

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

## **Module 3 Introduction to the optimization trial**

### **Lesson 9: Review of Module 3**



**NYU**

**SCHOOL OF GLOBAL  
PUBLIC HEALTH**

**Intervention Optimization Initiative**

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- This lesson will review what you have learned in Module 3 and how it relates to course learning objectives.



# **Course learning objective**

## **Learn how to:**

- Compare and contrast the classical treatment package approach and MOST

# **Module 3 learning objective: Explain the critical differences between the RCT and the factorial optimization trial**

- You have learned how to:
- Recognize the importance of basing the selection of an optimization trial design on the resource management principle.

Course learning objective: Compare and contrast the classical treatment package approach and MOST

# **Module 3 learning objective: Explain the critical differences between the RCT and the factorial optimization trial**

- You have learned how to:
- Express the fundamental differences between the logical underpinnings of an RCT and those of a factorial experiment.

Course learning objective: Compare and contrast the classical treatment package approach and MOST

# **Module 3 learning objective: Explain the critical differences between the RCT and the factorial optimization trial**

- You have learned how to:
- Explain why factorial experiments can have very small per-condition *ns* and still be well-powered.

Course learning objective: Compare and contrast the classical treatment package approach and MOST

# **Course learning objective**

## **Learn how to:**

- Design and conduct a rigorous and efficient factorial optimization trial in a field setting



# **Module 3 learning objective: Explain the key characteristics of the factorial experiment**

- You learned how to:
- Describe the factorial experiment and what it is intended to estimate: main effects and interactions.

Course learning objective: Design and conduct a rigorous and efficient factorial optimization trial in a field setting

# **Module 3 learning objective: Explain the key characteristics of the factorial experiment**

- You learned how to:
- Recognize that coding can have implications for interpretation of results.

Course learning objective: Design and conduct a rigorous and efficient factorial optimization trial in a field setting

# **Module 3 learning objective: Explain the key characteristics of the factorial experiment**

- You learned how to:
- Explain the concept of experimental control in a factorial design.

Course learning objective: Design and conduct a rigorous and efficient factorial optimization trial in a field setting

# **Module 3 learning objective: Identify when a factorial design is a good choice for an optimization trial**

- You learned how to:
- Distinguish (1) between fixed and adaptive interventions; and (2) among adaptive interventions with different intensities of adaptation.

Course learning objective: Design and conduct a rigorous and efficient factorial optimization trial in a field setting

# **Module 3 learning objective: Identify when a factorial design is a good choice for an optimization trial**

- You learned how to:
- Recognize that optimization of different types of interventions may require different types of optimization trials

Course learning objective: Design and conduct a rigorous and efficient factorial optimization trial in a field setting

# **Module 3 learning objective: Explain when and why the factorial experiment is economical as compared to alternatives**

- You learned how to:
- Explain why the factorial experiment usually requires many fewer experimental participants than alternative experimental designs

Course learning objective: Design and conduct a rigorous and efficient factorial optimization trial in a field setting

# **Module 3 learning objective: Explain when and why the factorial experiment is economical as compared to alternatives**

- You learned how to:
- Explain why it is often possible to examine additional factors in a factorial experiment without the need to increase the number of participants to maintain power

Course learning objective: Design and conduct a rigorous and efficient factorial optimization trial in a field setting

# **Module 3 learning objective: Explain when and why the factorial experiment is economical as compared to alternatives**

- You learned how to:
- Explain why increasing the number of levels of a factor to three or more—for even one factor—requires a substantial increase in the number of participants to maintain power

Course learning objective: Design and conduct a rigorous and efficient factorial optimization trial in a field setting



Congratulations! You have completed  
Module 3



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