



# A Crash Course in Applied Behavior Analysis

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# What Have you Heard About ABA and Behavior Analysts?

- Teach robotic and Behavior



# A Definition of ABA

Applied Behavior Analysis (ABA): A scientific approach for discovering environmental variables that reliably influence socially significant behavior

Function of ABA:

- Develop a technology of behavior change that is practical and applicable
- Demonstrate experimentally that the procedures employed were responsible for the improvement in behavior

Goal of ABA: to analyze behavior like a scientist



# Applied Behavior Analysis

is the science in which

procedures derived from the principles of behavior

are systematically applied

to improve socially significant behavior to a meaningful degree and to demonstrate experimentally (**functionally**) that the procedures employed were responsible for the improvement in behavior (**evidence-based**).

# Applied Behavior Analysis Is a Hard Science

- Science: a systematic approach for seeking and organizing knowledge about the natural world
- Goal of Science: to achieve a thorough understanding of the phenomena under study
  - This is ABA's approach to science!
  - Behavior analysts love data!

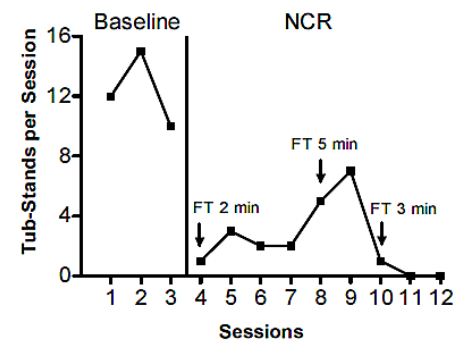


Figure 2. Tub-stands per session during noncontingent reinforcement treatment.

# How Behavior Works:

## Three-term contingency



*accounts for all learning*

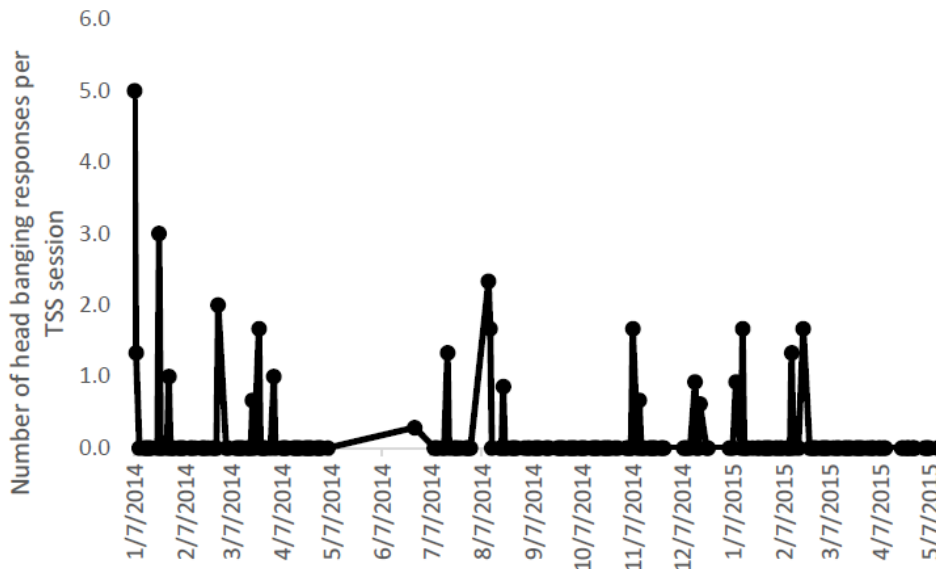


# The Six Assumptions/Attitudes of Applied Behavior Analysis

- Determinism: the presumption that the universe is a lawful and orderly place in which all phenomena occur as the result of other events.
- Determinism provides the framework in the field of behavior analysis
  - that all behavior is the result of specifiable conditions and once identified, these conditions can be used to some extent to determine the future occurrence of behavior

# The Six Assumptions/Attitudes of Applied Behavior Analysis

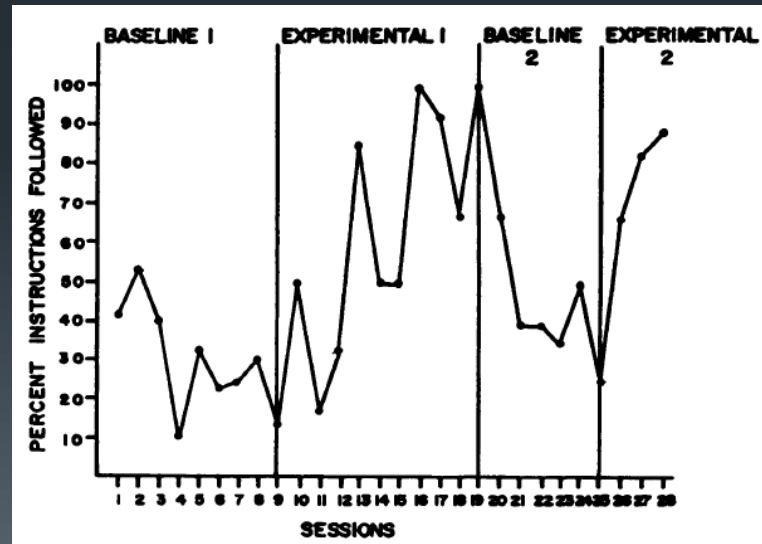
- Empiricism: the practice of objective observation





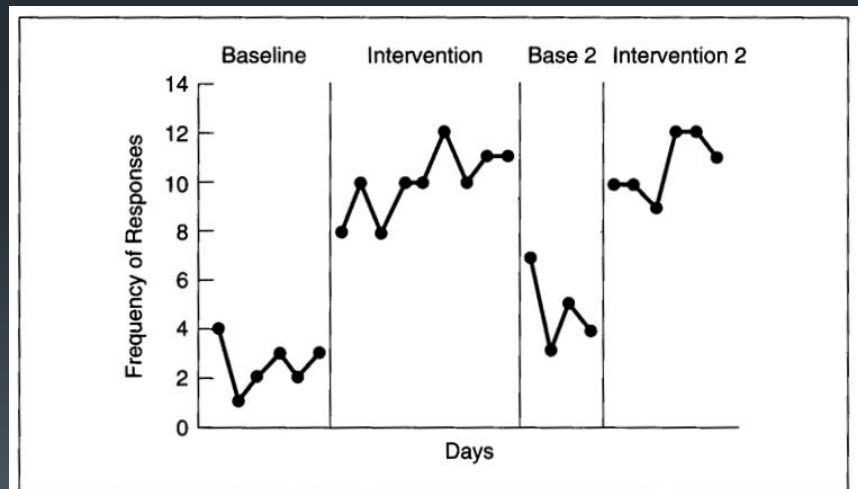
# The Six Assumptions/Attitudes of Applied Behavior Analysis

- Experimentation: requires conducting controlled experiments (functional analyses) to determine the existence of functional relationships



# The Six Assumptions/Attitudes of Applied Behavior Analysis

- Replication: the repeating of experiments (as well as repeating independent variable conditions within experiments)



**FIGURE 9.8** Hypothetical example of performance in an ABAB design. The *arrows* point to the changes in level or discontinuities associated with a change from one phase to another.



# The Six Assumptions/Attitudes of Applied Behavior Analysis

- Parsimony: in science requires that all simpler, more logical explanations be ruled out experimentally before a more complex or abstract explanation is considered.



# The Six Assumptions/Attitudes of Applied Behavior Analysis

- Philosophical Doubt: requires that we continually question the truthfulness and validity of all scientific theory and knowledge
  - Behavior Analysts are great at admitting when they are wrong!
  - ABA requires critical thinking



# The Seven Dimensions of ABA

- Applied
- Behavioral
- Analytic
- Technological
- Conceptually Systematic
- Generalizable
- Effective



# The Seven Dimensions of ABA

## Applied

A reported intervention is applied only if it investigates socially significant behaviors with immediate importance to the subject(s) or to society.

- It must be significant to the subject, not his or her family
- Behaviors may be annoying but eliminating them can be unethical



# The Seven Dimensions of ABA

## Behavioral

A reported intervention is behavioral if it entails precise measurement of the actual behavior in need of improvement and documents that it was the target person's behavior that changed.



# The Seven Dimensions of ABA

## Analytic

A study is analytic if it demonstrates experimental control over the occurrence of the behavior, that is, if a functional relationship is demonstrated.





# The Seven Dimensions of ABA

## Technological

A study is technological if its written description of procedures is sufficiently complete and detailed to enable others to replicate the procedures.



# The Seven Dimensions of ABA

## Conceptually Systematic

A study or intervention is conceptually systematic if its procedures are derived from basic principles of behavior.



# The Seven Dimensions of ABA

## Generalizable

A study or intervention possesses generality if it results in behavior changes that

- last over time,
- appear in other environments
- OR spread to other behaviors

# The Seven Dimensions of ABA

## Effective

An intervention is effective if it improves behavior sufficiently to produce practical results for the subject.

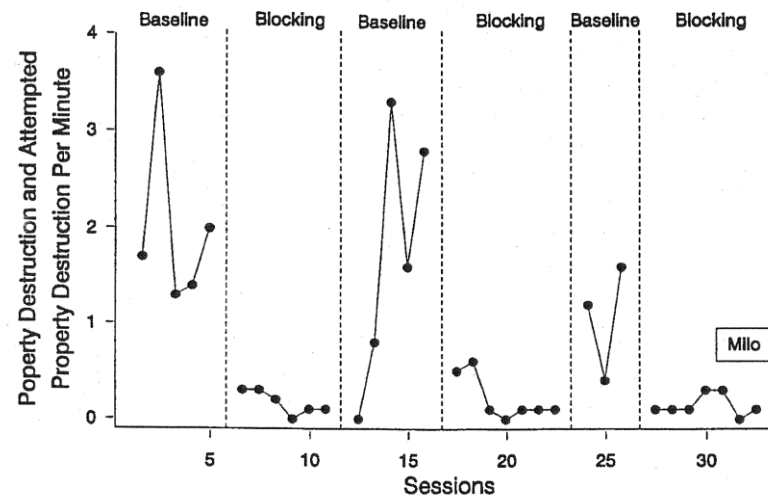
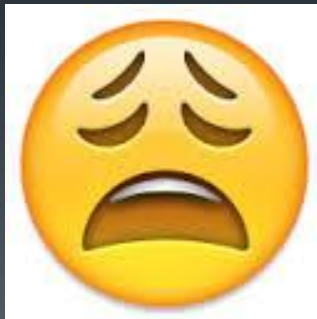


Figure 3. Rates of property destruction (plus attempts) during baseline and the blocking condition for Milo.

# B.F. Skinner and Behaviorism

- Behaviorism:
  - Applied Behavior Analysis (ABA)
  - Experimental Analysis of Behavior (EAB)
- Mentalism: approach which assumes behavior is the result of inner causes and hypothetical constructs.
  - Psychology
  - Psychiatry
  - Social Work
  - Talk Therapy
  - Psychoanalysis





# Brief Note about Reinforcement (vs. Punishment)

- Reinforcement
- Punishment
- REINFORCEMENT IS ALWAYS MORE POWERFUL THAN PUNISHMENT!!!

# References

Cooper, J.O., Heward, W.L., Heron, T.E. (2007). Applied Behavior Analysis. Upper Saddle River, NJ: Pearson Prentice Hall

