Two-Way Contingency Tables and Bar Charts for Percentages

You should already have the “Survey” Excel file open and the Gender and Race variables copied into a new sheet. For an introduction to pivot tables using a single variable, you should reference the “Contingency Tables with Pivot Tables” tutorial.

1. Select the columns containing the Race and Gender data (including the variable names)
2. Select the Insert Tab
3. Select Pivot Table
4. In the interface, choose ‘Existing Worksheet’ and enter a range of cells to put the table in (for example, d2:h12), and click OK
5. In the Pivot Table interface that appears in the right side of Excel, check the Gender box. (This will add Gender to the box called ‘row labels’.)
6. In the interface, drag and drop Race into the ‘Column Labels’ box
7. Drag and drop Gender into the ‘Σ Values’ box (leave the values as counts for now)

Since there aren’t any values in the blank column/row in the table, you can remove these cells from the table display.

8. In the Pivot Table (not the interface) click on the column labels arrow
9. Uncheck the ‘blank’ box and click OK

The final output should appear as follows once you have completed steps 1-9:

Next, we will create a graph using the above chart.

10. Select the pivot table
11. Go to PivotTable Tools Options and select Pivot Chart
12. Select Column, and choose the first graph type

Excel defaults to setting the row labels to the x-axis values and the column labels to the bar designations; for this example we want to switch these values. (Also note that the graph and the pivot table are linked such that any changes we make to the graph will automatically update in the table and visa-versa.)

13. Right click on one of the bars in the graph and choose ‘Select Data’
14. Click ‘Switch Row/Column’ and click OK
15. Right click the ‘Count of Gender’ button in the top left hand corner of the graph
16. Select ‘Value Field Settings’
17. Select ‘Show Values As’ tab and choose ‘% of column total’ in the drop down box

Finally, you will want to do some additional formatting to finalize the graph.

**Graph Formatting Instructions:**

18. Click the chart, choose PivotChart Tools and select ‘Layout’
19. Select Axis titles
20. Under primary horizontal axis title choose ‘title below axis’
21. Select the title and rename it Race Place
22. Select Axis titles
23. Under primary vertical axis title choose ‘Rotated title’
24. Select the title and rename it Percentage
25. Select Chart Title and choose ‘Centered Overlay Title’
26. Rename the title Race Place by Gender
27. Right click one of the female bars in the graph
28. Select the shape fill tool in the formatting options box
29. We want to make the graph greyscale, so choose any color under the white or black column (any shade of grey will do)
30. Right click on one of the male bars
31. Select the shape fill tool in the formatting options box
32. Choose another color under the white or black column (make sure it contrasts to the color you choose in the previous step)

Your final output should appear as follows once you have completed steps 18-32 (your colors may be slightly different, but they should be greyscale):