*	Treatment Extension

Time Assessment

	Steps	# of Visits (1 hr each) Range	Mean
1*	Interview	--	1
2*	Functional Analysis	1 - 4	2.3
3	Functional Communication Training	1 - 3	2
4	Complex FCT	1 - 4	2.4
5	Tolerance Response Training	2 - 7	4.6
6	Easy Response Chaining	1 - 5	2.6
7*	Difficult Response Chaining	2 - 11	5.1
8*	Treatment Extension	4 - 9	7.3
	Totals:	23 - 32	27
	Supervision meetings:	16 - 28	20
	Report writing / planning:	--	4

Cost Assessment

	Steps	# of Visits (1 hr each)		Cost (in US dollars)	
		Range	Mean	Range	Mean
1*	Interview	--	1	--	200
2*	Functional Analysis	1 - 4	2.3	166 - 800	467
3	Functional Communication Training	1 - 3	2	200 - 534	400
4	Complex FCT	1 - 4	2.4	200 - 860	487
5	Tolerance Response Training	2 - 7	4.6	300 - 1400	913
6	Easy Response Chaining	1 - 5	2.6	200 – 960	520
7*	Difficult Response Chaining	2 - 11	5.1	400 - 2240	1,013
8*	Treatment Extension	4 - 9	7.3	800 - 1800	1,467
	Totals:	23 - 32	27		5,467
	Supervision meetings:	16 - 28	20	1000 - 1750	1250
	Report writing / planning:	--	4	--	500
	Grand Totals:			6225 - 8650	*7,217*

General Social Validity Data

Social Acceptability Questionnaire Results

Questions	Ratings			Mean
	Gail	Dale	Bob	
1. Acceptability of assessment procedures	7	7	7	7
2. Acceptability of treatment packages	7	7	7	7
3. Satisfaction with improvement in problem behavior	7	7	6	6.7
4. Helpfulness of consultation	7	7	7	7

Note. 7=highly acceptable, highly satisfied, or very helpful
1=not acceptable, not satisfied, or not helpful

Personalized Social validity Data

Parents' Comfort Level of Presenting the Evocative Situation

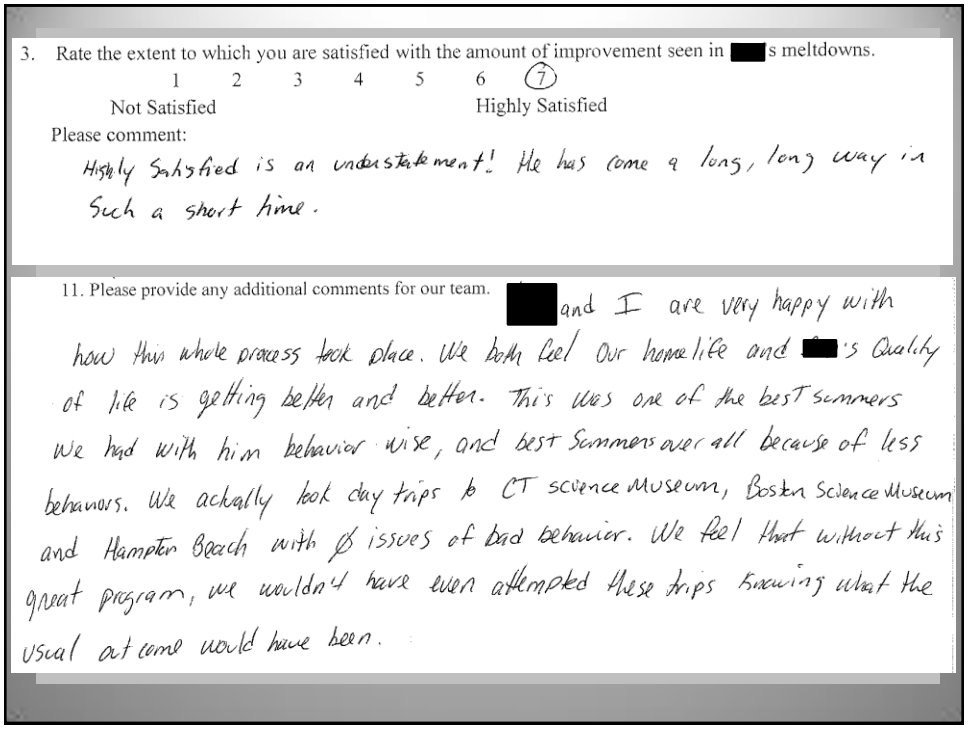
Questions	Comfort Levels	
	Pre-treatment	Post-treatment
Gail		
1. Taking away toys	1	7
2. Telling child "no" when they ask for something	3	7
3. Giving instructions	5	7
Dale		
1. Interrupting child's preferred activity and telling them to do homework or other non-preferred activities	4	6
Bob		
1. Taking away DS or iPad at meal times	3	7
2. Taking away DS or iPad on a transition	3	7
3. Interrupting or correcting math work	3	7

Note. 7=very comfortable
1=not comfortable.

Some open-ended responses from the Social Acceptability Questionnaire

Please comment:
I found strategies in how well she did after the analysis of this program. I was amazed in how I could use these techniques and feel comfortable about it.

1. Please provide any additional comments for our team.
I would like to thank Nick especially for all the work and studies done on my child you were wonderful with her. This is a great program. It taught me to how better deal with my daughter skills of communication. I too have developed patience and how to communicate with her without the melt down.



3. Rate the extent to which you are satisfied with the amount of improvement seen in [redacted]'s meltdowns.

1 2 3 4 5 6 (7)

Not Satisfied — Highly Satisfied

Please comment:

Highly Satisfied is an understatement! He has come a long, long way in such a short time.

11. Please provide any additional comments for our team.

[redacted] and I are very happy with how this whole process took place. We both feel our home life and [redacted]'s Quality of life is getting better and better. This was one of the best summers we had with him behavior wise, and best Summers over all because of less behaviors. We actually took day trips to CT science Museum, Boston Science Museum and Hampton Beach with Ø issues of bad behavior. We feel that without this great program, we wouldn't have even attempted these trips knowing what the usual outcome would have been.

Implications

- **If the problem behavior occurs with regularity, it is being reinforced**
  - **Solution involves four <u>main</u> steps:**
    1. **Identify the reinforcing contingency for the problem behavior**
    2. **Replace problem behavior by providing the functional reinforcer for socially acceptable alternatives**
    3. **Teach child to tolerate (intermittent and unpredictable)periods when the reinforcer is unavailable**
    4. **Extend treatment to relevant people and contexts**

Ten Unique Aspects of our Approach
(continued)

7. Our function-based treatments are always skill-based

Functional Communication Training: A Review and Practical Guide

Jeffrey H. Tiger, Louisiana State University, Gregory P. Hanley, Western New England College and Jennifer Bruzek, Vanderbilt University

ABSTRACT

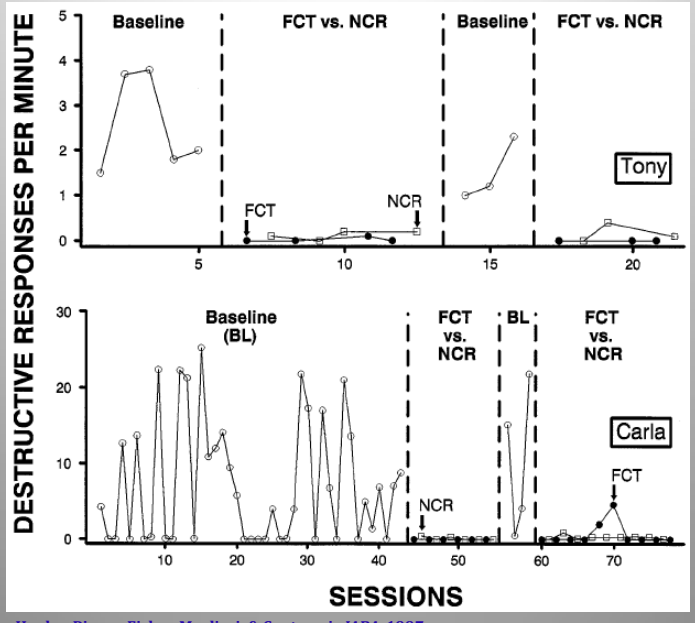
Functional communication training (FCT) is one of the most common and effective interventions for severe behavior problems. Since the initial description of FCT by Carr and Durand (1985), various aspects of the FCT treatment process have been evaluated, and from this research, best practices have emerged. This manuscript provides a review of these practices as they arise during the development of effective FCT interventions.
Descriptors: Behavior disorders, differential reinforcement of alternative behavior, functional communication training, function-based treatment

Published in *Behavior Analysis in Practice* in 2008
(available for free at PubMed Central)

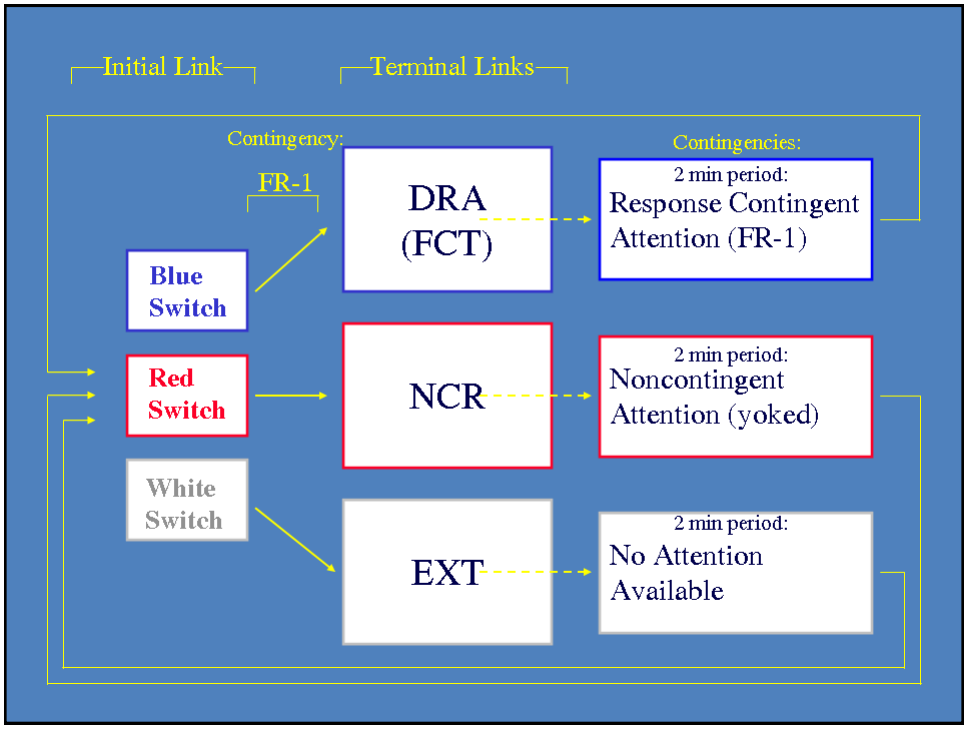
Reminder: Extinction takes many forms, is necessary, but is insufficient and non-preferred

- **Function and context predict form of extinction.**
- **Almost all effective function-based treatments involve extinction**
- **Extinction should not be used as sole component of a function-based treatment**
  - **Too many negative side effects, minor integrity breaches have large impact, & it is probably aversive**

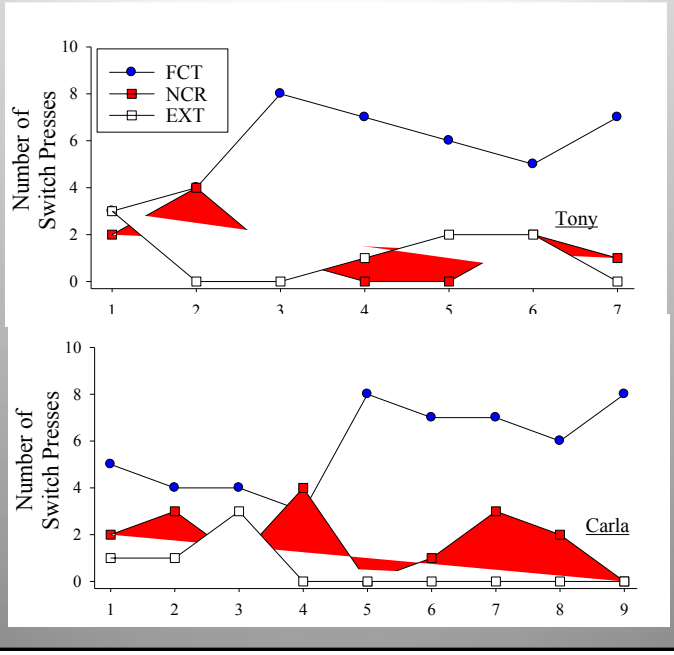
FCT Example: Treatment Analyses



Hanley, Piazza, Fisher, Maglieri, & Contrucci, *JABA*, 1997



Treatment Preference Assessments



Ten Unique Aspects of our Approach

8. We always increase the complexity, flexibility, and/or interactional nature of the FCR before teaching delay/denial tolerance

Simple FCR: **("My way" or "My way, please")**

Complex FCR:

"Excuse me"

After a second or two, "*Yes, Billy*"

"May I have my way, please?"

"Will you play my way, please?"

After a second or two, "*Sure, Billy*"

Ten Unique Aspects of our Approach

9. We always explicitly teach delay/denial tolerance

This takes up most of our time with children and families (not the functional assessment or teaching the FCRs)

To make treatment practical:

- **Either *response chaining* or *stimulus control* is involved**
- **there is always a *progressive* component (gradual increase in time, stakes, or both)**

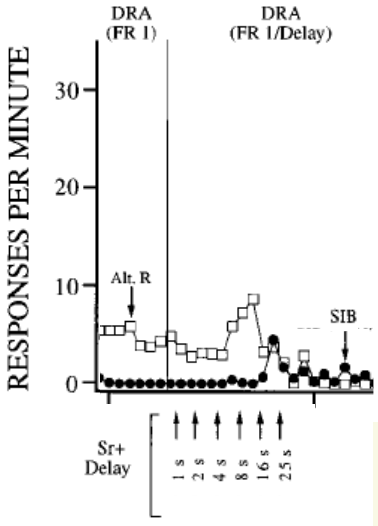
Reinforcement delay….

Use it if you are willing to **teach a "go-to" skill** and then chain parent-directed behavior to it

Do this by **reinforcing progressively longer chains** of adult-directed (expected) behavior to the delayed, functional reinforcer

Do not simply gradually increase the delay between FCR and its reinforcement

With only Progressive Reinforcement Delay:



As delay increases, FCR weakens & probability of PB increases

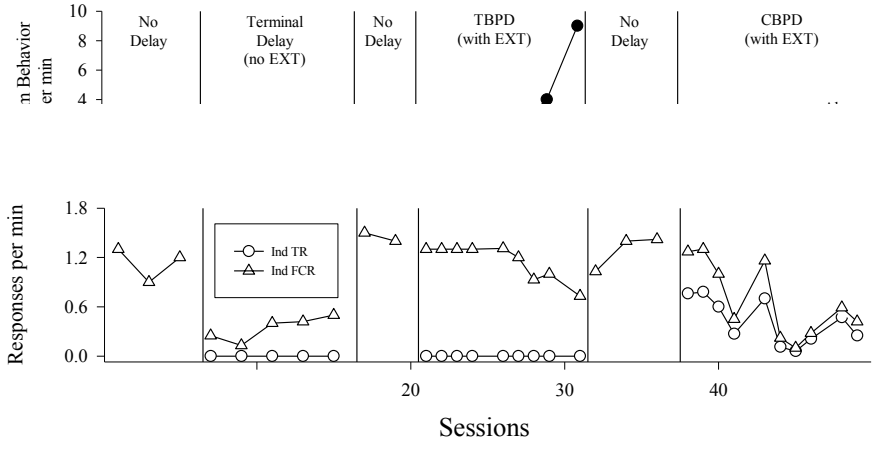
JOURNAL OF APPLIED BEHAVIOR ANALYSIS 2001, 34, 17–38 NUMBER 1 (SPRING 2001)

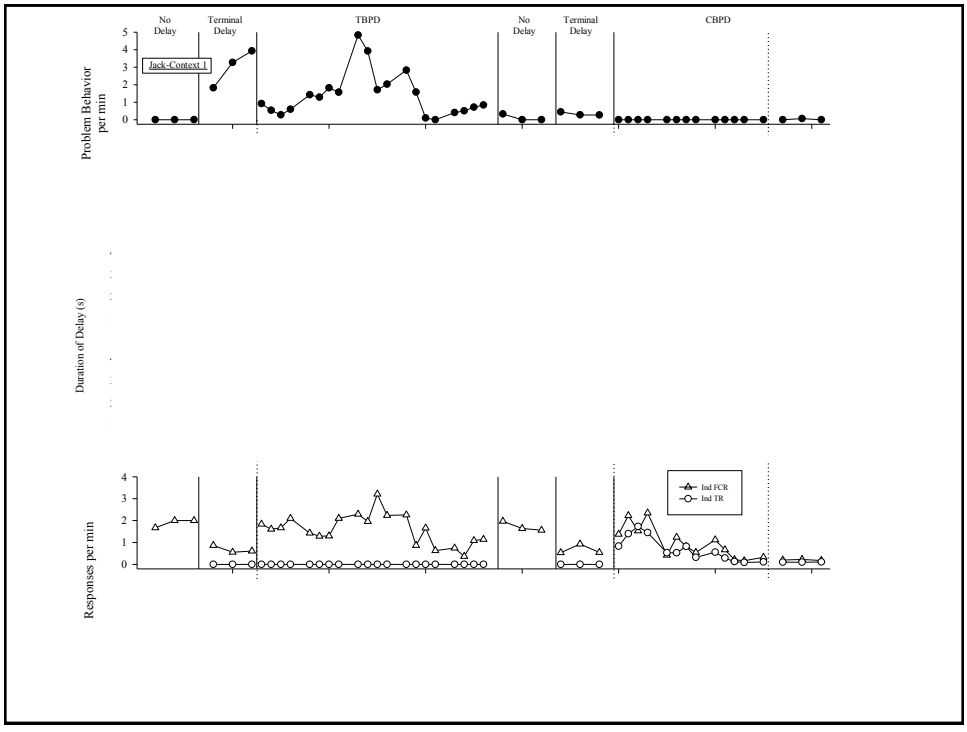
REINFORCEMENT SCHEDULE THINNING FOLLOWING TREATMENT WITH FUNCTIONAL COMMUNICATION TRAINING

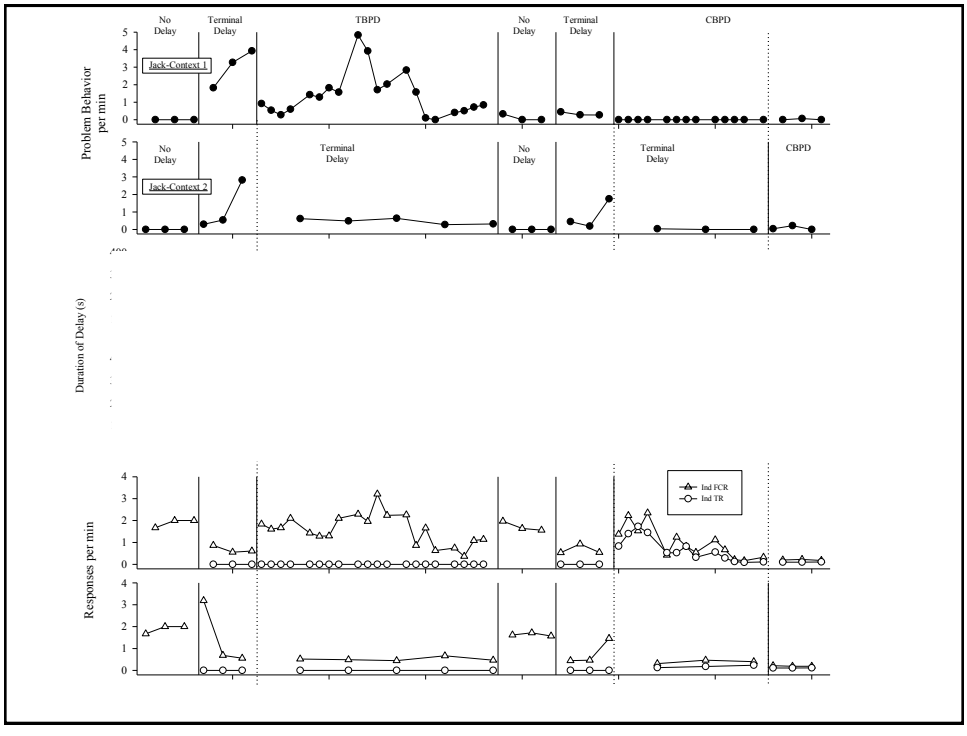
GREGORY P. HANLEY, BRIAN A. IWATA, AND RACHEL H. THOMPSON
THE UNIVERSITY OF FLORIDA

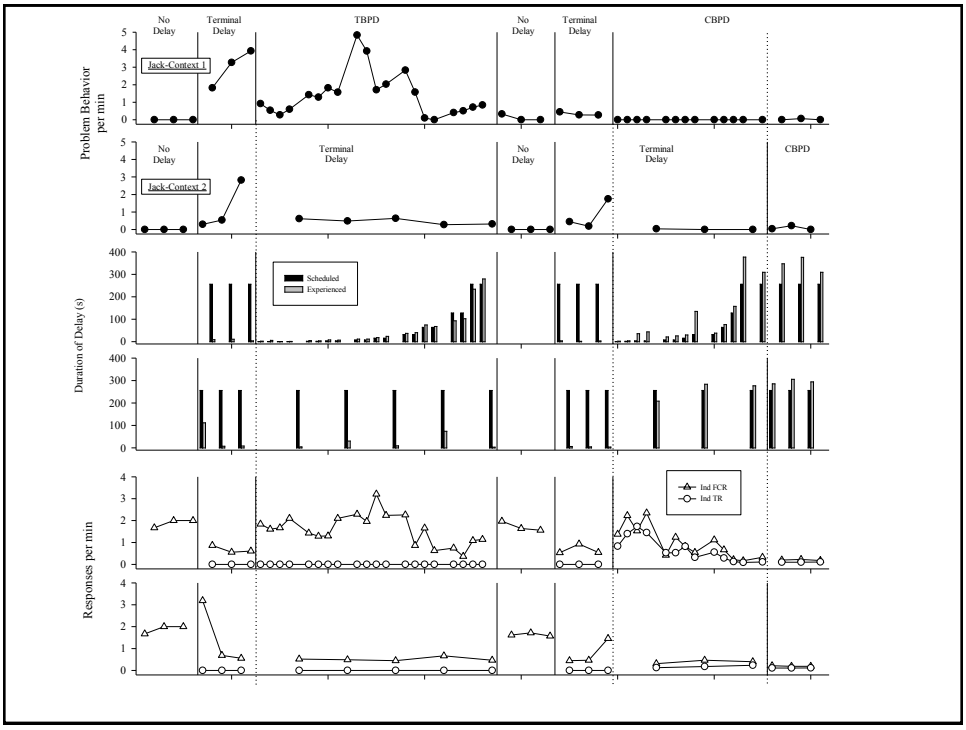
Time-based vs. Contingency-based Progressive Delay

(Lead Author: Mahshid Ghaemmaghami)




No Delay
Terminal Delay
TBPD
No Delay
Terminal Delay
CBPD
Jack-Context 1
Problem Behavior per min
Duration of Delay (s)
Responses per min
Ind FCR
Ind TR


No Delay
Terminal Delay
TBPD
No Delay
Terminal Delay
CBPD
Jack-Context 1
Jack-Context 2
Problem Behavior per min
Duration of Delay (s)
Responses per min
Ind FCR
Ind TR



5 Critical Aspects of Delay/Denial Tolerance Training

1. **Always provide immediate sr for some FCRs**
2. **Teach an appropriate response to multiple cues of delay, denial, or disappointment**
3. **Progressively increase the average amount of behavior (not just time) required to terminate the delay**
4. **Terminate the delay for various amounts of behavior (sometimes expect very little behavior sometimes request larger or more complex types of behavior during the delay)**
5. **Probably best to not signal how much behavior is required to terminate the delays**

Ten Unique Aspects of our Approach

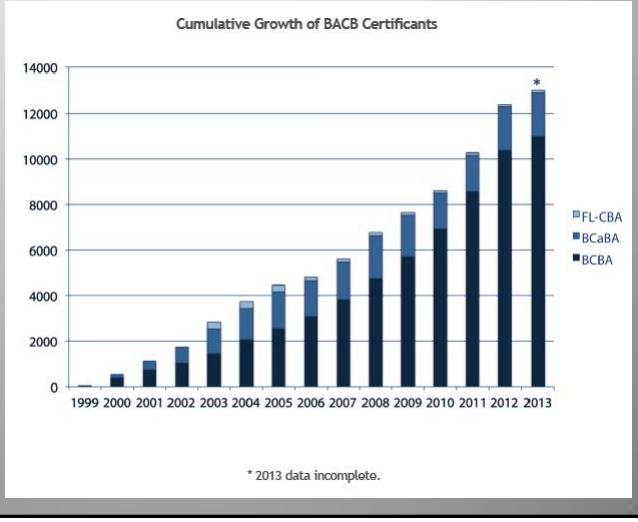
10. We work hard to ensure that the process is agreeable and outcome is meaningful to both children and parents

Have parents witness and take part in the entire process

Keep working with child until the wish list goal is met (e.g., going to Six Flags as a family)

Implications

- **Solution is simple to describe but more complex in execution**
  - **Specific skills of a BCBA are required**
  - **We need more and better training programs, hospitals, and schools that embrace behavior analysis**



Implications

- **Medication is not the solution for meltdowns, aggression, or the self-injury exhibited by children with autism**
  - **No good evidence for medication decreasing these problem behaviors *while* strengthening socially desirable alternatives**
    - **When there are *demonstrated* positive effects, they are merely *statistically* significant changes in *reported* levels of problem behavior of *unknown social significance***
      - and those effects probably represent lethargy or enhanced placebo effects

Considerations

- **The speed with which this model will bring about meaningful improvements in problem behavior is probably moderated by:**
  - **children's ability to learn via instructions and/or modeling**
- **The overall success of this model is probably moderated by:**
  - **the complexity of the contingencies influencing problem behavior**
  - **people's willingness and ability to manage those contingencies**

Limitations / Future Directions

We are planning on addressing the following limitations:

- **The lack of measures showing the effect of consultation throughout day and over an extensive period of time**
- **Omission of global measures of functioning before and after the consultations**
- **Omission of participants randomly assigned to either receive consultation versus traditional care**

Conclusions

Autism is not a life sentence of:

- **Meltdowns**
- **Aggression**
- **Self-injury**

- **Chronic and interfering stereotypy**
  - **See Potter et al., 2013, *JABA***
- **Sleep problems**
  - **see Jin, Hanley, & Beaulieu, 2013, *JABA***

Freedom from these problem behaviors is possible and probable with:

BCBA-led, objective analysis

Skill-based treatments yielding functional reinforcers

Contingency-based delay tolerance procedures

Thank you.

Good luck with all that you do for all who you teach and provide care

Contact info.:
Gregory P. Hanley, Ph.D., BCBA-D
Psychology Department
Western New England University
1215 Wilbraham Road
Springfield, Massachusetts 01119
ghanley@wne.edu