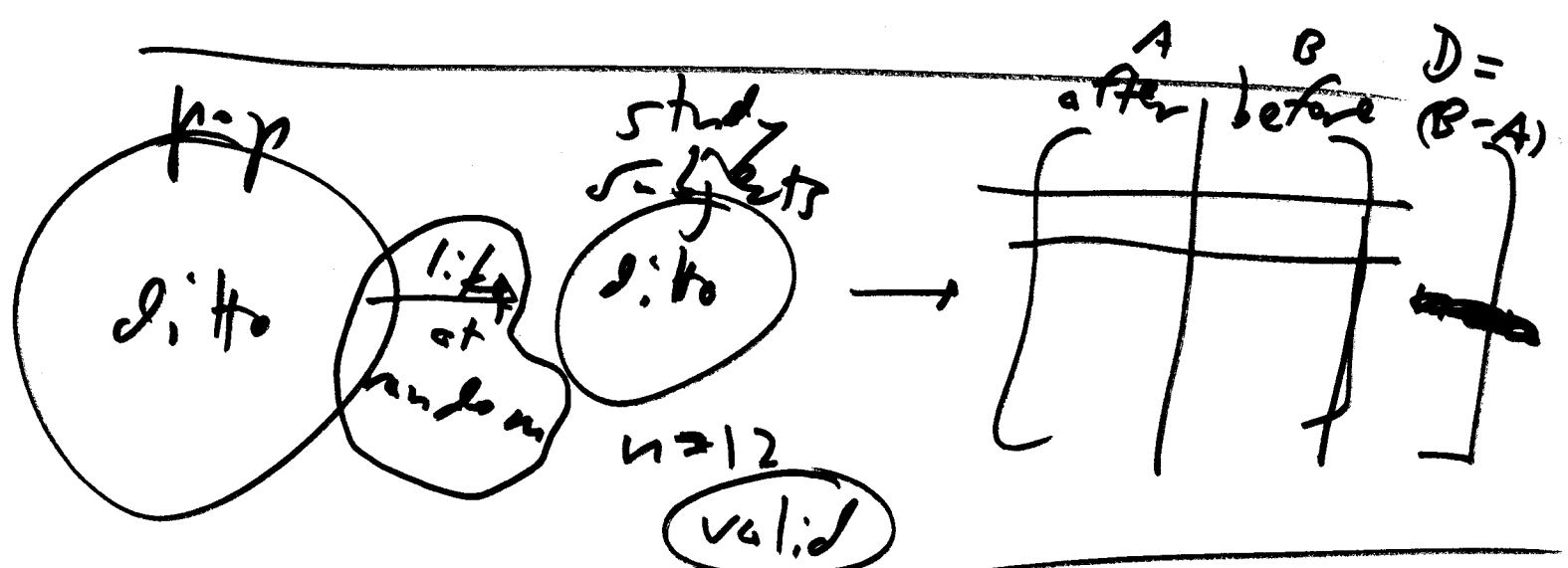


STAT 131
 5 Jun 20
 DD extra
 office
 1.5 hour
 session

completely randomized experiment ①



repeated-measures
design

descriptive methods
 (graphical,
 numerical)

↑
 hist.,
 scatterplot

↑
 mean,
 SD

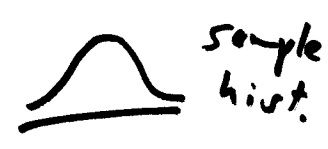
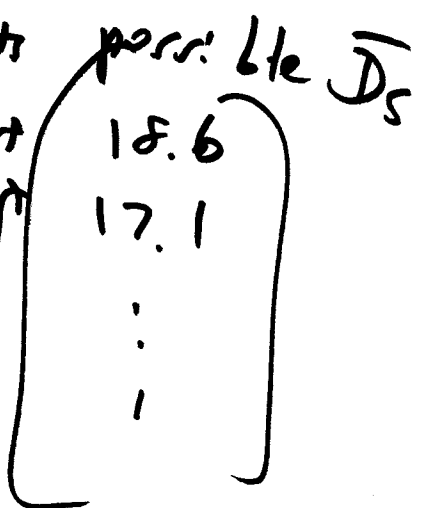
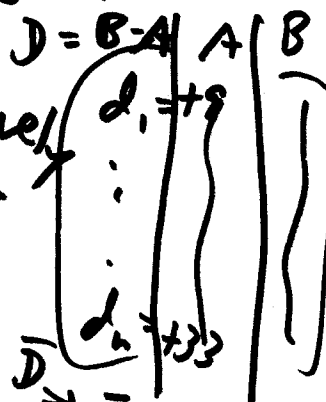
population
all British adult
hypertensive patients
in mid 1970s

sample
the observed
hypertensive patients

repeated
sampling
dataset



representative
actual
like
IID



mean $\bar{D} = ?$
(ex. 17.1)

hyp. IID
pop
of D_i

the population represents the broadest ③
 scope of valid generalizability
 outward from your sample

inferential summary

unknown pop. quantity of main interest	$\Delta =$ pop. mean improvement + in s.d.p. under Captopril
estimate of Δ	$\bar{d} = 15.6 \text{ mm Hg}$
size or tate for \bar{d} or s.t. of Δ	
99.9% <u>CI</u> for Δ	

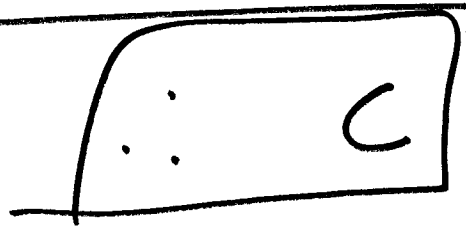
confidence interval

with If A then C
 ↑ assumptions ↑ conclusions / consequences

best
meth
as
offer
in practical
problem-
solving

If A_1 then C
 A_2 C
 \vdots
 A_k C

$\{A_1, \dots, A_k\}$ are the only assumption sets reasonably motivated by problem context



how accurate is \bar{D} as est of Δ ?

want $\xrightarrow{\text{r.v.}}$

$$P\left(|\bar{D} - \Delta| \leq \text{"small"}\right) = \text{big (close to 1)}$$

$\xrightarrow{\text{frequentist}}$ \nwarrow want small