Detecting and Trouble Shooting Treatment Failures: An Important Ethical Obligation for Practitioners

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Preview

- Overview of Evidence-based Practice
  - Relevance to ABA
- Individualizing treatments
- Monitoring clinical progress
- Trouble shooting "treatment failures"

Recommended resource: Susan Wilczynski on EBP: wmich.edu/autism/resources

Autism Center of Excellence

Evidence-Based Practice in ABA

What is Evidence Based Practice?

- Clinical decision making model that integrates:
  - Best available evidence (empirically supported ABA interventions)
  - Clinical experience/judgment/competence
  - Patient values, preferences
  - Contextual features
  - Ongoing clinical progress monitoring and treatment adjustments

Evidence Based Practice– a multi-step process for the practitioner

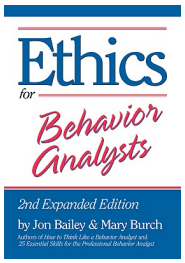
- Identify, evaluate, select and individualize effective Txs for a particular client and context
- Implement Txs with high fidelity
- *Continuous evaluation of the clinical outcome*
- *Detect failures and trouble shoot Txs*

Rationale for EBP

- Improve clinical outcomes by incorporating empirical research into the decision making process– (the research to practice gap)
- EBP rationale is persuasive to nearly every audience; promote ABA by analogy to EBP in medicine
- Autism insurance mandates that stipulate "evidence-based treatment, including applied behavior analysis" (MI SB 414 & 415, 2012)

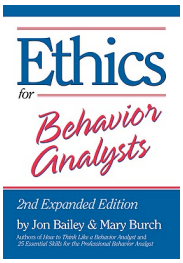
Rationale for EBP, PECC 2016

- 2.09 Treatment/Intervention Efficacy.
- (a) Clients have a right to effective treatment **(i.e., based on the research literature and adapted to the individual client)**. Behavior analysts always have the obligation to advocate for and educate the client about scientifically supported, most-effective treatment procedures. Effective treatment procedures have been validated as having both long-term and short-term benefits to clients and society.



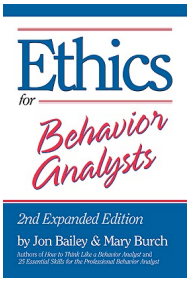
Rationale for EBP, PECC 2016

- 2.09 Treatment/Intervention Efficacy.
- (c) In those instances where more than one scientifically supported treatment has been established additional factors may be considered in selecting interventions, including, but not limited to, efficiency and cost-effectiveness, risks and side-effects of the interventions, client preference, and practitioner experience and training.



Rationale for EBP, PECC 2016

- 3.01 Behavior Analytic Assessment
- (b) Behavior analysts have an obligation to collect and graphically display data, using behavior-analytic conventions, in a manner that allows for decisions and recommendations for behavior-change program development.



Are BCBAs applying EBP?

- Reviews of insurance authorization requests from BCBAs
- Most plans articulate goals, often based on ABLLS–R or VB MAPP
- Most identify a "proven" Tx or curriculum, often broadly described (e.g., DTT)
- Less than 50% describe individualized Tx
- For reauthorizations: less than 50% include standard behavioral graphs to monitor clinical progress
- Of those that do, many don't make data-based Tx decisions

Evidence Based Practice– a multi-step process for the practitioner

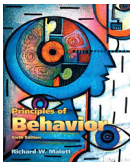
- **Identify, evaluate, select and individualize effective Txs for a particular client and context**
- Implement Txs with high fidelity
- *Continuous evaluation of the clinical outcome*
- *Detect failures and trouble shoot Txs*

How to identify effective Txs

- Internet and library searches–
  - Google:
  - Not selective: 112,000 results for "pica and behavioral treatment"
  - Google scholar– 14,400

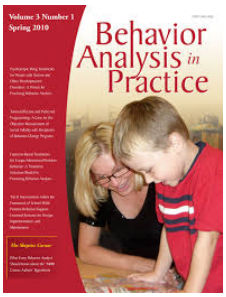
How to identify evidence supported Txs (EST) in ASD?

- General behavior analysis texts
  - Cooper, Heron and Heward
  - Miltenberger
  - Malott and coauthors



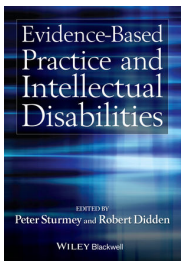
How to identify ESTs in ASD?

- Practitioner oriented journals and publications
- Articles on range of ABA practitioner skills, for example:
  - Selecting behavioral measures
  - Conducting a functional analysis

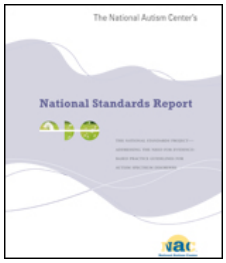


How to identify ESTs in ASD?

- Specialized texts
- Review articles, including meta analyses
- Conferences
- Mentors/supervisors
- All helpful but may be subject to bias in selection and interpretation



Reviews of empirically supported treatments in autism



EBP in ASD: Other considerations

- EBP is more than just identifying an effective treatment!
- Select best treatment for your client
- Match to unique features of your client
- How to adjust treatments to your client's values and preferences?
- Is it OK to modify client values/preferences?

Challenges: Extrapolating from research and individualizing Tx to your client

- Are some client factors more relevant than others?
- Eye color?
- Age?
- Sex and gender?
- Ethnicity and culture?
- Religion?

Client characteristics and values are most relevant when they:

- Impact acceptable goals and Txs?
  - Which behaviors are valued/reinforced
  - Which Txs are acceptable?
- Ask about and respect cultural, religious, ethnic influences
- **Caution**-- do not stereotype, focus on individualized treatment plans
- Limits on accepting client values
  - Is it OK to **"modify"** client values?
  - Is it OK to refuse treatment/service based on questionable client goals?

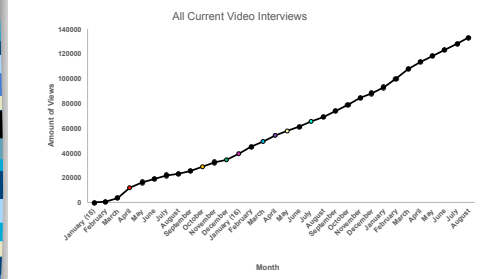
Next challenge: How to implement selected Txs with high fidelity

- Methods sections are seldom adequate
- Checklists and treatment guidelines
- Videos of ABA therapy being applied or simulated
  - Association for Science in Autism
  - Rethink Autism
  - Autism Center of Excellence, WMU: wmich.edu/autism/resources

Examples of training videos (funded by Michigan DHHS) wmich.edu/autism/resources

- Fifteen videos currently posted, **free of charge**, including
  - Behavioral sleep problems, Kuhn
  - Assessment and treatment of SIB, Iwata
  - Preparing for medical procedures, Allen
  - Functional Behavior Analysis, Iwata
  - Differential reinforcement, Vollmer
  - Functional Communication Training, Fisher
  - Preference assessment procedures, DeLeon
  - Evidence-based practice, Wilczynski
  - Social Skills Training, Weiss
  - Pharmacology, Poling
  - Behavioral Feeding Issues, Piazza
  - Verbal Behavior Assessment and Tx- Sundberg

Dissemination of ACE videos



Next Step: Monitor Clinical Progress to Detect Treatment Failures

- What is a treatment failure (non-responders)?
  - Effectiveness
  - Efficiency
  - Cost/benefit ratio, including adverse side effects of Tx
  - Mean performance is OK but unacceptable levels of variability
  - Goals obtained but no impact on outcome measures (quality of life, independence)

Need a strategy to detect and correct treatment failures

Treatment Failures: Prevalence?

- Prevalence of treatment failures????
- Non responders, adverse responders: often buried in group averages in RCT (gold standard) research
- Tx failures seldom published in single subject research – failure to demonstrate experimental control = rejection
- We do not need a journal of treatment failures---but important to:
  - Identifying limits of generality for "proven treatment"
  - Identify the adjustments needed to make an ineffective treatment into an effective treatment

Trouble shooting Tx failures

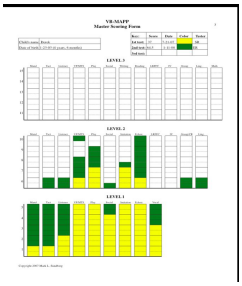
- Need trouble shooting strategy:
  - To insure effective and efficient treatment —client rights to effective Tx, public support, insurance accountability
  - To preempt flight to questionable or harmful Tx
  - To prevent rejection of ABA-based therapy services as ineffective

Detecting Tx Failures

- Frequent assessments to detect TX failures in a timely manner
- Identify and act on deviations from "envelope" of expected Tx gains
- Assessment may occur at different levels of sensitivity for different audiences

Commonly used assessments that are NOT adequate for detecting treatment failures

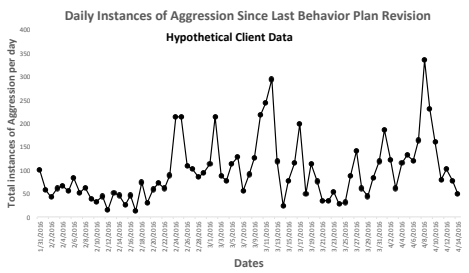
- VB MAPP, ABLLS-R
- Excellent comprehensive assessments
- But assessments are too infrequent to monitor progress and adjust TX
- Display emphasizes mastered skills, not incremental progress



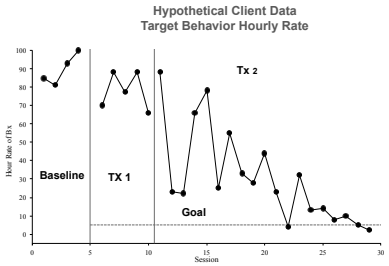
Commonly used assessments that are NOT adequate for detecting treatment failures

Goal	Skill Area	Date introduced	Date Mastered
1a	Social Behavior	2-1-16	5-1-16
2c	Compliance	6-15-14	4-1-16
3	Classroom group	11-15-15	In progress
7	Math concepts	4-1-15	4-15-15

Monitoring alone is not enough



Frequent monitoring and assessment of response to intervention is crucial



Given a Tx failure, suggested troubleshooting protocol

- **Step 1:** Are clinical/program progress measures adequate?
  - Valid, sensitive and accurate measures of progress?
- **Step 2:** Is the criterion for judging treatment success "reasonable?"
  - Normative versus exemplary benchmarks
  - If achieved, do goals have an impact on quality of life and other outcome variables; ecological validity

Tx Failure: Trouble shooting

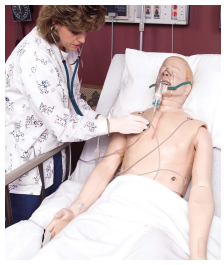
- **Step 3:** Are treatment goals within the "capability" of the client?
  - Are they physically or developmentally possible?
  - Do they require training of prerequisite skills?
  - Do you have limited opportunities to assess and train the goals?

Tx Failure: Trouble shooting

- **Step 4:** Treatment fidelity. Is Tx applied consistently and as designed?
  - If not, train and manage staff (and other caregivers)
    - Can't do problems
    - Won't do problems

Can't Do: Assess and acquire skills in Tx implementation

- Read methods section of journals?
- Instruction or workshops? Maybe, behavioral skills training model is recommended
- Treatment manuals
- Video models
- Simulation-based training and feedback?



Simulation-based training of ABA therapy skills

Won't Do: Staff monitoring and accountability

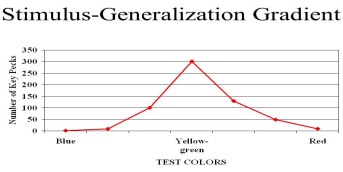
- Treatment fidelity issues
  - BCBA supervision of RBTs
  - Train and manage parents, teachers, siblings
  - Develop treatment integrity checklist
  - Identify and remove barriers to staff performance
  - Accountability– emphasize positive consequences

Tx Failure: Trouble shooting

- **Step 5:** If treatment fidelity is OK, are reinforcers (and other behavioral variables) still effective?
  - Stimulus preference assessments– how often?
  - Developmental issues
    - Age appropriate reinforcers?
  - Transient issues that affect reinforcer efficacy
    - Motivational operations in place? Unauthorized sources of reinforcement?
    - Sources of interference? Meds, illness, sensory problems
  - Delivered in response contingent manner? (see Tx fidelity)

Trouble shooting "generalization" failures

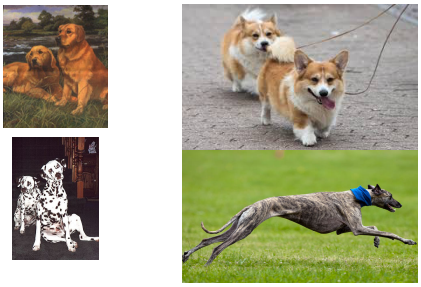
- **Step 6** "Generalization" issues
- Diagnose the problem: Often not a stimulus generalization issue



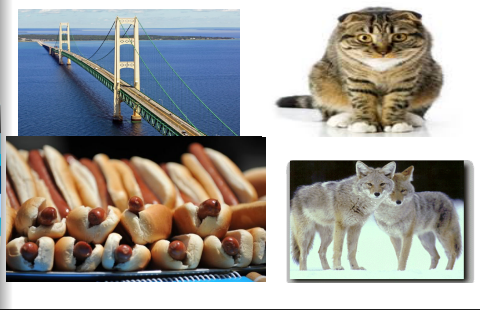
Stimulus Control Error Analysis, 1

- Look at the nature of stimulus control "errors" (see Horner, Bellamy and Colvin (1984) JASH)
- Failure to establish control by a class of stimuli
- Remedy: Train with full range of S+s to establish the "breadth" of the stimulus class
- Select S-s to sharpen and refine stimulus control
- Start with very different S-s, move to minimal differences in S- and S+

Multiple exemplars of S+s for stimulus class of "dogs"



Examples of S- for "dogs"



Stimulus control error analysis, 2

- Irrelevant but correlated stimuli control the target response
- Remedy: Present range of S+s but without correlated irrelevant stimuli

Stimulus Control Error Analysis, 3

- Restricted stimulus control (over selective stimulus control): control by one trivial element of a compound stimulus
- Remedy: reinforce behavior under a full range of S+s, with and without the trivial element

Most S+s have multiple exemplars-- like a stimulus class

Stimulus Control Error Analysis, 4

- Context issues
- Stimulus control is demonstrated in one context, not in other contexts
- Are effective reinforcers and contingencies operational in "generalization" setting?

Stimulus Control Error Analysis, 4

- Context issues
- Stimulus control is demonstrated in one context, not in other contexts
- Are effective reinforcers and contingencies operational in "generalization" setting?
- Anything interfering with or blocking stimulus control (and attention) in generalization setting

Stimulus Control Errors

- Take a trouble shooting approach
- Match your trouble shooting strategy to the nature of the problem
- Train and refine the S+/S- discrimination
- Rule out alternative sources of incorrect stimulus control
- Remember: Discriminated behavior is "determined;" it will not persist without reinforcement

Tx Failure: Trouble shooting

- **Step 7: Maintenance of treatment effects**
- Did you select behaviors that contact and might be maintained by "naturalistic" contingencies? (ecological validity)
- Can you alter the "naturalistic contingencies" to support behavior (e.g., parent/sibling/ teacher/peer training)
- Can you gradually fade out contrived contingencies—shift control to naturalistic consequences?

Tx Failure: Trouble shooting

- **Step 7:** Maintenance of treatment effects
- Can you arrange "prosthetic environments" or "permanent" contingencies to maintain behavior?

Treatment failures will happen!

- Don't panic
- Develop a systematic strategy to trouble shoot
- Treat your trouble shooting like a phase change in an "experiment" Graph progress and use data to inform next steps