

Discussion
 Section (week
 of 24-28 Apr
 2017)

Discussion Section
 2 p. R - (29) + (31)

AMS7
 24 Apr 17

problem 4 (9)

①
 1 if complete relief
 0 not
 Y = outcome
 = amount of relief from
 headache p.p.s

X = treatment variable

T = acupuncture

C = conventional

pain relief under
 conventional | acupuncture

person#	conventional	acupuncture
1	0	1
2	0	0
3	0	1
⋮	⋮	⋮
⋮	⋮	⋮

this is a repeated-
 measures design

$n = 31$

mean
 0%

mean $\frac{30}{31}$
 $\approx 97\%$

randomize
 order of
 T vs. C
 conditions

not here

not trouble
 here

patients not blinded to

experimenter not blinded
 either

exp. condition

pop
 of
 relevant
 patients

like
 +
 random

experimental
 subjects

several ^{potential} biases present here; estimated ⁽²⁾ improvement of 97% not likely to be a good estimate of results if experiment were repeated carefully from a scientific point of view.

4(b)



Y = outcome = survival % after 3 years

X = treatment:

T = ABG (n=100)

C = conventional (n=200)

this is something like a 2 groups judgmental - allocation controlled trial in which Dr. Allgot hand-picked his \textcircled{T} people.

this difference is highly practically

\textcircled{T}	\textcircled{C}
98%	68%
survival	survival

significant, BUT

98% - 68% = +30% is almost certainly ⁽³⁾ sharply biased on the high side as an estimate of what a correctly-run RCT would find

Q: Why? A: Dr. U. chose the healthiest patients he could to maximize their chance of surviving the surgery

(5) Person 1's cause & effect conclusion:
if ^A eat cottage cheese → ^B gain weight

if healthier people do ~~eat~~ eat cottage cheese, this does establish ~~an~~ a positive association between A & B

(but)

association \neq causation

if A, B assoc., $A \xrightarrow{\text{causes}} B$ & $B \xrightarrow{\text{causes}} A$ are both valid possibilities

7.

pop. all deer to which I wish to give a life

Design 1

experimental deer

4

life at random

n=80

+ random 40

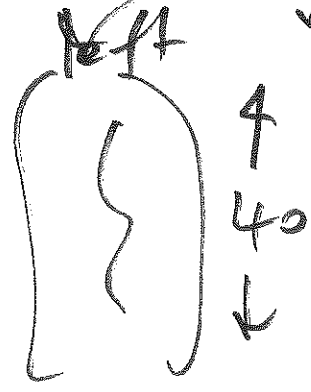
measure left fore leg

40 at random

left hind leg

some va life

different deer



near \bar{y}_{left}



near \bar{y}_{right}

Valid!

yes

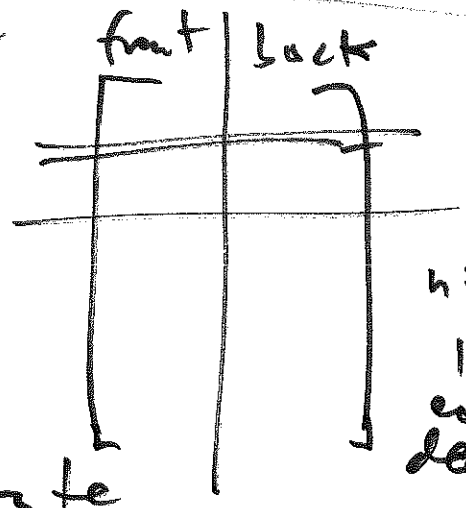
some

Design 2

exp. deer

n=80

some



n=80 for each deer

also valid but

likely to be more accurate because (repeated measures) (star view)

holding entire deer constant in the front vs. back → 8

repeated measures