

# SMART Designs for Advancing *mHealth* Adaptive Interventions

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# What is an Adaptive Intervention?

**Adaptive Interventions** are individually tailored sequences of treatment decisions. Adaptive interventions tailor these decisions according to dynamically evolving individual information.

*Intervention Design*

– Example Dynamic Individual Information:

- Craving, mood, slips/relapse, activity level, pain level, proximity to undesirable location, symptoms

– Example Decisions:

- Encouraging messages, dosage level, reminders, goal suggestions, email to buddy, alarm to health care provider

*Intervention Design<sub>3</sub>*

# SMART Design

- Goal: Inform Construction of Adaptive Intervention
  - Experimental, Data-Based
- Pinpoint Critical Decisions that Require Explication
  - Randomize among alternative decision options at these decisions

*Experimental Design*

## – Example Critical Decisions:

- If individual is in dangerous location, is it effective to send a message?
- Which of several types of messages is most effective?

## – Randomization

- Randomize between sending a message or not sending a message
- Randomize between types of messages

*Experimental Design*

# Why Randomize at each critical decision?

- Opens black box!
- Disentangle effect of message from why message was provided.

*Experimental Design*

# Questions?

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