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**Exercise 1:** **Chi Square –GSS2006 – (New)**

*Using the GSS 2006 Data File, generate a crosstabulation table in R between social class* ***(‘class’)*** *and support for gun permit laws* ***(‘gunlaw’)*** *and answer the following questions:*

1. How many respondents are lower class? ***77+31=108***
2. How many respondents favor gun permits? *77 + 727 + 48 + 709 =* ***1561***
3. How many middle class respondents favor gun permits? ***727***
4. What percentage of respondents are working class?

**45.87%**

1. What percent of respondents oppose gun permits?  **19.99%**
2. What percentage of the upper class favor gun permits? **80.00%**
3. What is the Chi – Square value for the relationship between social class and attitudes toward gun permits?

**7.397792**

1. What is the alpha(p in R) value for this Chi-Square?

**p = 0.06024361**

1. What does this tell us about the relationship between social class and attitudes toward gun permits?

At 94% (100-6) confidence level, the relationship between social class and attitudes towards gun control is statistically significant, as when compared to the critical chi square calculated from the chi square distribution table (for alpha = 0.01419394 d3=3 critical chi square is in-between 6.251 & 7.815 therefor, we consider 6.251) Hence, the obtained value falls in the critical region. We reject the null hypothesis.

**Exercise 2:** Chi Square – GSS2016

*Using the GSS 2016 Data File, generate a crosstabulation table in R between social class* ***(‘class’)*** *and support for gun permit laws* ***(‘gunlaw’)*** *and answer the following questions*

1. ***10.***How many respondents are lower class?
2. How many respondents favor gun permits? **173**
3. How many middle class respondents favor gun permits? **555**
4. What percentage of respondents are working class? **47.56%**
5. What percent of respondents oppose gun permits? **28.25%**
6. **15.**What percentage of the upper class favor gun permits? **86.67%**
7. What is the Chi – Square value for the relationship between social class and attitudes toward gun permits? **10.5852**
8. What is the alpha(p in R) value for this Chi-Square? **p = 0.01419394**
9. What does this tell us about the relationship between social class and attitudes toward gun permits? At 99% confidence level, the relationship between social class and attitudes towards gun control is statistically not significant, as when compared to the critical chi square calculated from the chi square distribution table (for alpha = 0.01419394 and df=3 critical chi square= 11.341) Hence, obtained chi square does not lie in the critical region. Hence we fail to reject the null hypothesis and state that the relationship between social class and attitudes towards gun control is statistically not significant.

**Observations and Conclusions: - Summary**The statistical significance between social class and attitudes towards gun control has been shifted from ‘statistically significant’ to ‘statistically not significant’ from 2006 to 2016.