

# Hypothesis Test Conclusions Claim and Evidence!

Conclusion	(Evidence) Low P-value	Unbiased Sample Data!	(Not Evidence) High P-value
Claim $H_0$	Significant Evidence to Reject Claim.		Not Significant Evidence to Reject claim.
Claim $H_A$	Significant Evidence to Support Claim.		Not Significant Evidence to Support Claim.

P-value less than or equal to Sig. Level  $\Rightarrow$  Reject  $H_0$   $\Rightarrow$  Support  $H_A$   
Evidence Evidence

P-value more than Sig Level  $\Rightarrow$  Fail to reject  $H_0$   $\Rightarrow$  Not evidence to Support  $H_A$   
(No evidence to reject  $H_0$ )

Ex: <sup>Pop. mean</sup> Body Temperature  
 $H_0: \mu = 98.6^\circ\text{F}$   
 $H_A: \mu < 98.6^\circ\text{F}$  (claim)  
 P-value = 0.0014 (0.14%)  
 Sig Level  $\alpha = 0.05$  (5%)  
 Assume met Assumptions  
 Low P-value  
 Claim  $H_A$

"There is significant evidence to support the claim that the pop. mean normal body temp. is less than  $98.6^\circ\text{F}$ ."

Ex: <sup>Pop. %</sup> Stat Students Not Eat Breakfast  
 $H_0: \pi = 0.4$  (claim)  
 $H_A: \pi \neq 0.4$   
 P-value = 0.7020 (70.2%)  
 Sig Level  $\alpha = 0.10$  (10%)  
 Assume met Assumptions  
 High P-value  
 Claim  $H_0$

"There is not significant evidence to reject the claim that the pop % of stat students at CUC is 40%."