Introduction to ABA

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Disclosures

Eric Boelter has no financial relationships relevant to this presentation to disclose.

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UW Medicine
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Objectives

- Gain knowledge on history and scope of ABA.
- Gain knowledge of guiding principles of ABA as a larger science.
- Gain understanding of types of consequences that maintain behavior.

History of ABA

John Watson (early 1900s): Argued proper subject matter for study was observable Human behavior not introspection of states of consciousness.

Stimulus – Response learning (reflexive behavior)

B.F. Skinner (1930s): Showed the importance of consequences on shaping behavior. Gave us the A-B-C three-term model of behavior (operant behavior)

Skinner named study of A-B-C model a new field of science called the Experimental Analysis of Behavior (EAB)

EAB: laboratory research that led to ABA

ABA: Application of EAB principles to socially important behaviors

Cooper, Heron, & Heward, 2007

Early History of ABA

IDD (Fuller, 1949)

Typically Developing young children (e.g., Bijou, 1955; Baer, 1960)

Autism (Ferster and DeMyer, 1962)

Adults with Schizophrenia (Lindsley,1960)

Curriculum Design (Becker, Englemann, & Thomas, 1975)

Cooper, Heron, & Heward, 2007

Science of Behaviorism

Behavior is a function of interaction between environmental events and behavior.

Behavior is lawful, predictable, and able to be brought under environmental control.

These events may occur prior to behavior (antecedent events).

They may occur following behavior (consequences).

Cooper, Heron, & Heward, 2007

Dimensions of Applied Behavior Analysis

Behavioral: The target of measurement is observable behavior not verbal reports of behavior or inner thoughts and feelings.

Analytic: Show control of the behavior, typically with single-case designs.

Technological: completely identify and describe all techniques that make up a behavioral application such that it can be replicated by others.

Conceptual Systems: precisely described behavioral applications should be tied to conceptual model.

Effective: behavioral techniques produce large enough change for practical value.

Generality: change is durable over time and spreads to other settings, people, situations etc.

Baer, Wolf, & Risley, 1968

Applied Behavior Analysis (ABA)

The process of:

Applying principles of behavior (e.g., reinforcement, punishment) to specific behavior.

Evaluating whether any changes that occur are indeed due to this application (single-case design).

Change socially significant behavior to a meaningful degree (significant to people).

Baer, Wolf, & Risley, 1968

Principles of Behavior

Consequences

Reinforcement (Maintaining Variable)

Definition

Stimulus presented/removed

contingent on a response

that **increases** the future probability of a response.

Punishment

Definition

Stimulus presented/removed

contingent on a response

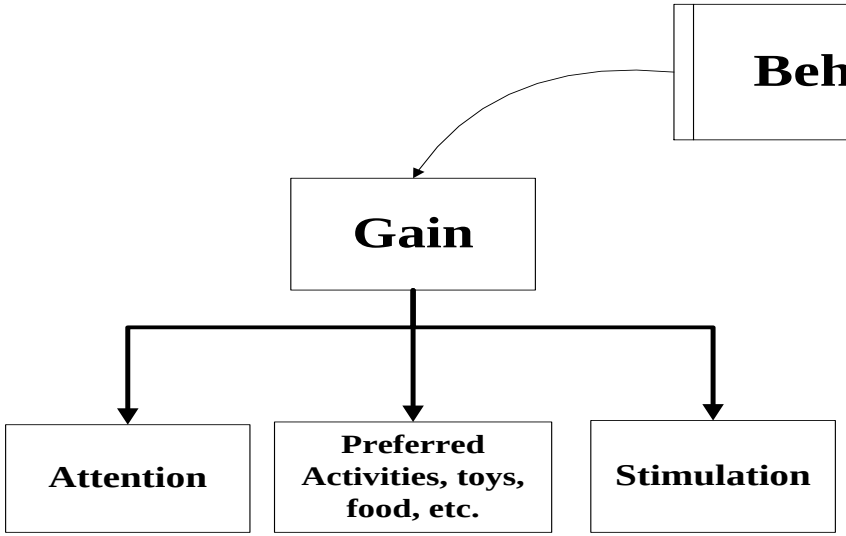
that **decreases** the future probability of a response

Categories of Consequences

	POSITIVE	AVERSIVE
PRESENT	POSITIVE REINFORCEMENT **(BEHAVIOR INCREASES)**	PUNISHMENT BY PRESENTATION **(BEHAVIOR DECREASES)** TYPE I
REMOVE	PUNISHMENT BY WITHDRAWAL **(BEHAVIOR DECREASES)** TYPE II	NEGATIVE REINFORCEMENT **(BEHAVIOR INCREASES)**

Types of Reinforcement

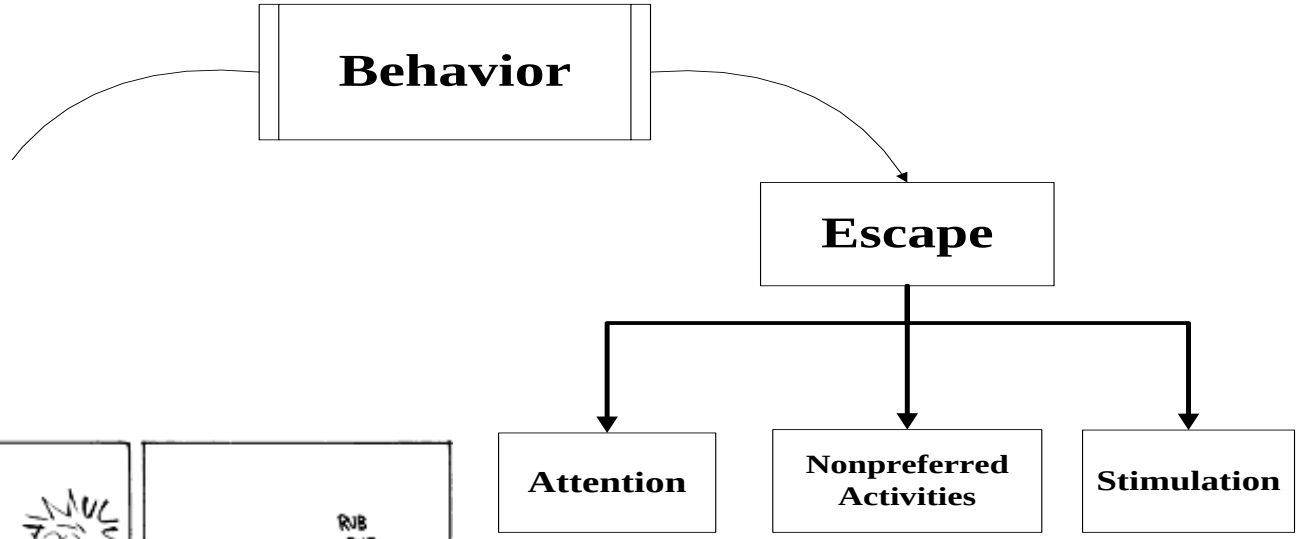
Why does Behavior Occur?



Positive Reinforcement

Types of Reinforcement

Why does Behavior Occur?



Negative Reinforcement

Maintaining Events or Functions

Positive Reinforcement: A “gain” function

Social attention, tangibles, preferred items

Negative Reinforcement: An “escape” function

Escape from nonpreferred activities

Automatic Reinforcement: Unknown or Intrinsic (gain or escape)

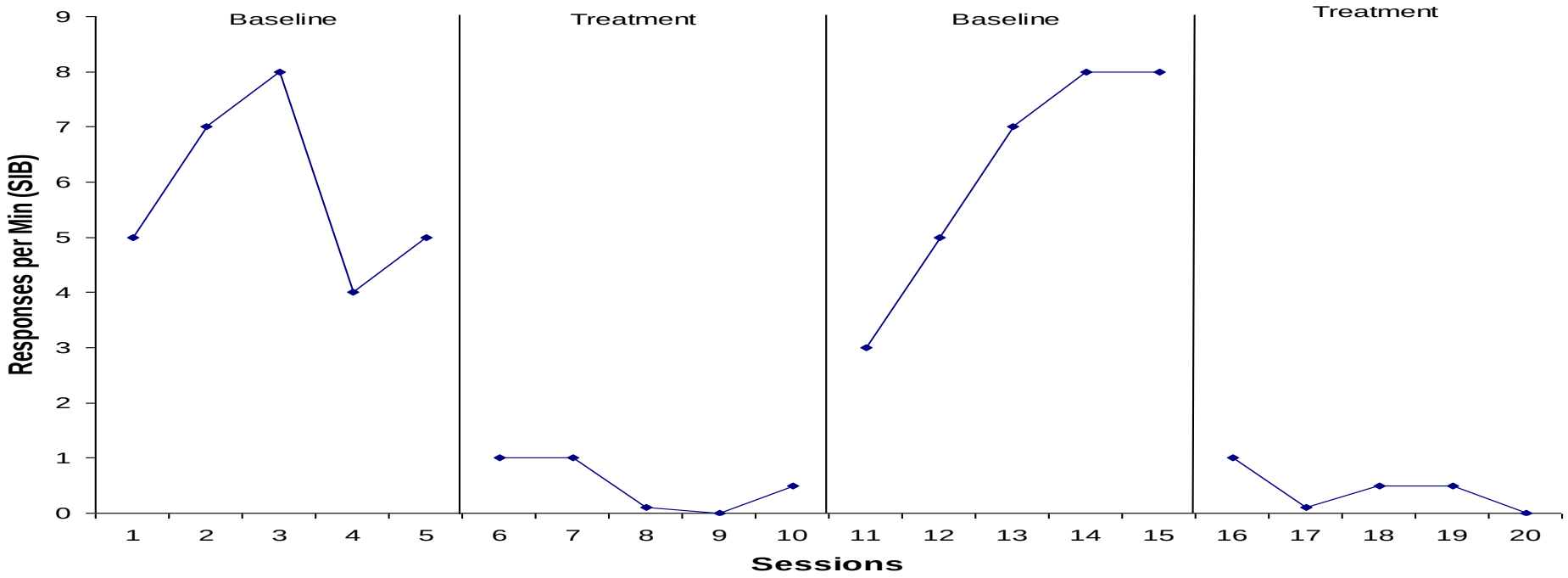
Gain sensory pleasure

Escape pain or discomfort (bx of scratching removes the itch)

Demonstrating Change: Single-Case Design

Demonstrate functional relations between behaviors and environmental changes.

Functional relation: Changes in the individual's behavior vary as a function of changes in the environment



Scientific Support for ABA

70+ years of research support the use of ABA-based procedures to reduce problem behavior and increase appropriate skills.

Settings

School, Home, Outpatient and Inpatient Hospitals

(e.g., Iwata et al., 1994; Northup et al., 1997; Derby et al., 1997)

Topography (Type)

Self-injurious (SIB), aggression, stereotypy, pica, food refusal, communication, daily living and academic skills.

(e.g., Harding et al., 1999; Kahng et al., 2002; Wacker et al., 1990)

Diagnoses

Intellectual disabilities, autism, schizophrenia, ADHD, stereotypic movement disorder with SIB, Down Syndrome, pediatric feeding disorders.

(e.g., Cooper et al., 1995; Wilder et al., 2001; Lerman et al., 2004; Saunders et al., 2005)

Large Field of Science

- Addiction
- Gambling
- Neuroscience
- Verbal Behavior
- Culture and Diversity
- Sustainable Societies
- Sports, Fitness, Health
- Behavioral Medicine
- Organizational

What is ABA used for?

Skills to teach:

- Communication
- Social
- Play
- Motor
- Cognitive
- Self-help/adaptive
- Vocational
- Community
- Etc.

Behaviors to reduce:

- Tantrums
- Aggression
- Property destruction
- Self-stimulatory
- Pica
- Elopement
- Inappropriate social
- Etc.

Moral Use of ABA

ABA is just a tool that can be used to increase or decrease targeted behaviors.

ABA practitioner need to use it in a moral way.

Behavior Analysis Certification Board has code of ethics for ABA:

- Consent
- Social Validity
- Cost – Benefit

BACB, 2020; Cooper, Heron, & Heward, 2007

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Questions

THANK YOU!

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