

MODULE 6 LIVE LECTURE

INFERENTIAL STATISTICS AND ANALYTICS

INFERENCEAL STATISTICS AND ANALYTICS-MODULE 6 LIVE LECTURE

- ▶ Module 6 The Chi-Square tests
- ▶ Module 6 Final Exam
- ▶ Module 6 Live classroom Grading
- ▶ Summary

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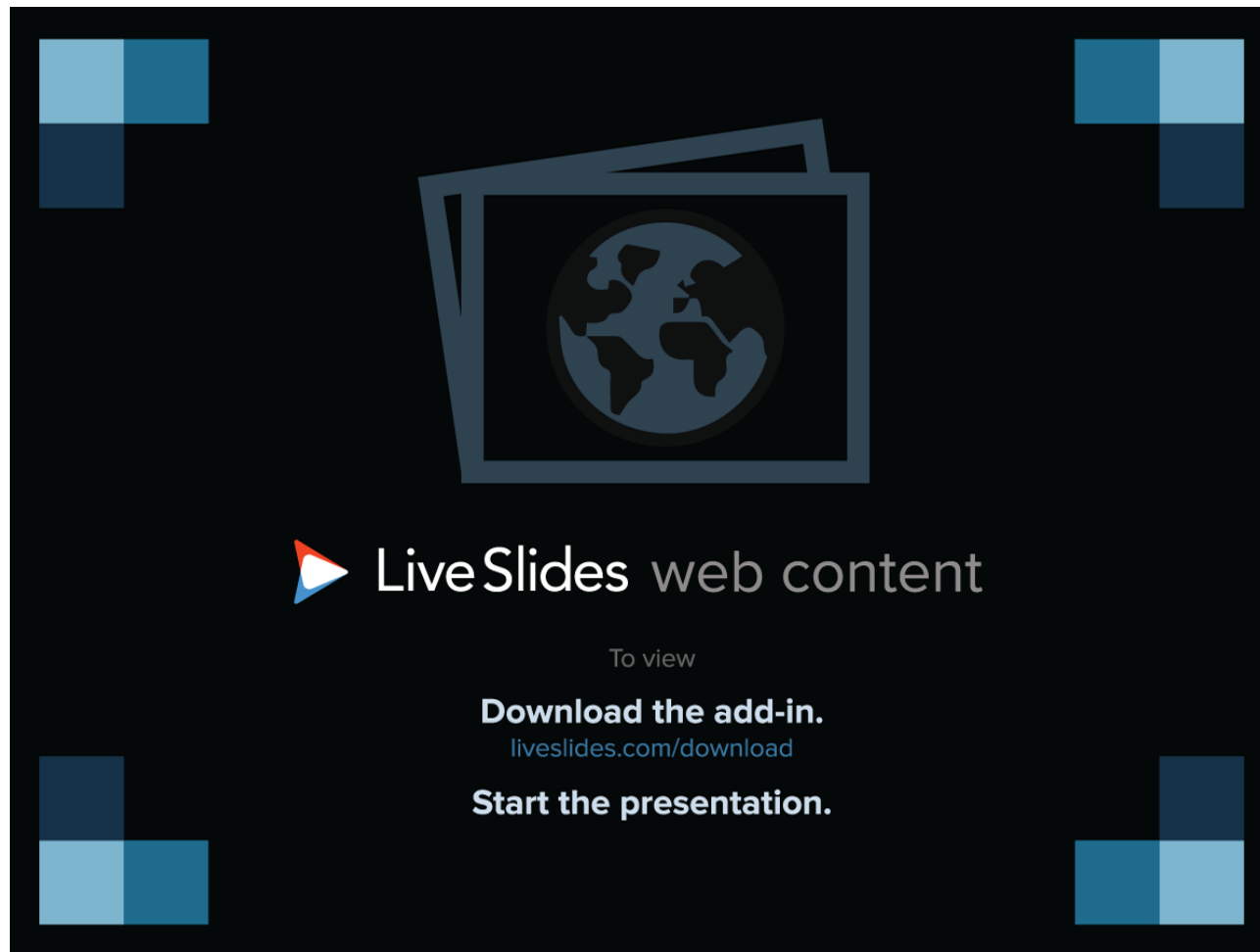
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MODULE 6 CHI-SQUARE TESTS

- ▶ Parametric and nonparametric statistical procedures test hypotheses involving different assumptions.
- ▶ Parametric statistics test hypotheses based on the assumption that the samples come from **populations that are normally distributed**. The level of measurement for parametric tests is assumed to be interval. For example, the t test described in previous modules is called parametric tests.
- ▶ Nonparametric statistical procedures test hypotheses that **do not require normal distribution or variance assumptions about the populations** from which the samples were drawn and are designed for ordinal or nominal data. The Chi Square test is undoubtedly the most important and most used member of the nonparametric family of statistical tests.

CHI-SQUARE TESTS FOR ONE WAY TABLES

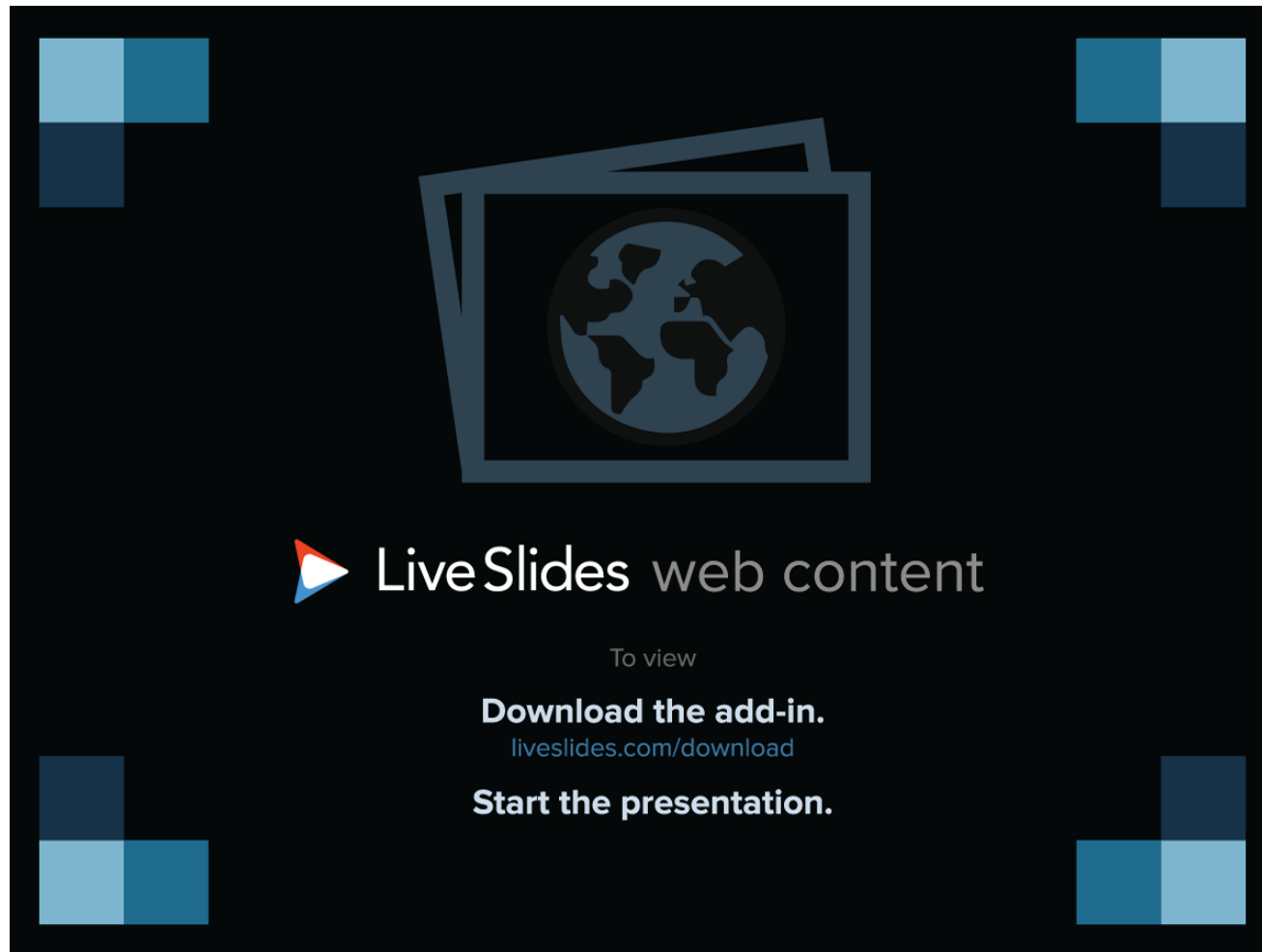
- ▶ The Chi-square test for one way tables is one of the most frequently reported nonparametric tests in journal articles. The test is used when you are interested in the number of responses, objects, or people that fall in two or more categories.



<https://www.youtube.com/watch?v=gkgyg-eR0TQ>

CHI-SQUARE TESTS FOR TWO WAY TABLES

- ▶ The two-way Chi Square is a convenient technique for determining the significance of the difference between the frequencies of occurrence in two or more categories with two or more groups.



<https://www.youtube.com/watch?v=L1QPBGmT0>

DEGREES OF FREEDOM-CHI SQUARE

- ▶ A value of Chi-square cannot be evaluated unless the number of degrees of freedom associated with it is known. The number of degrees of freedom associated with any chi-square may be easily computed.
- ▶ If there is one independent variable, **$df = r - 1$** where r is the number of levels of the independent variable.
- ▶ If there are two independent variables, **$df = (r - 1)(s - 1)$** where r and s are the number of levels of the first and second independent variables, respectively.
- ▶ If there are three independent variables, **$df = (r - 1)(s - 1)(t - 1)$** where r, s, and t are the number of levels of the first, second, and third independent variables, respectively.

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FINAL EXAM

- ▶ Attempts allowed: 1
- ▶ Time limit: 175 minutes
- ▶ **25** Questions



This exam contains both multiple choice and true/false type questions. During the exam, you will be alerted when you have used half your time, and again when you have 5 minutes, 1 minute, and 30 seconds remaining. Once time expires your exam will be automatically submitted.

The Final Exam Study Guide has been posted in the announcement area.

The Final Exam is due Tuesday May 12.

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MODULE 6 LIVE CLASSROOM GRADING

The live classroom session archive as a URL in the course will be added after the session has ended. The following is how you will receive your points for the module 6 live classroom session:

Question: **When is the last day of our class?**



Please go to module 6 live classroom, enter your response to receive your points.

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SUMMARY

- ▶ The number of degrees of freedom associated with any chi-square may be easily computed. If there is one independent variable, **$df = r - 1$** where r is the number of levels of the independent variable. If there are two independent variables, **$df = (r - 1)(s - 1)$** where r and s are the number of levels of the first and second independent variables, respectively. If there are three independent variables, **$df = (r - 1)(s - 1)(t - 1)$** where r , s , and t are the number of levels of the first, second, and third independent variables, respectively.
- ▶ Module 6 Question: **When is the last day of our class?**