This or That?
Language and Notation

ICE CREAM FLAVOR

Vanilla

OR

Chocolate

Results: _____ % (or short list of names under each side?

PERFORM IT RIGHT NOW

Roll Over

OR

Cartwheel

Results: _____ % (or short list of names under each side?

Population Mean Parameter

- μ (mū)

Notation for Sample Mean

$\hat{\mu}$ (mū – hat) **OR** $\bar{x}$ (x-bar)

Results: _____ % (or short list of names under each side?

Population Standard Deviation Parameter

$\dot{\sigma}$ (sigma)

Population Standard Deviation Parameter

$\dot{\sigma}$ (sigma)

The SIGMA Story

By Brady West

Notation for Sample Standard Deviation

$\hat{\sigma}$ (sigma – hat) **OR** s

Results: _____ % (or short list of names under each side?

Notation for Proportions

π and $\hat{\pi}$ **OR** p and $\hat{p}$

Results: _____ % (or short list of names under each side?

Confidence Interval Idea

Best Estimate ± Margin of Error

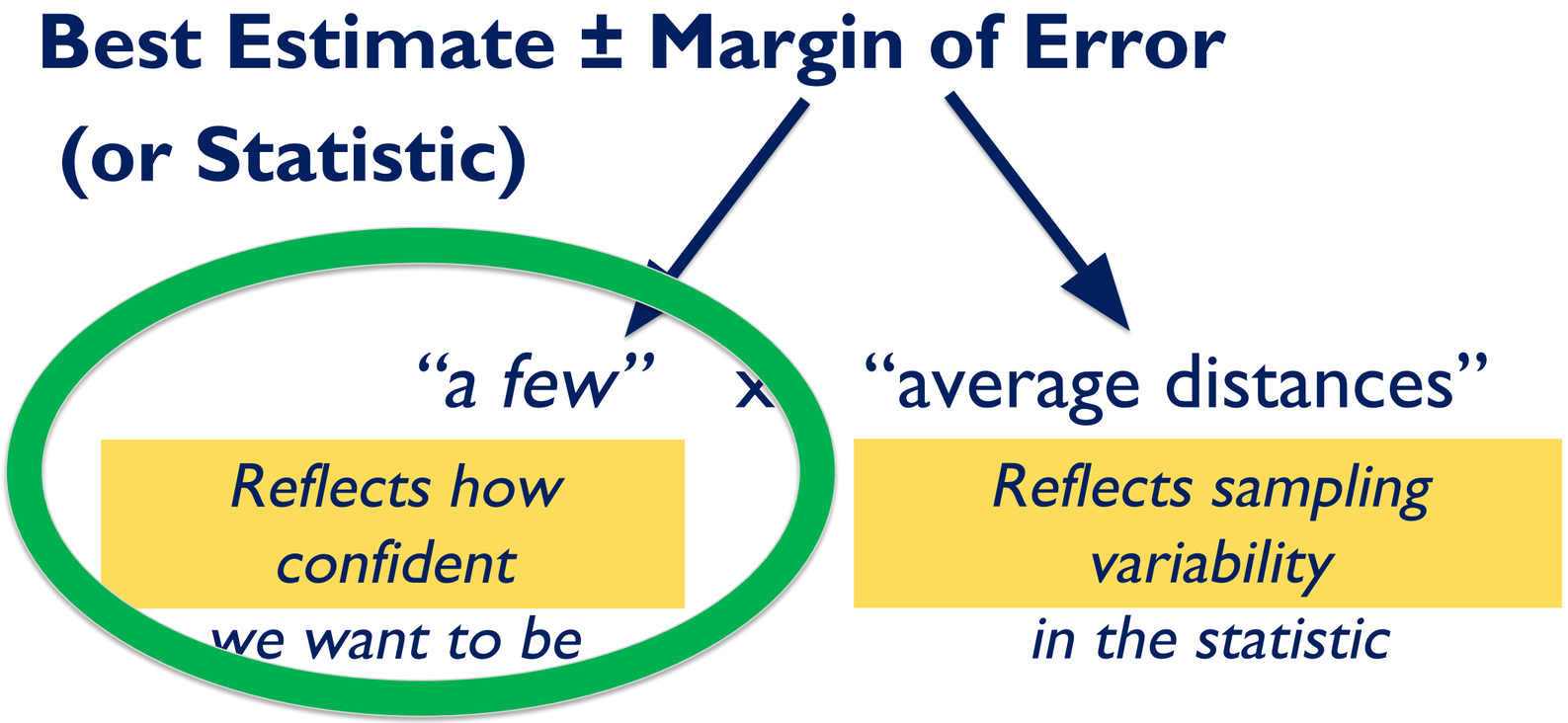
(or Statistic)

"a few" x "average distances"

Reflects how confident we want to be

Reflects sampling variability in the statistic

Confidence Interval Idea



“Few” Multiplier for 95% confidence

1.96 **OR** 2

Results: _____ % (or short list of names under each side?

Confidence Interval Idea

Best Estimate ± Margin of Error

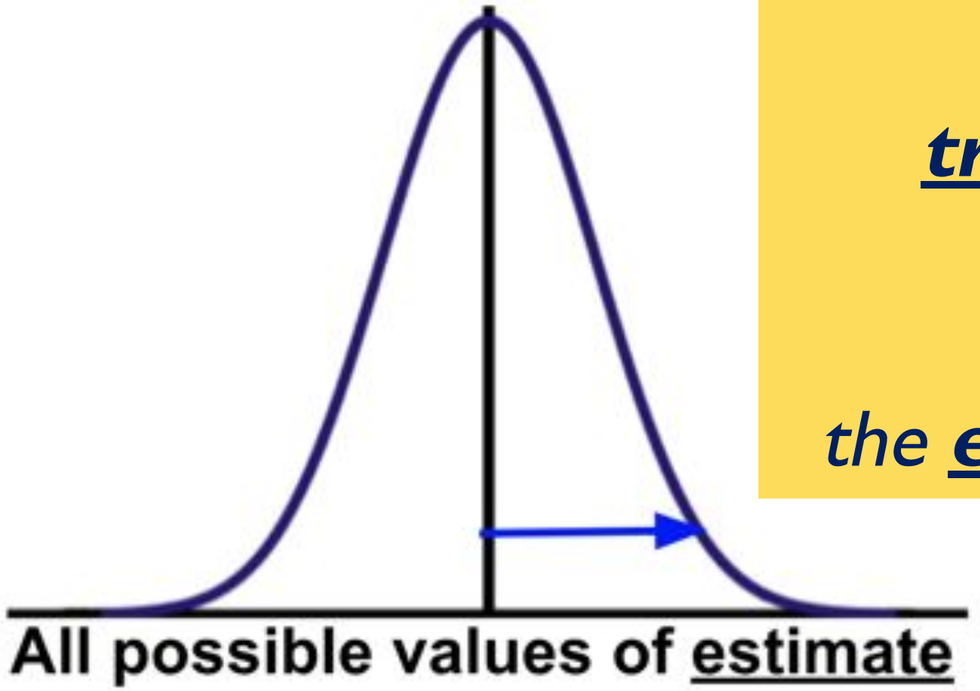
(or Statistic)

"a few" x "average distances"

Reflects how confident we want to be

Reflects sampling variability in the statistic

Sampling Variability of the Estimate (Statistic)



What do we call this
***true* variability measure?**
AND
What is the name for
the ***estimate* of this variability?**

1) True Variability and 2) its Estimate

1) Standard Error
   of the statistic
   and
2) Estimated Standard Error
   of the statistic

OR

1) Standard Deviation
   of the statistic
   and
2) Standard Error
   of the statistic

Results: _____ % (or short list of names under each side?

1) True Variability and 2) its Estimate

1) Standard Error
of the statistic
and
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OR

1) Standard Deviation
of the statistic
and
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of the statistic

Results: _____ % (or short list of names under each side?

Statistical Notation and Terminology

- Not everyone may agree
  but consistency with definitions **ok**
- Helpful for efficiency and understanding statistical output and technical reports
- Using words, being able to provide appropriate interpretations **most important**