

HOW TO APPLY THE MULTIPHASE OPTIMIZATION STRATEGY (MOST) IN YOUR INTERVENTION DEVELOPMENT RESEARCH

Module 1
MOST is a different way of thinking

Lesson 1: Definitions of key concepts, Part 1



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Intervention Optimization Initiative

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In this lesson you will learn how to:

- Define key concepts:
 - The multiphase optimization strategy (MOST)
 - Intervention
 - Intervention component

What is the multiphase optimization strategy (MOST)?

- An engineering-inspired framework for optimizing multicomponent behavioral, biobehavioral, biomedical, and social-structural interventions
- We need to define the terms intervention and intervention component

Definition: Intervention

- Program ultimately intended to affect human health, well-being, or educational attainment...
- ...by changing individual behavior or cognition, or characteristics of the individual's environment

An intervention may be...

- Behavioral, biobehavioral, biomedical, or social-structural

An intervention may be...

- Aimed at any level (or more than one)
 - Individual
 - Family
 - School
 - Neighborhood
 - Clinic
 - etc.

Examples of interventions

- Treatment of depression

Examples of interventions

- School-based drug abuse prevention

Examples of interventions

- Smartphone app developed for adolescents who have Type I diabetes and have been provided with an insulin pump

Examples of interventions

- Encouraging physical activity by installing sidewalks and lighting to make walking safer, and upgrading public parks by providing age-appropriate playground equipment for children and exercise equipment for adults.

Definition: Intervention component

- Intervention component: *Any aspect of an intervention that can be separated out for study*

Some types of intervention components

- Parts of intervention content, e.g.
 - Topics in the curriculum of a school-based drug abuse prevention program
 - Training in different weight-loss strategies in a program to treat obesity

Some types of intervention components

- Features that promote compliance/adherence/engagement, e.g.
 - Reminder phone calls or text messages
 - Gamification of interventions delivered by apps

Some types of intervention components

- Features aimed at improving fidelity, e.g.
 - Enhanced training for those delivering the intervention
 - Resources for intervention delivery personnel such as a chat window for questions

An important distinction

- A component is a part of the intervention, included for treatment purposes
- It is not included solely for research purposes!
- A component is always eligible to be included when the intervention goes to scale

Intervention component or not?

- Consider a study to optimize a weight loss intervention. Participants are asked to wear a smart watch that counts number of steps/day.
- Can counting daily steps via a smart watch be considered an intervention component?

Intervention component or not?

- Is counting daily steps via a smart watch being considered for inclusion when the intervention goes to scale?
- **If so, then it can be considered a component.**

Intervention component or not?

- Is counting daily steps using a smart watch
 - Included only as a way of measuring an outcome variable?
 - Definitely going to be omitted when the intervention goes to scale?
- **If so, then it cannot be considered an intervention component.**

Intervention component or not?

- If wearing a smart watch and counting daily steps is a part of the intervention, this does not necessarily preclude step count from being used as an outcome variable.

In this lesson you learned how to:

- Define key concepts:
 - The multiphase optimization strategy (MOST)
 - Intervention
 - Intervention component

In the next lesson you will learn how to:

- Define additional key concepts:
 - RCT
 - The classical treatment package approach



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