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HW 3

Q1: a) We should use the Chi-squared test of Independence since we are comparing the answer based on gender (2 options) versus the agreement of participants.

b) Research hypothesis: gender effects your belief of the connection between global warming and current heat waves.

c) Null hypothesis: Participants of all genders will answer similarly

p = (0.2, 0.2, 0.2, 0.2, 0.2)

Alternative hypothesis: One gender will share an opinion.

p != (0.2, 0.2, 0.2, 0.2, 0.2)

d) df = (r-1)(c-1) = 4

e) a = 0.01 == 0.2971095

a = 0.05 == 0.710723

Q2: chi^2 = 1.993816

Q3: a) I would assume they are testing a correlation between gender and political party with a null hypothesis being there is no correlation.

b) see hw3.R

c) Observed = what was actually witnessed

expected = what was you wanted to see

residuals = is the difference between the above two

stdres = standardized residuals meaning take residuals and divide by expected value

d) Of the 8,908 female participants and the 11,737 male participants there was a large percent in both the male and female groups that identified as democrats and and then less of the other two groups listed (independents and republicans). There was an expectation that there was a correlation between gender and political party with a null hypothesis no correlation. A chi-square of goodness of fit test was conducted to test the differences of identification between the genders and their parties. The results were significant (p-value < 2.2e-16), suggesting that there is some correlation between gender and political party identification.