Inference for Categorical Data: Chi-Square

AP Statistics · Vocabulary in context

Word	Example
count	The **count** of red cars is 12. 12
category /ˈkætɪgəri/	Each **category** is one possible answer, like “red”. “red”
observed count	The **observed count** is how many we actually saw.
chi-square /kaɪ skweə/	The **chi-square** statistic compares observed and expected counts.
chi-square distribution	The **chi-square distribution** is never negative.
right-skewed	The chi-square distribution is **right-skewed**.
degrees of freedom /dɪˈgriːz ɒv ˈfriːdəm/	The **degrees of freedom** tell you which t-distribution to use. t
goodness-of-fit /ˈgʊdnəs ɒv fɪt/	A **goodness-of-fit** test checks whether data match a claimed distribution.
categorical variable	Eye colour is a **categorical variable**.
expected count /ekˈspektɪd kaʊnt/	The **expected count** is what we would see if the null hypothesis were true.
conditions /kənˈdɪʃnz/	Check the **conditions** before you use the test.
upper tail	The p-value is the area in the **upper tail**. p-value
fail to reject /feɪl tə rɪˈdʒekt/	If the p-value is large, **fail to reject** the null hypothesis. p-value

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two-way table /tu: weɪ ˈteɪbl/	A **two-way table** shows counts for two categorical variables.
association /əˌsəʊsɪˈeɪʃn/	There is an **association** between the two variables.
test for homogeneity /test fɔ: ˈhɒməʊdʒneɪti/	A **test for homogeneity** compares distributions in several groups.
test for independence /test fɔ: ˌɪndɪˈpendəns/	A **test for independence** checks whether two variables are linked.
two-tailed /tu: teɪld/	A **two-tailed** test looks for a difference in either direction.
one-sided	A **one-sided** test looks for a change in only one direction.
p-value /pi: ˈvælju:/	A small **p-value** means the result would be surprising if there were no real effect.

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