



UNIVERSITY OF
MICHIGAN

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

σ (sigma)

Population Standard Deviation Parameter

σ (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 \pm Margin of Error
(or Statistic)

“a few” x *“average distances”*

*Reflects how
confident*

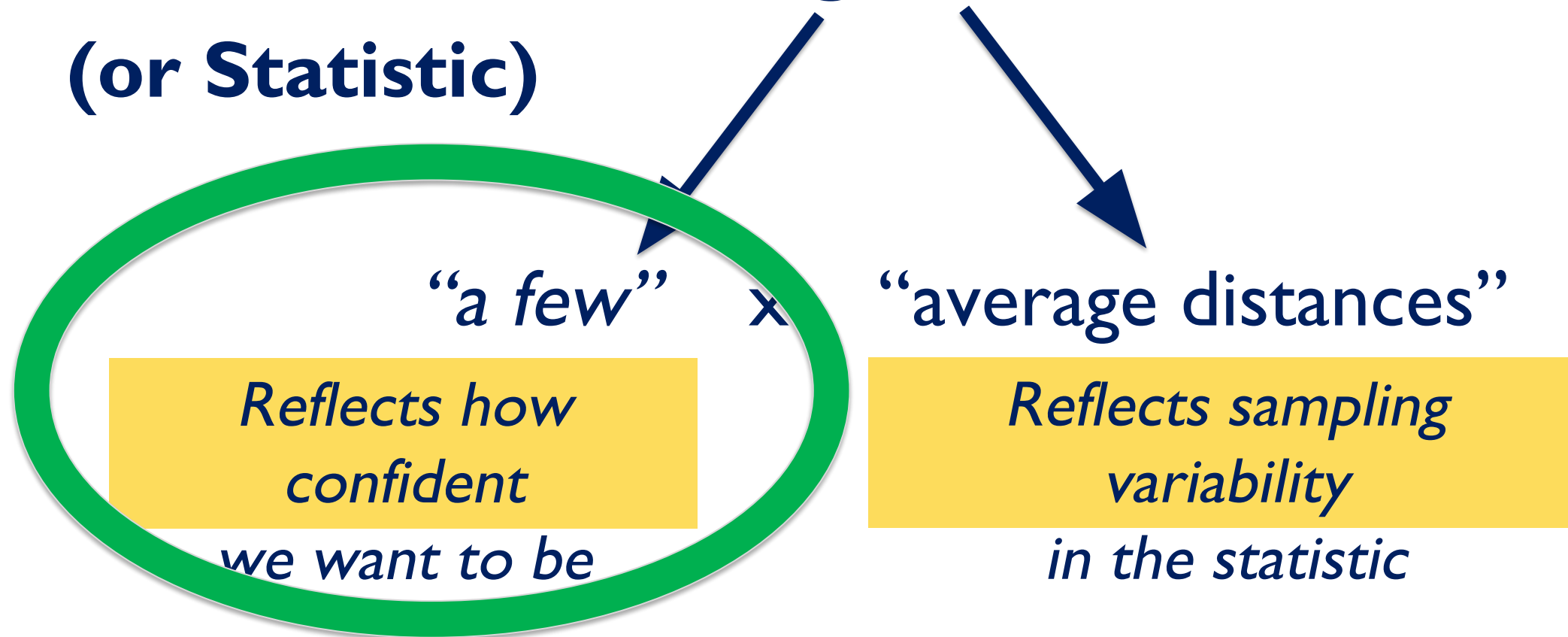
we want to be

*Reflects sampling
variability*

in the statistic

Confidence Interval Idea

**Best Estimate \pm Margin of Error
(or Statistic)**



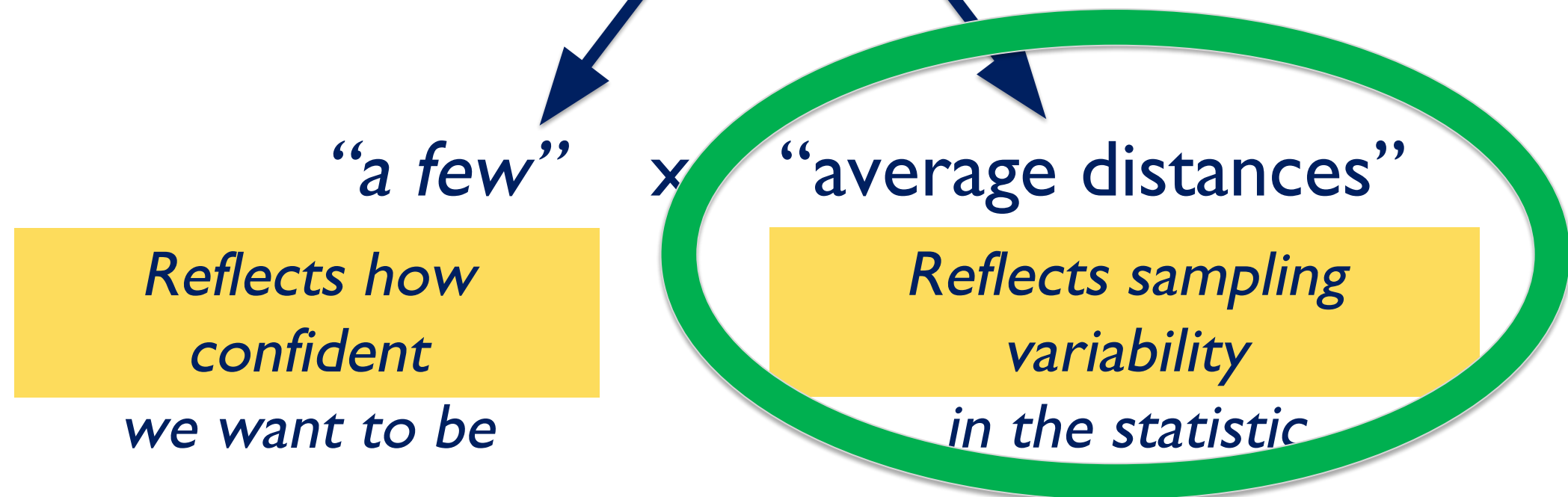
“Few” Multiplier for 95% confidence

1.96 OR 2

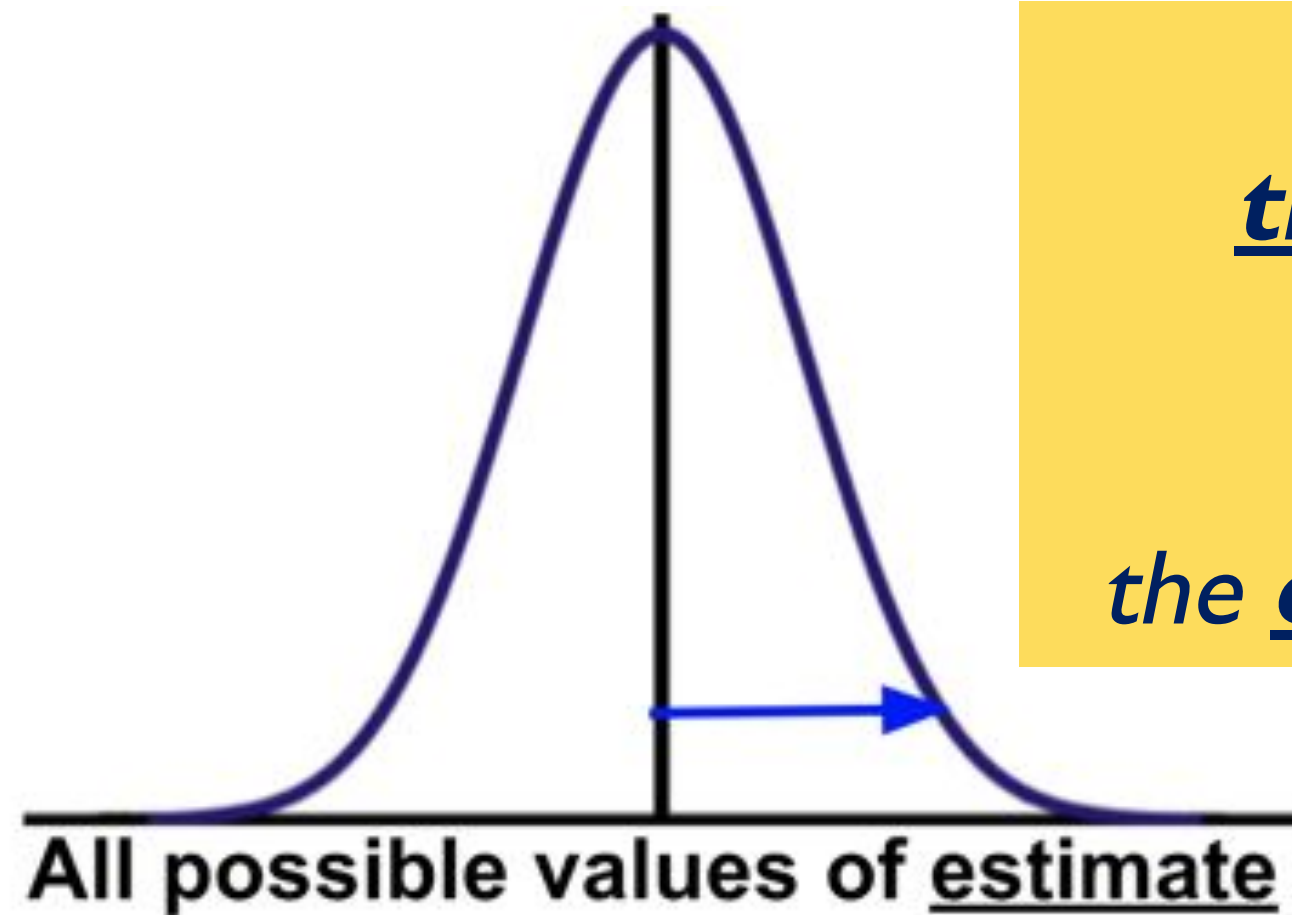
Results: _____ % (or short list of names under each side?)

Confidence Interval Idea

**Best Estimate \pm Margin of Error
(or 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

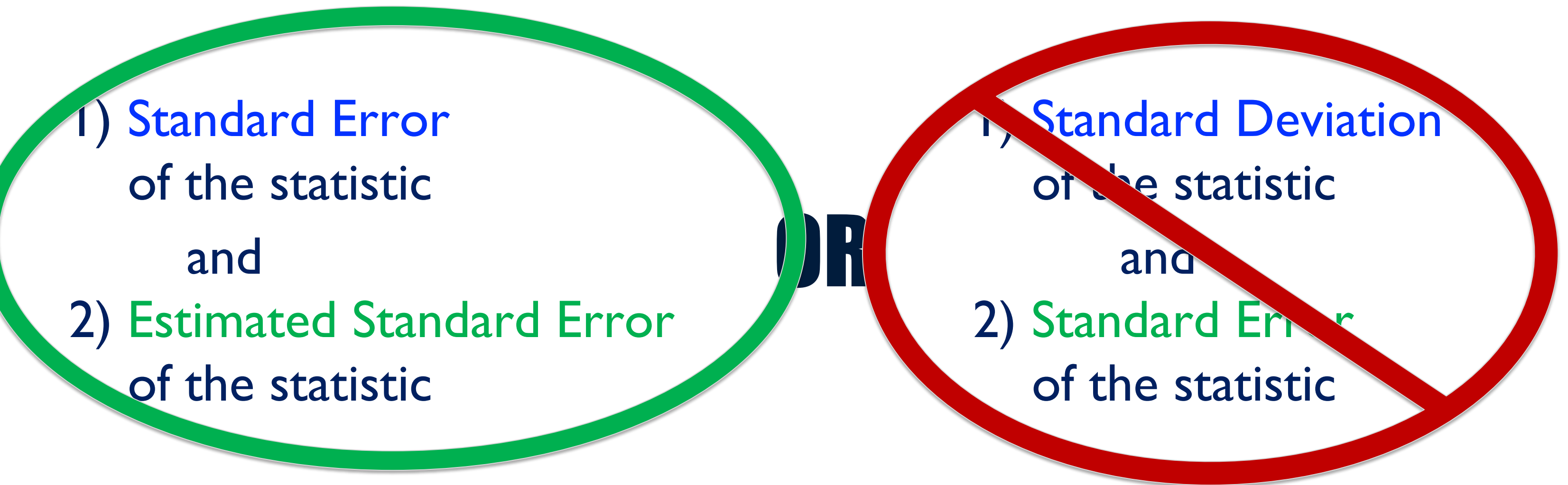
OR

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



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**