CONTRASTS AND EFFECT SIZE
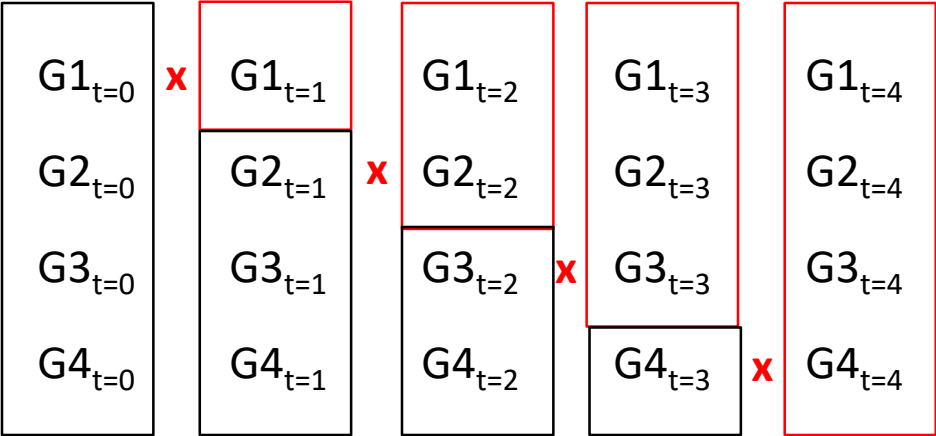
*Lecy   *   CPP 524*

CASE STUDY FROM READINGS

Bingham, R., & Felbinger, C. (2002). Evaluation in practice: A methodological approach. CQ Press.
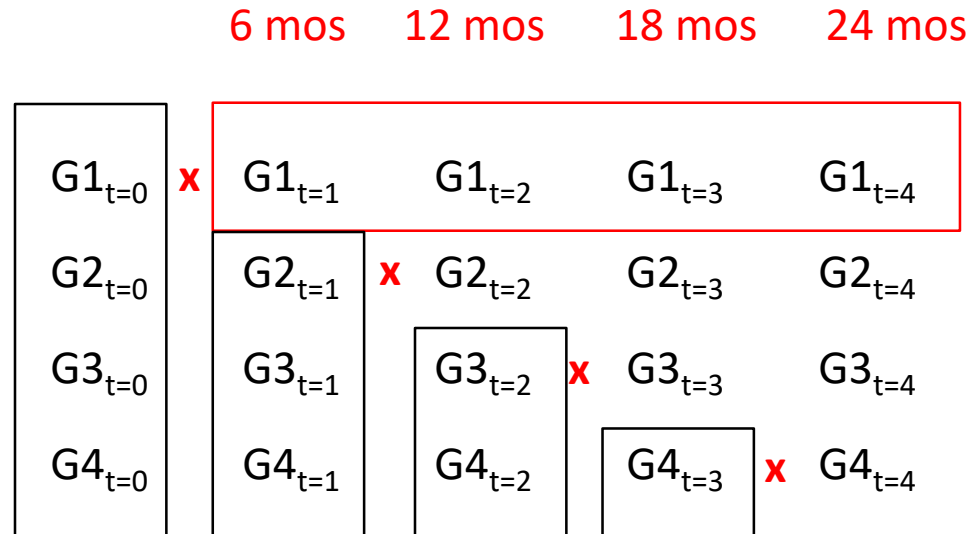CH-05: Improving Cognitive Ability in Chronically Deprived Children [pdf]

Identify the treatment and control groups

Treatment Groups

$G1_{t=0}$ **x**	$G1_{t=1}$	$G1_{t=2}$	$G1_{t=3}$	$G1_{t=4}$
$G2_{t=0}$	$G2_{t=1}$ **x**	$G2_{t=2}$	$G2_{t=3}$	$G2_{t=4}$
$G3_{t=0}$	$G3_{t=1}$	$G3_{t=2}$ **x**	$G3_{t=3}$	$G3_{t=4}$
$G4_{t=0}$	$G4_{t=1}$	$G4_{t=2}$	$G4_{t=3}$ **x**	$G4_{t=4}$

Control Groups

TREATMENT DOSAGE (PROGRAM DURATION)

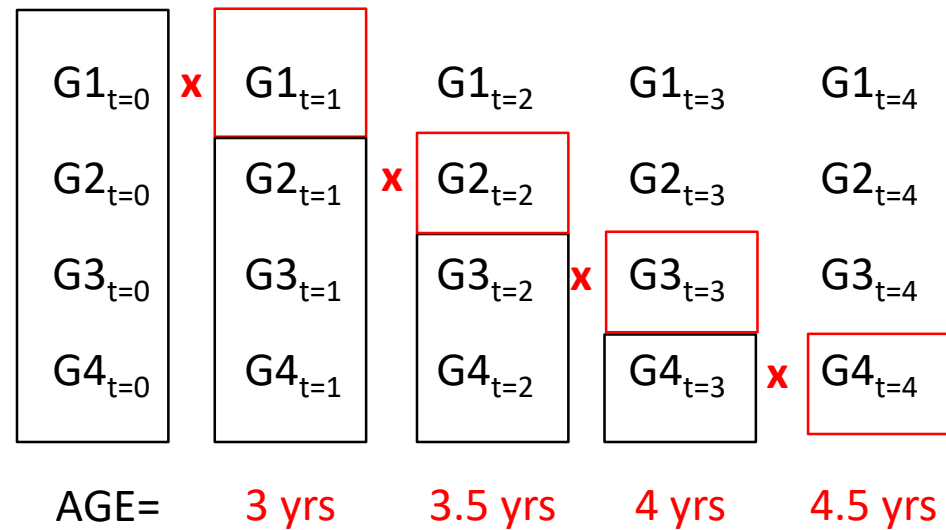|	6 mos	12 mos	18 mos	24 mos
$G1_{t=0}$ **x**	$G1_{t=1}$	$G1_{t=2}$	$G1_{t=3}$	$G1_{t=4}$
$G2_{t=0}$	$G2_{t=1}$ **x**	$G2_{t=2}$	$G2_{t=3}$	$G2_{t=4}$
$G3_{t=0}$	$G3_{t=1}$	$G3_{t=2}$ **x**	$G3_{t=3}$	$G3_{t=4}$
$G4_{t=0}$	$G4_{t=1}$	$G4_{t=2}$	$G4_{t=3}$ **x**	$G4_{t=4}$

Control Groups – no treatment

TREATMENT DOSAGE (PROGRAM DURATION)

6 months vs 0 months
but conditioned on
AGE children start the program

$G1_{t=0}$	**x**	$G1_{t=1}$	$G1_{t=2}$	$G1_{t=3}$	$G1_{t=4}$
$G2_{t=0}$		$G2_{t=1}$ **x**	$G2_{t=2}$	$G2_{t=3}$	$G2_{t=4}$
$G3_{t=0}$		$G3_{t=1}$	$G3_{t=2}$ **x**	$G3_{t=3}$	$G3_{t=4}$
$G4_{t=0}$		$G4_{t=1}$	$G4_{t=2}$	$G4_{t=3}$ **x**	$G4_{t=4}$

AGE=   3 yrs   3.5 yrs   4 yrs   4.5 yrs

Control Groups – no treatment

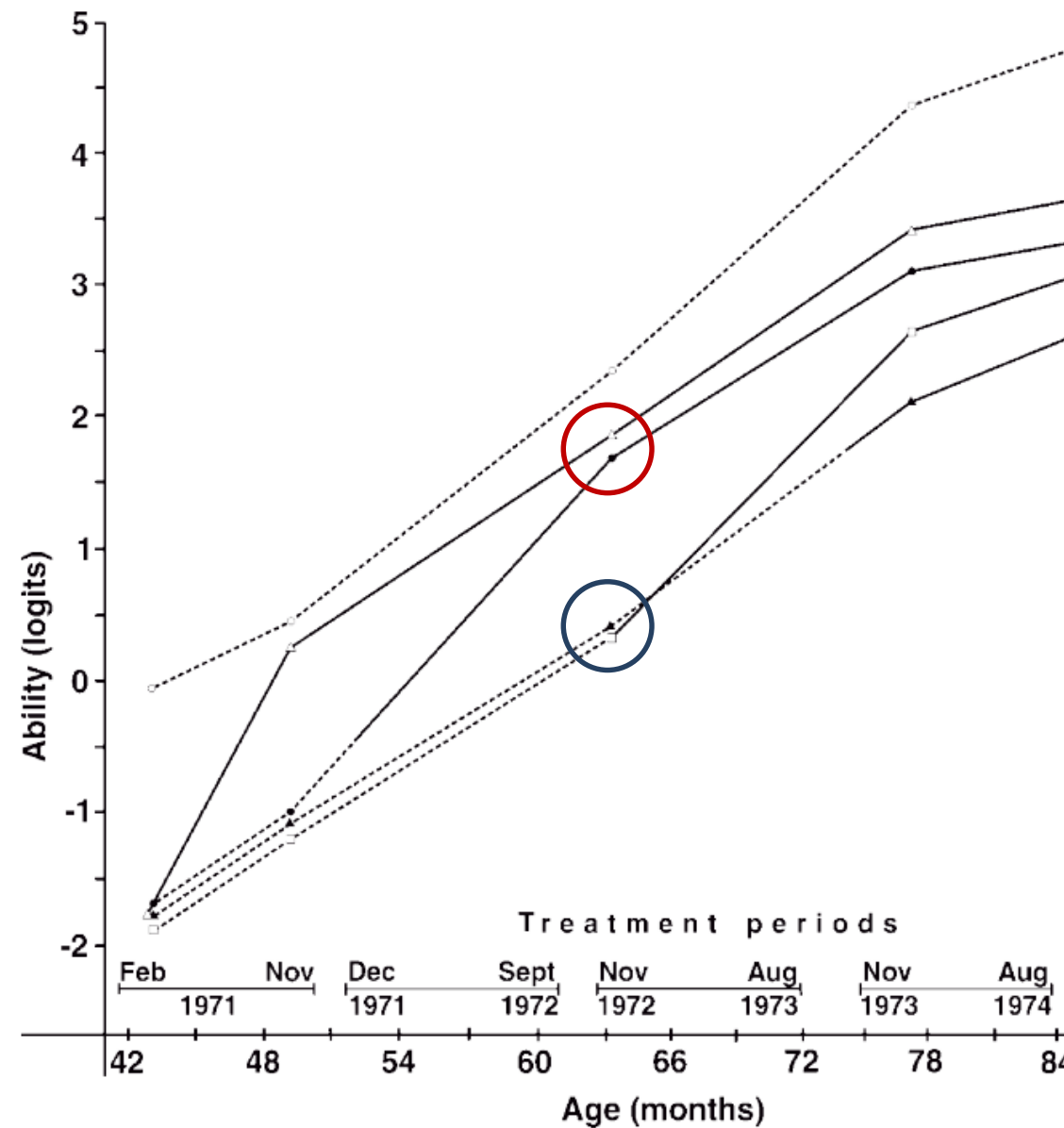# TREATMENT DOSAGE (PROGRAM DURATION)

G1 = 12 months
G2 = 6 months

Pooled G1+G2 would represent outcome after 9 months of treatment

Might pool data to increase statistical power

$G1_{t=0}$ **x** $G1_{t=1}$ $G1_{t=2}$

$G2_{t=0}$ $G2_{t=1}$ **x** $G2_{t=2}$

$G3_{t=0}$ $G3_{t=1}$ $G3_{t=2}$ **x**

$G4_{t=0}$ $G4_{t=1}$ $G4_{t=2}$

Control Group – no treatment

Specific tests: treatment gains for late treatment?

DISCUSSION QUESTIONS:

1. Is this an RCT? Do we have an identical "control group"?

2. What role does the high SES group perform?

3. Why do we have four treatment groups?

4. What outcome is measured here? Is it valid and reliable?

5. How would I test whether two treatment periods has the same impact as three periods, but is more cost-effective?

6. Can you identify a weakness in the design or a threat to validity?