

Homework #3
RPAD 316
Professor Stephen Holt

Instructions: You will be doing some problems by hand and some problems using Stata. For the problems by hand, show your work for each step. For the Stata section, when asked for graphs, save the graph as a .png file and paste the image into the appropriate section of the word document. Paste your code that produced the graph below the graph. For other statistics, for this assignment, create a clean table using the esttab command and copy the table into the word document in the appropriate location. You may also use copying the output from Stata as an option.

Dataset 1. Hospital survival rates based on patient initial condition

Condition	Hospital	Survival	Count
All	A	Dead	63
All	B	Dead	16
All	A	Survived	2037
All	B	Survived	784
Good	A	Dead	6
Good	B	Dead	8
Good	A	Survived	594
Good	B	Survived	592
Poor	A	Dead	57
Poor	B	Dead	8
Poor	A	Survived	1443
Poor	B	Survived	192

1. Using Dataset 1 above:
 - a. Create a two-way table of Condition and Survival that captures the number of observations in each cell.
 - b. Create a new two-way table with Condition and Survival that replaces the number of observations with the conditional and marginal distributions.

2. Using hw_data3.dta from the site:
 - a. Create a two-way table with both row and column conditional distributions of race and experiencing the use of force in the past 12 months.
 - b. Create two bar graphs showing the marginal distributions of both margins from part (a) above (one marginal distribution in each graph).
 - c. Create a two-way table with both row and column conditional distributions of race and the outcome of a traffic stop.
 - d. Create a two-way table with both row and column conditional distributions of race and the outcome of a traffic stop that only includes traffic stops where the respondent was

the driver. HINT: You may want to run the tabs of the variables to get a complete sense of what each variable means and what each variable's categories mean before deciding on what variable to use in your "if" statement.

- e. Create a two-way table with both row and column conditional distributions of race and how respectful the respondent felt police were during contact that only includes traffic stops where the respondent was the driver.
- f. Do the same as part e, but this time only include contacts where the respondent was reporting a crime.

Extra credit

1. Using the dataset from the class activity in the week 3 module (lab3.dta):
 - a. Create a pie graph that shows the distribution of students by race.
 - b. Create a histogram of 10th grade math test scores for only boys.
 - c. Create a histogram of 10th grade math test scores for only girls.
 - d. Create a scatterplot of the relationship between 10th grade math scores and 12th grade math scores for students in low-income households.
 - e. Calculate the R coefficient for the relationship in the scatterplot from part d.