

Objectives

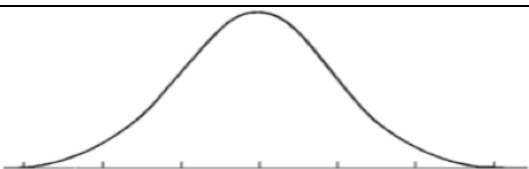
Learn how Confidence Intervals and Hypotheses Tests associate.

W.Up Read the introduction of Ch 20 and answer listed below questions.

What is the new motorcycle helmet law in Florida?	
What is the researchers' new strategy to conduct a survey toward new riders?	
Compare before/after new law, calculate %s of young riders wearing helmets.	

As a review, let's look at the helmet law example from the chapter opener. Did helmet wearing among young riders decrease after the law allowed older riders to ride without helmets? What is the evidence?

Question: Has helmet use in Florida declined among riders under the age of 21 subsequent to the change in the helmet laws?

State null and alternative hypotheses.	
Check the conditions	
Calculate standard deviation of sampling model.	
Find the z-score of observed score.	
Indicate above onto the normal model. Show its P-value.	
Conclusion:	

The P-value in the helmet example is quite small—less than 0.001. That's strong evidence to suggest that the rate has decreased since the law was changed. But it doesn't say that it was "a lot lower." To answer that question, you'd need to construct a confidence interval:

(using 95% confidence).

$$\hat{p} \pm z^* \sqrt{\frac{\hat{p}\hat{q}}{n}} =$$

Statement based on confidence interval :

What to Do with a Small P-Value	
What to Do with a High P-Value	