
Inference for Distributions

Inference for the Mean of a Population

Section 7.1

Statistical inference in practice

Emphasis turns from statistical reasoning to statistical practice:

- Population standard deviation, σ , unknown.
- Inference on μ and comparisons of μ between populations

Example: Cola sweetness

Does storage reduce the sweetness of cola? The loss in sweetness after storage is measured by a random sample of $n = 10$ professional tasters.

2.0 0.4 0.7 2.0 -0.4 2.2 -1.3 1.2 1.1 2.3

Want to test $H_0: \mu = 0$ versus $H_a: \mu > 0$

- Use of the one-sample z test requires knowledge of σ
- We have the estimate $s = 1.196$ of σ , but this introduces additional random variability
 - Can't ignore since n is small.