

1 Workshop Questions

Question 1. Examine the relationship between the number of days a respondent consumed alcohol in the past month and their sexual orientation and gender identity status. Use ANOVA to determine whether one category is significantly different than another category.

Question 2. Examine the relationship between the number of days a respondent consumed alcohol in the past month and income level. Tabulate the income level categories to determine whether all observations should be included. Use ANOVA to determine whether one category is significantly different than another category.

Question 3. Which income category reported the highest number of days consuming an alcoholic beverage in the past month? which reported the lowest?

Question 4. Think about the hypothesis testing framework to make a determination about the ANOVA tests explored in the questions above.

(a) What are the parameters being tested?

$\mu_1 =$

$\mu_2 =$

$\mu_3 =$

$\mu_4 =$

$\mu_5 =$

$\mu_6 =$

$\mu_7 =$

$\mu_8 =$

(b) State the null and alternative hypotheses.

(c) What are the Numerator df? The Denominator df?

(d) Use the theoretical F distribution in StatKey to find the p-value.

(e) What is the generic conclusion for this test?

(f) State the conclusion in context.

(g) Can we tell from the test we completed above if there is a difference in the mean number of days that an income group consumed alcohol in the past month?