

## 15.6: Test for Independence

The  $\chi^2$  test performed on contingency tables is known as the **test for independence**. In this analysis, we are looking to see if the values of each categorical variable (that is, the frequency of their levels) is related to or independent of the values of the other categorical variable. Because we are still doing a  $\chi^2$  test, which is nonparametric, we still do not have mathematical versions of our hypotheses. The actual interpretations of the hypotheses are quite simple: the null hypothesis says that the variables are independent or not related, and alternative says that they are not independent or that they are related. Using this set up and the data provided in Table 14.5.2, let's formally test for whether or not watching college sports as a child is related to using sports as a criteria for selecting a college to attend.

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