MULTIPLE BASELINE AND CHANGING CRITERION DESIGNS

MULTIPLE BASELINE DESIGN
• Most widely used for evaluating treatment effects in ABA
• Highly flexible
• Do not have to withdraw treatment variable
• Is an alternative to reversal designs
  • When target behavior is likely to be irreversible or when impractical or unethical to reverse conditions

3 BASIC FORMS
• Multiple baseline across behaviors
• Multiple baseline across settings
• Multiple baseline across subjects

GENERAL DESIGN

SEQUENCE
• After baseline
• Introduce independent variable or treatment for subject 1
  Leave others in baseline
• If behavior for subjects 2 and 3 remain unchanged after the application of the treatment, repeat with subject 2
  • Leave subject 3 in baseline
  • Introduce with subject 3.
• Minimum of three replications, five is better

POINTS TO NOTE
• As you introduce the treatment, the other subjects act as a control condition
• You replicate the conditions
• Get the same result, high probability the treatment caused the effect
• Lots of variations
MULTIPLE BASELINE ACROSS BEHAVIORS
- Have 2 or more different behaviors of same subject
- Each subject serves as his/her own control
- After steady state baseline responding for behaviors 1, 2, 3, independent variable is applied to 1st behavior, while other behaviors are kept in baseline conditions
- When steady state responding is reached for 1st behavior, then IV is applied to next behavior
- Repeat.

POINTS TO NOTE
- When using different behaviors, may get different results.
- Can be difficult to determine if the intervention actually changed the second behavior.
- Need to be careful when trying to generalize across clients or systems

MULTIPLE BASELINE ACROSS SETTINGS
- A single behavior is targeted in two or more different settings or conditions
- After baseline, the independent variable is applied to 1st setting, while other settings (2, 3) are kept in the baseline condition
- When steady state responding is reached for 1st setting, then IV is applied to next setting (2)
- Repeat for the third setting.

POINTS TO NOTE
- Can be used in a wide variety of settings
- Can be used with a wide variety of behavior
- Works well within industrial settings

MULTIPLE BASELINE ACROSS SUBJECTS
- Have one target behavior for 2 or more subjects in the same setting
- After baseline, independent variable is applied to 1st subject, other subjects (2, 3) are kept in baseline condition
- When steady state responding is reached for 1st subject, treatment is applied to next subject (2)
- Repeat for the third subject
- Most widely used multiple baseline design

VARIATIONS OF MULTIPLE BASELINES
- Alternative tactics for pursuing a multiple baseline analysis:
  - Multiple probe design
  - Delayed multiple baseline design
  - When extended baseline measurement is unnecessary, impractical, too costly, or unavailable
MULTIPLE PROBE DESIGN
• Analyzes relation between independent variable and acquisition of skill sequences
• Instead of simultaneous baselines, probes provide basis for determining if behavior change has occurred prior to intervention
• Appropriate for analyzing a shaping program
• Need to be careful conducting the analysis

DELAYED MULTIPLE BASELINE DESIGN
• Initial baseline and intervention begin
• Other baselines are added in a delayed or staggered fashion after the intervention is in place
• Effective when a new behavior, subject, or setting becomes available
• Limitations: shorter baselines and can mask interdependence of dependent variables

GENERAL DESIGN
Baseline 1  Treatment  Treatment continues  Baseline 2  Treatment
Baseline 3

POINTS TO NOTE
• Select independent, yet functionally similar baselines
  • Behaviors must be independent of one another
  • Behaviors share enough similarity that they will change with the application of the same independent variable
• Select concurrent and plausibly related multiple baselines
  • Behaviors must be measured concurrently
  • All relevant variables that influence one behavior must have opportunity to influence other behaviors

ASSUMPTIONS AND GUIDELINES
• Do not apply the independent variable to the next behavior too soon
  • Watch for Reactance effects
  • Baselines must become stable
• Vary significantly the lengths of multiple baselines
  • The more baseline phases differ in length, the stronger the design
• Intervene on most stable baseline first
  • If possible, application of independent variable should be made in order of greatest stability

ADVANTAGES
• Does not require withdrawal of an effective treatment
• Ideal for multiple behavior changes sought by many practitioners
• Useful in assessing occurrence of generalization of behavior change
• Relatively easy to conceptualize
• Can be used across a wide variety of systems
LIMITATIONS

• Is not a true experiment
  But is pretty close
• Provides more information about effectiveness of treatment variable
• Can require treatment being withheld for some behaviors/settings/subjects for a long time
• Required time and resources