Key Measure In Hypothesis Testing

A lesson on the fundamental concepts in statistics, focusing on confidence level, significance level, and p-value.

Confidence Level

- The confidence level is a measure of how sure you can be about your statistical results.

- It is often used in hypothesis testing.

- For example, if you say, 'I'm 95% confident there are between 100 and 200 jelly beans in the jar,' you're using a confidence level.

- The 95% part means that if you were to guess many times, using the same method, you would expect to be right about the range 95 times out of 100.

- Having a confidence level allows some room for doubt.

Significance Level (α)

- The significance level, often denoted by α (alpha), is like setting a threshold for how much doubt you're willing to accept in your results.
- It determines whether the evidence you have is strong enough to conclude something significant.
- For example, if your α is 0.05 (or 5%), it means you'll only believe you're wrong about your guess if there's less than a 5% chance of making a mistake.
- The significance level is the cutoff point for accepting or rejecting a hypothesis.
- If the chance of being wrong is lower than the significance level, you take your findings seriously.

P-value

- The pvalue is the calculated probability value that you find after performing a statistical test on data.
- It tells you the actual probability of being wrong if you accept your alternative hypothesis.
- The p value helps you evaluate the strength of your evidence.
- If the p value is below the significance level, it suggests strong evidence against the null hypothesis.
- Understanding the p value is crucial in hypothesis testing and drawing conclusions.

Thank you for your time 😊