1-sample Median Test

Say you’ve collected data from 20 participants, and hypothesize that the median is 35. Another way to express this is that you expect ½ of the participants to have scores above 35 and ½ of the participants to have scores less than 35.

Stated this way, the question is easily answered using a $X^2$ gof test with 2 groups and a H0: of equidistribution or equiprobability.

First you recode the data into two groups: 1) those with scores less than 35 and those with scores greater than 35. Anybody with a score of exactly 35 would be deleted from the analysis.

Second, you perform a $X^2$ gof test on the resulting binary data, testing the H0: that ½ of the participants are in each group.

Results

- If $p < .05$, then the distribution is significantly different from equidistribution, and the median is significantly different from 35.
- If $p > .05$, then the distribution is not different from equidistribution and the median is not significantly different from 35.