Section 5.5: Small-sample situation: Student's t distribution

Friday, June 12, 2015
9:09 AM

what if your sample size is small?

- either the availability of data is restricted (studying large-magnitude earthquakes)

- or practical considerations limit the amount of data you are willing to take

(cost of radiocarbon dating: $10,000 per sample)

(length of time per measurement)

when can you use the normal distribution?

$\bar{x}$

$z = \frac{x-\mu}{\sigma/\sqrt{n}}$

} normally distributed if

either

① original population you are sampling from is itself normally distributed (then sample size doesn't matter)

usual scenario {

② original population is not normal but sample size ≥ 30

conclusion: if n is small ($n < 30$) and distribution is non-normal or unknown.

cannot use normal dist!