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SI 623: Experimental Design & Outcome Evaluation

Week 6

SI 623

Feb 17, 2009

Experimental Design & Outcomes

- Very influential in many evaluation circles.
- The Rand Corp suggests that a tight experimental design is

*The only way you can **prove** that your program is responsible for the outcomes*

Experimental Design

- Methodologists: Donald Campbell & Julian Stanley (1966) followed by many others
- EXPERIMENTAL DESIGNS
- QUASI-EXPERIMENTAL DESIGNS
- Rand: Federal contractor on outcome evaluation
- High/Scope Longitudinal Studies

Image of the
Evaluation
Theory Tree
removed

The Evaluation Theory Tree can be found on page 13 of “An Evaluation Theory Tree” by Marvin C. Alkin and Christina A. Christie (Chapter 2 of *Evaluation Roots Tracing Theorists Views and Influences*) at http://www.sagepub.com/upm-data/5074_Alkin_Chapter_2.pdf.

Experimental Design Randomized

GRP 1: R X O

GRP 2: R O

R=RANDOM

X=TREATMENT (program)

O=MEASUREMENT

QUASI-EXP. DESIGN (Non-Randomized)

N O X O
N O O

(pre & post measurement; plus
control group)

N-non-random

O-observation

X-treatment

EXP. DESIGN

With More than one 'Treatment'

O X(1) O

O X(2) O

(pre-test—post-test)

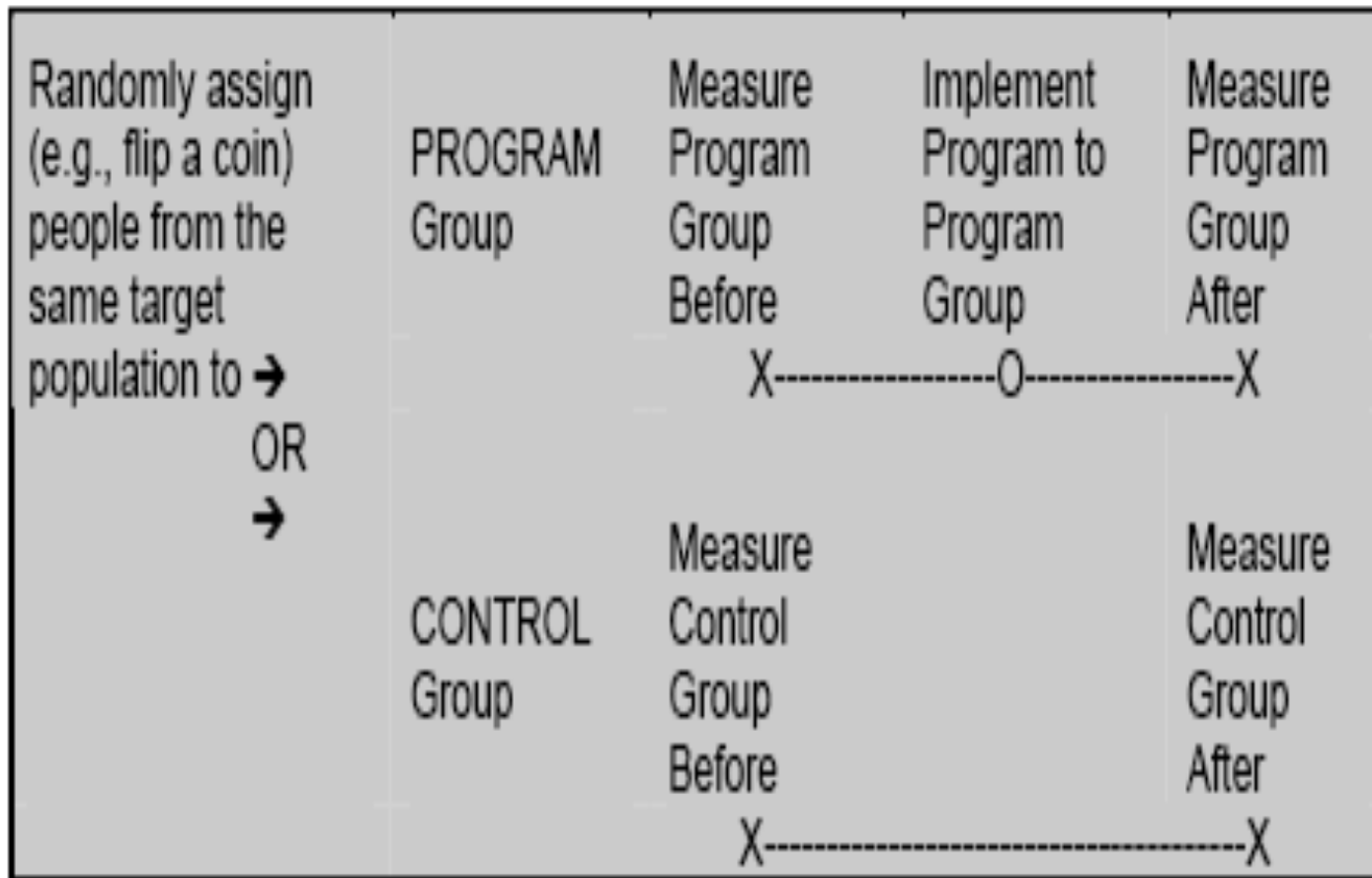
Rand: Getting to Outcomes

- Funded by U.S. Centers for Disease Control and Prevention-CDC
- Focus on programs such as community drug prevention & treatment programs
- http://www.rand.org/pubs/technical_reports/TR101/

Definition of an Outcome Evaluation

An outcome evaluation attempts to document whether or not the program caused an improvement among the participants on certain areas of interest (e.g., drug use, risk and protective factors) and by how much.

Source: Getting to Outcomes 2004, http://www.rand.org/pubs/technical_reports/2004/RAND_TR101.pdf



Source: Getting to Outcomes 2004, http://www.rand.org/pubs/technical_reports/2004/RAND_TR101.pdf

Process Evaluation

The process evaluation showed:	and the outcome evaluation showed:	Then it is likely that staff chose the:
High-quality implementation	Positive outcomes	Appropriate program and program theory
High-quality implementation	Negative outcomes	Inappropriate program and program theory
Poor-quality implementation	Negative outcomes	Appropriate OR Inappropriate program and program theory

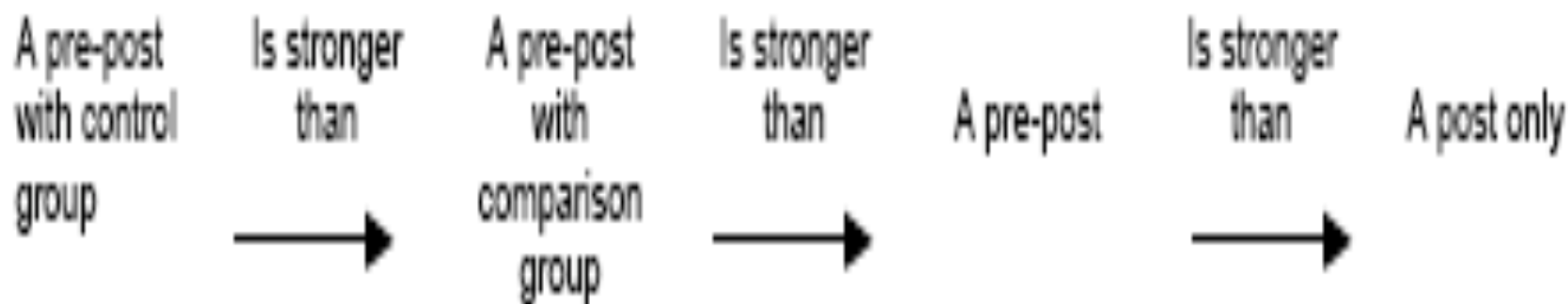
Source: Getting to Outcomes 2004, http://www.rand.org/pubs/technical_reports/2004/RAND_TR101.pdf

Sample Outcome Evaluation Results and Interpretations

If the process evaluation showed:	and the outcome evaluation showed:	A likely interpretation is:
Very low attendance or "dose" for all participants	Positive outcomes	Participants changed on their own NOT due to the program
Very low attendance or "dose" for all participants	Negative outcomes	Participants did not get enough of the program
Very high attendance or "dose" for all participants	Negative outcomes	The program chosen might not be the right one for this target group

Source: Getting to Outcomes 2004, http://www.rand.org/pubs/technical_reports/2004/RAND_TR101.pdf

to just assess change in the target population or see if your target group met criteria for your program, then a Pre-Post (explained below) may be all that is needed. The “strength” of your evaluation design will impact your confidence that the program caused the change (cause and effect relationship).



Source: Getting to Outcomes 2004, http://www.rand.org/pubs/technical_reports/2004/RAND_TR101.pdf

Comparisons of the Common Evaluation Designs

Methods	Pros	Cons	Costs	Expertise Needed to Gather and Use
Post Only	Easy to do, provides some information	Cannot measure change	Inexpensive	Low
Pre-Post	An easy way to measure change	Only moderate confidence that your program caused the change	Moderate	Moderate
Retrospective Pre-Post	Easier than the standard Pre-Post	Only moderate confidence that your program caused the change AND it may be hard for participants to recall how they were at the start	Inexpensive	Low
Pre-Post with Comparison Group	Provides good level of confidence that your program caused the change	Can be hard to find group that is similar to program group	High; doubles the cost of the evaluation	Moderate to high
Pre-Post with Control Group	Provides excellent level of confidence that your program caused the change	Hard to find group willing to be randomly assigned; ethical issues of withholding beneficial program from control participants	High; doubles the cost of the evaluation	High

OUR RECOMMENDATION

Strive to do the Pre-Post with Comparison Group. If that is not possible, than at least do a Pre-Post.

- *Quantitative methods answer who, what, where, and how much. Emphasizing numbers, they target larger groups of people and are more structured and standardized (this means the same exact procedure is used with each person) than qualitative methods.*
- *Qualitative methods answer why and how and usually involve talking to or observing people. Emphasizing words instead of numbers, qualitative methods present the challenge of organizing the thoughts and beliefs of those who participate into themes. Qualitative evaluations usually target fewer people than quantitative methods.*

High/Scope Perry Preschool Study

Lifetime Effects: The High/Scope Perry Preschool Study Through Age 40 (2005)

This study — perhaps the most well-known of all High/Scope research efforts — examines the lives of 123 African Americans born in poverty and at high risk of failing in school.

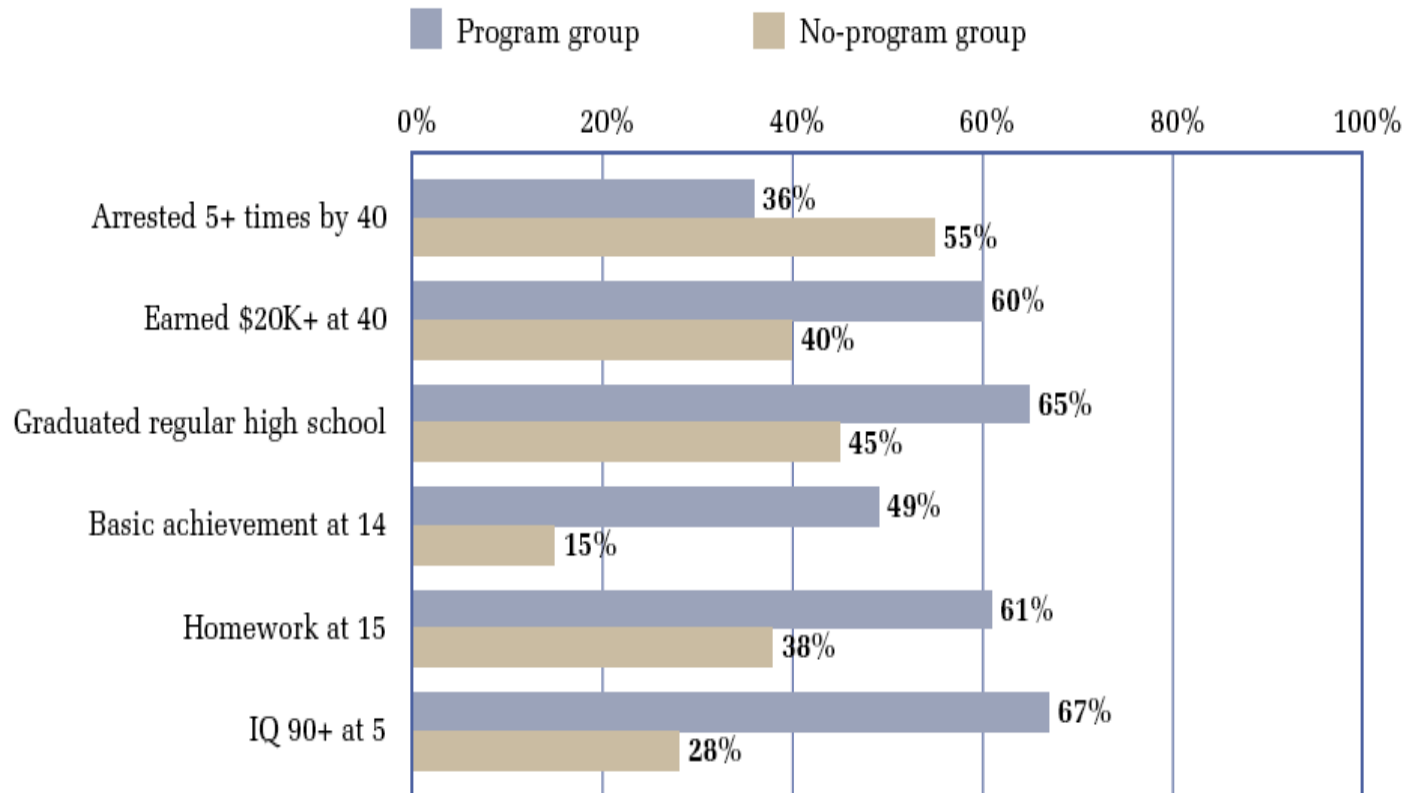
See <http://highscope.org/Content.asp?ContentId=219>
for a full description of the study.

High/Scope Goal & Design

For more about the High/Scope Experiment Goal & Design see the “Lifetime Effects: The High/Scope Perry Preschool Study Through Age 40” at

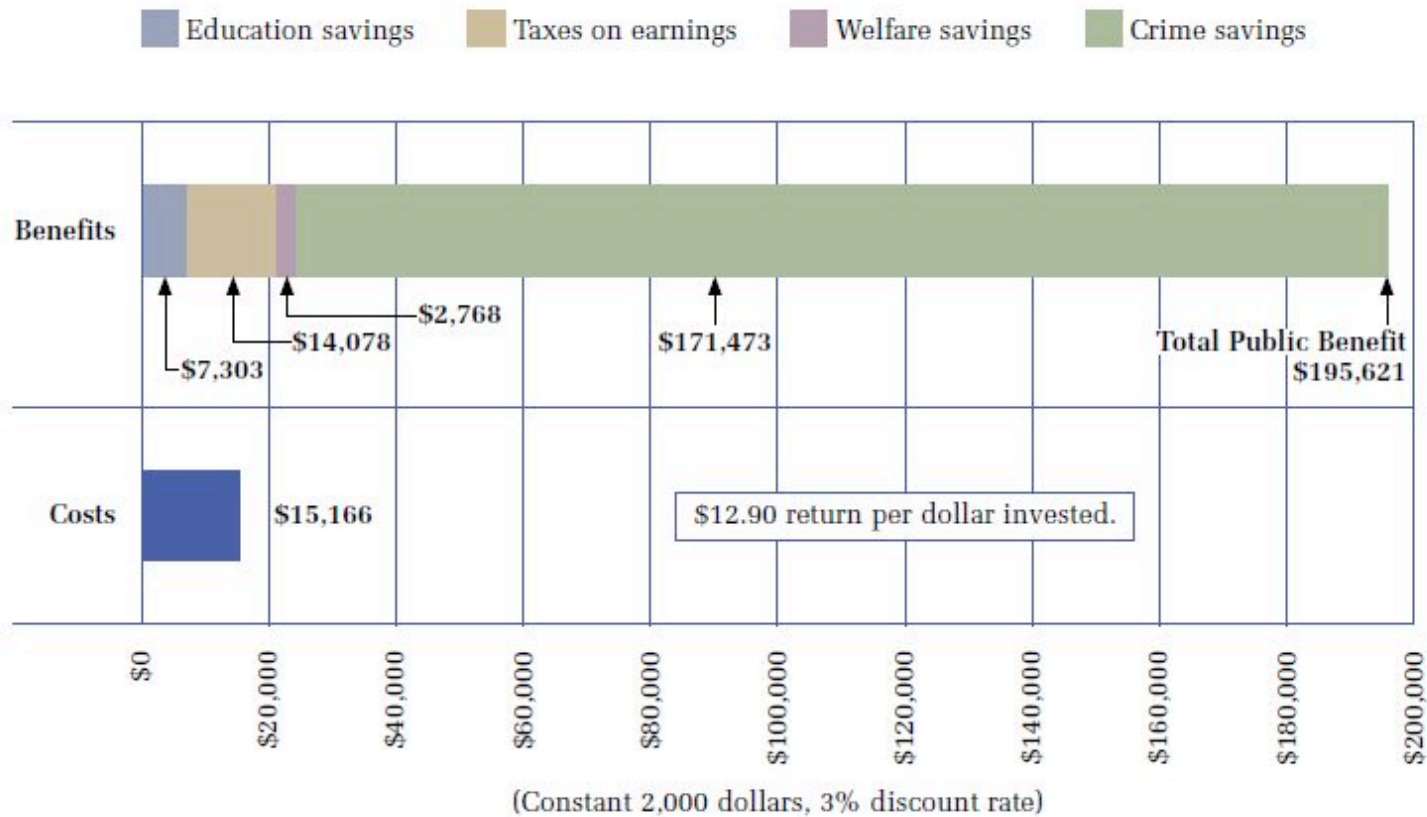
http://www.strategiesforchildren.org/eea/6research_summaries/05_HighScope.pdf

Major Findings: High/Scope Perry Preschool Study at 40



Source: http://www.highscope.org/file/Research/PerryProject/3_specialsummary%20col%2006%2007.pdf

Figure 2
 High/Scope Perry Preschool Program Public Costs and Benefits



Source: http://www.highscope.org/file/Research/PerryProject/3_specialsummary%20col%2006%2007.pdf

Patton Ch 10

- Conceptualizing the Intervention: Alternatives for Evaluating Theories of Change

Outcome Study Examples

- Washtenaw Literacy: Ripples of Impact HLLH Ch 9
- Empowering Youth: PL youth technology HLLH 10
- Community Info Services: HLLH Ch 11
- Senior Book Deposit Program HLLH Ch 12
- C-Tools Sample Final Reports
 - LBPD Report
 - OSLIS (Oregon School Library Info System)
 - A2-Ypsi Community Read Partnerships

623 Projects: Design & Data Collection Plan

- Ann Arbor District Library Programming Partnerships
- Ypsilanti District Library Public Programs
- Chelsea Programming Partnerships
- Canton PL Books by Mail Service
- Canton PL Teen Programs
- CEW Women of Color TF Annual Career Conference
- Eastern Michigan University Academic Projects Center
- EMU Information Literacy Project
- Lakewood Elementary School Media Center
- Chelsea DL 6-11 Club after school program
- Community Action Network Homework Help Programs