Single-Subject Designs
Design: systematic process for collecting data

| Name of Design | Label | BSL | Intervention | Withdrawal | Reversal/ replication | Show functional relationship | Used for/when… |
|---|---|---|---|---|---|---|---|
| **A-B Basic Single-subject Design** | A-B | A | B | No | No | No | Future hypotheses |
| **Withdrawal Design** | ABA | A | B | Yes | No | No | Undesirable change occurs as a result of intervention |
| **Reversal Design** | ABAB | A | B | Yes | Yes | Yes | Ends with treatment in place<br>Not recommended if target behavior is dangerous or not removable (learning occurs) |
| **Changing Intensity Designs** | | | | | | | |
| **Changing Criterion**<br>Change expectations<br>Shaping behavior closer to terminal goal | A, $B^1$, $B^2$,$B^3$ | A | $B^1$, $B^2$,$B^3$ | No<br>none needed | Yes<br>Demonstrated when change is made | Yes<br>Weaker than reversal design | Goal requires considerable length of time<br>Use when target is complex or multi-step |
| **Changing Program Design**<br>Change intervention<br>Changing criterion of interventions | A, $B^1$, $B^2$,$B^3$ | A | $B^1$, $B^2$,$B^3$ | No<br>none needed | Yes<br>Demonstrated when change is made | Yes<br>Weaker than reversal design | |
| | | | | | | | |
| **Multiple Baseline Design MBD**<br>Simultaneous analysis of more than one dependent variable<br>1) Behaviors 2) Individuals 3) Settings | AB | A<br>Occur at the same time | B<br>Intervention phases are concurrent (one then the other) | No | Yes<br>Second intervention is the replication | Yes | Use only one class of dependent variables per graph (behaviors, individuals, settings) |
| **Alternating Treatment Design**<br>Allows treatment with more than one intervention with a single dependent variable | A-B-C-B-C-A-C | A<br>BSL not required | B-C | Yes | No | No<br>Difficult to conclude which intervention caused the change | Randomly scheduled/ Counter-balancing<br>Typically no phase lines<br>Rotation happens quickly |
| **Alternating Condition Design** | A-B-C | A | B-C | No | No | No | Gradually adding more and more |

**Terminology**

Variable: refers to factors involved in research; attributes being studied

Dependent Variable: The behavior targeted for change

Independent Variable: The intervention being used to change behavior

Functional Relationship: When two variables co-vary (or have shared variance)

**Single-Subject Designs**

- Provides the structure for evaluating the performance of an individual versus a group
- Applied behavior research generally focuses on an individual

**Components**

- Repeated measures of the dependent variable
- Comparisons of the individual's performance under different conditions, or manipulations (phases) of the independent variable
- Individual acts as their own "control group"
- Include a measure of baseline (BSL) – at least one measure of performance under an intervention condition, and at least one replication of the use of the intervention

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