CHAPTER 14

FILL-IN-THE-BLANK ITEMS

Introduction

The *t* test and the *F* test are examples of (1) _____ tests, or tests designed to test hypotheses about population parameters. Tests that don't test hypotheses about population parameters are called (2) _____ tests. Also, because the tests don't assume any particular distribution, they are often called (3) _____ tests.

The (4) _____ scale is used for labeling only; all we can do with it is to record (5) _____ of occurrence. (6) _____ _____ is an appropriate test with categorical or nominal scale data.

The Chi-Square Goodness-of-Fit Test

A chi-square test on different levels of a single categorical variable is called a (7) _____ test, because it assesses how well the observed data fit expectations. In the equation for the chi-square test, for each cell in a frequency table, the difference between the observed and expected frequencies is (8) _____ and is divided by the expected frequency. If the expected frequencies are assumed to have been (9) _____ _____ across levels of the categorical variable, then each *E* can be determined by dividing the total number of observations, *N*, by the number of levels.

Expected frequencies may also be based on percentages observed in (10) _____ _____.

The results for each cell are (11) _____ for all cells to give the chi-square statistic. The computed chi square is compared with critical values from Table G with *df* = (12) _____, where *K* is the number of (13) _____ of the categorical variable.

Confirming hypotheses with chi square

Sometimes the chi-square goodness-of-fit test null hypothesis is the (14) _____ _____ that the investigator seeks to confirm. If this is the case, then failure to reject H_0 may provide some (15) _____ of the theory under investigation. The degree of confirmation depends on the statistical (16) _____ in the analysis and on whether (17) _____ leads to the same conclusion.

The Chi-Square Test of Independence

The chi-square test based on (18) _____ categorical variables is called the chi-square test of (19) _____, the (20) _____ chi square, or the chi-square test of significance. The test tries to determine whether the two categorical variables are (21) _____.

The frequency table formed from the observations made under each categorical variable is called a (22) _____ table.

An alternative method for finding expected values

Occasionally, expected frequencies are known because of theory or previous (23) _____. More often, however, the expected frequencies for a given cell are found by multiplying the (24) _____ totals for the cell and dividing by (25) _____. Many expected frequencies can be determined by (26) _____, because the expected frequencies for a given row or column must sum to the row or column total. *df* for the chi-square test of independence equals (27) _____, where R is the number of rows and C is the number of columns.

Restrictions on Chi Square

Chi square can be used only with (28) _____ data. Also, the events or observations that make up the data must be (29) _____ of one another. A third restriction on chi square is that we must have in the data both the frequency of (30) _____ and the frequency of (31) _____, if we are recording whether an event occurs. No expected frequency should be less than (32) _____, although this rule may be relaxed if there are more than (33) _____ cells and only a few have small expected frequencies.

Troubleshooting Your Computations

If you're finding *E* by subtraction, remember that both the (34) _____ frequencies and the observed frequencies must sum to give you a particular row or column total. Be sure you don't get any (35) _____ signs for a cell total.