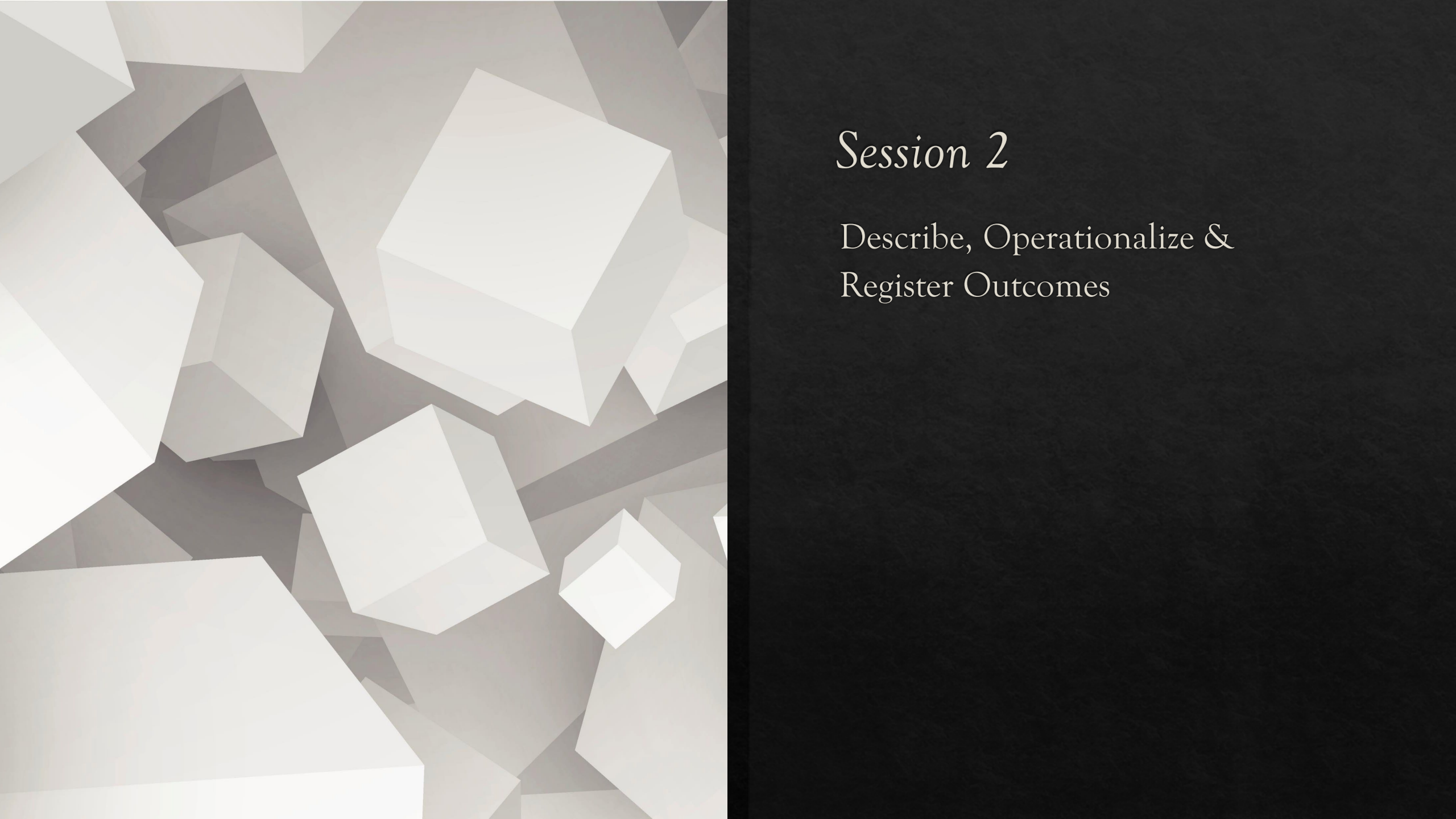


CRT 2025
Summer Training
Institute
Session 2

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Session 2

Describe, Operationalize &
Register Outcomes

Outcomes

- ◆ Levels of evidence
- ◆ Definition
- ◆ Operationalization
- ◆ Registration

STRAIGHT TALK ON EVIDENCE

Not Accurately Reported

Newly-published study of federal Job Corps program inaccurately claims to demonstrate long-term positive effects

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July 21, 2020 | Employment/Welfare

Highlights:

- We discuss newly-published long-term findings from a randomized controlled trial (RCT) of the federal Job Corps program, the nation's largest residential career training program for at-risk youth.
- We believe this was a well-conducted RCT that, unfortunately, selectively reported its main findings in the study abstract. The abstract is very important; for busy readers who do not purchase a full-text version of the study, the abstract is the only source of information about the study's findings.

Outcomes Definition & Operationalization

◆ Constructs from the logic/theory building exercise

◆ What:

- ◆ target outcomes
- ◆ domain grouping
- ◆ level of evidence classification
- ◆ proximal/mediating variables
- ◆ explanatory/control variables
- ◆ subgroup indicators
- ◆ unintended consequences
- ◆ data source

◆ When:

- ◆ baseline, short-term, longer term

Basic Measurement Concepts

- Validity = measures the intended construct (typically correlated with established measures)
- Reliability = measures accurately (internal consistency, test-retest correlation)

Illustrative Example: RQs

Three years out...

1. What impacts do HPOG programs have on the outcomes of participants and their families?
2. To what extent do impacts vary across selected subpopulations?

Follow-up time	Outcome Domains		
	Educational Progress	Healthcare Employment	Earnings
Short-term (15-18 months)	Completion of or ongoing enrollment in training ^s	Current or most recent job is in the healthcare sector ^s	Average quarterly earnings in the 5th follow-up quarter ^N
Intermediate-term (three-year)	Completion of training ^s	Current or most recent job is in the healthcare sector ^s	Average quarterly earnings over the 12th and 13th follow-up quarters ^N
Long-term (six-year)	Receipt of a postsecondary credential requiring a year or more of training ^s	Currently employed in a healthcare occupation ^c	Average quarterly earnings over the 23rd and 24th follow-up quarters ^N
Evolution of Measures	Over time, the educational progress measure indicates a rising bar for what constitutes success.	After six years, the addition of healthcare employment as confirmatory reflects HPOG's goal to meet local demand for healthcare workers.	In the short-term, job training programs don't expect earnings gains (because participants are out of the labor market for training). After three years, earnings is a clear indicator of HPOG's success.

Notes: ■ Outcomes designated as confirmatory at the given follow-up time. ■ Outcomes designated as secondary at the given follow-up time.

Data source for each outcome is indicated as follows:

^s Survey, whether the short-term, three-year, or six-year participant follow-up survey.

^N Administrative data from the National Directory of New Hires.

^c Classification by Census Bureau staff of survey-reported occupation.

Sources: Peck et al. (2018), Peck et al. (2019), Litwok et al. (2021).

HPOG's Outcome Domains

Confirmatory & Secondary

- ◆ **Educational progress**
- ◆ **Employment**
- ◆ **Earnings**
- ◆ Job quality
- ◆ Career progress
- ◆ 21st century skills
- ◆ Public assistance benefits
- ◆ Financial hardship

Exploratory

- ◆ Barriers to employment
- ◆ Economic status
- ◆ Psychological well-being
- ◆ Education-related goals and support
- ◆ Child development and well-being.

*These decisions informed by
the program logic model*

Outcomes Definition & Operationalization

- ❖ Operationalization involves the concrete measurement details, given the data, and decisions about transforming those data to construct the outcome, such as...

Domain	Level & Definition	Operationalization Details	Data Source(s)
Educational progress	Confirmatory: Training completion	Binary variable with value 1 if one or more of the following are true in either the short-term or three-year survey: - Completed a degree (associate's or higher) since randomization - Completed a professional, state, or industry certificate, license, or credential since randomization - Completed a diploma or certificate for completing regular college classes since randomization - Received a diploma or certificate from a school for completing vocational training since randomization Value 0 if each of the previous items is false Missing otherwise Note: The names of reported credentials will be manually examined, and only those that reflect completion of training will be considered for this outcome^a	Short-Term Survey: Q25a, Q25b Three-Year Survey: I2, I3, I3d, I3e
Earnings	Confirmatory: Average quarterly earnings over follow-up quarters 12-13	Continuous variable measuring average earnings in the 12th and 13th quarters after the quarter containing random assignment Value 0 if no earnings during either quarter Missing otherwise	NDNH

Activity: Define & Operationalize an Outcome

With your given intervention in mind...

- ◆ Define

- ◆ At least two domains
- ◆ At least one confirmatory outcome and one secondary outcome within one of those domains

- ◆ Operationalize

- ◆ Detail the construction, given a likely data source, of one of those outcomes

- ◆ Explain

- ◆ Validity
- ◆ Reliability
- ◆ Strengths
- ◆ Limitations

*Be prepared to share your
example*

Registration

◇ Registry of Efficacy and Effectiveness Studies (REES)

- ◇ “database of causal inference studies in education and related fields”
- ◇ “designed to increase transparency of and access to information about both ongoing and completed efficacy and effectiveness studies”

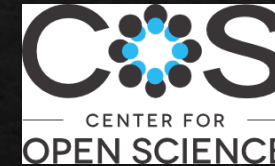
◇ <https://sreereg.icpsr.umich.edu/sreereg/>



◇ Open Science Framework (OSF)

- ◇ The OSF aims “to help researchers conduct research more rigorously, and manage and share their work more openly.”

◇ <https://www.cos.io/>



◇ Experiment.com

- ◇ “an online platform for funding and sharing scientific discoveries. Push the boundaries of knowledge in biology, chemistry, medicine, physics, computer science, paleontology, economics, engineering, neuroscience, and more. For Science!”



More
Discussion &
Questions

