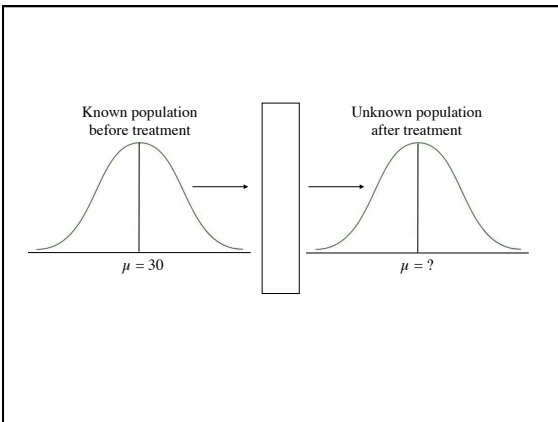


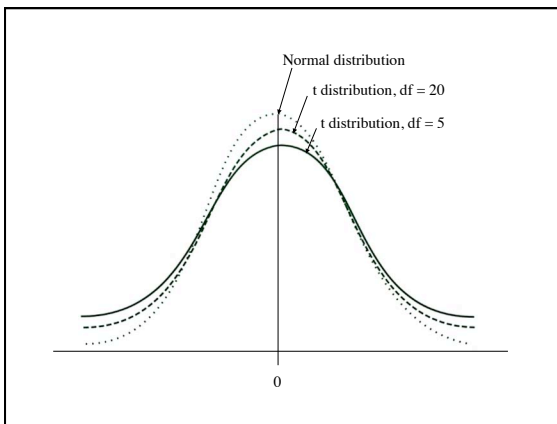
Chapter 9: Introduction to the t statistic



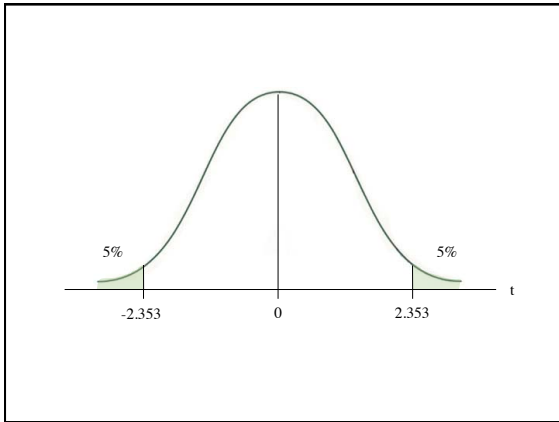
$$z = \frac{\bar{X} - \mu}{\sigma_{\bar{X}}}$$

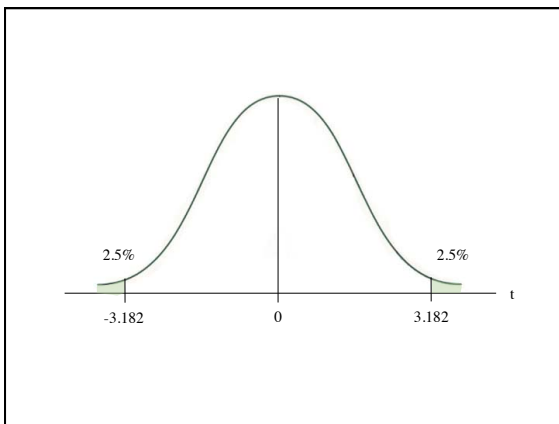
$$t = \frac{\bar{X} - \mu}{S_{\bar{X}}}$$

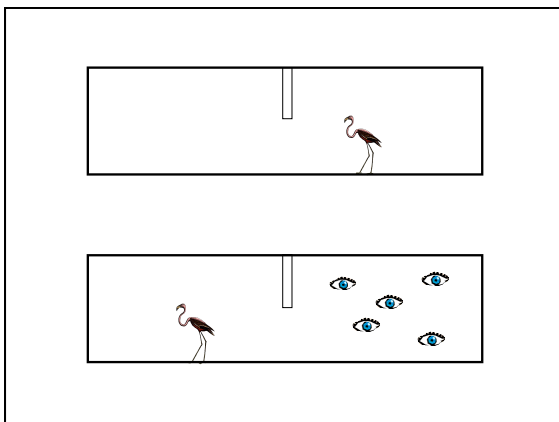
1. State the hypotheses:
 - e.g. $H_0 : \mu = 25$
 $H_1 : \mu \neq 25$
 $\alpha = .01$
2. Set the criteria for decision
3. Collect sample data and compute sample statistic
4. Decision (retain / reject H_0)
5. Conclusion

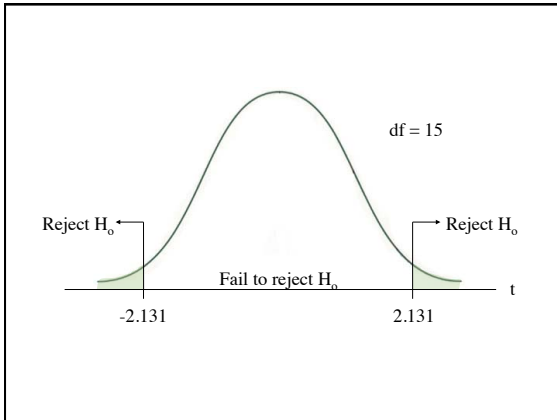


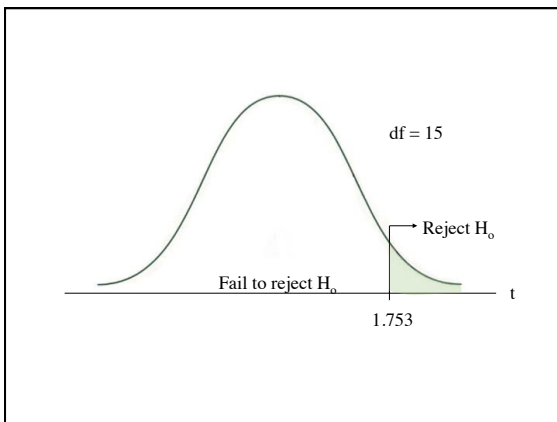
		Proportion in One Tail					
		0.25	0.10	0.05	0.025	0.01	0.005
df		Proportion in Two Tails					
		0.50	0.20	0.10	0.05	0.02	0.01
1	1.000	3.078	6.314	12.706	31.821	63.657	
2	0.816	1.886	2.920	4.303	6.965	9.925	
3	0.765	1.638	2.353	3.182	4.541	5.841	
4	0.741	1.533	2.132	2.776	3.747	4.604	
5	0.727	1.476	2.015	2.571	3.365	4.032	
6	0.718	1.440	1.943	2.447	3.143	3.707	











Assumptions of t test

1. Values in sample must consist of independent observations
2. Population sampled must be normal

Advantages of t statistic

1. You do not need to know the σ (standard deviation) of the population
2. Use in situations where we do not have a “known” population to serve as a before treatment standard
3. H_0 can come from theory, prediction, or whatever
