

Introduction to Statistics

lab 10

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Data

For this lab we will make use of the Irish National Election Study (INES) data from the 2007 general election. See Lab 6 for download and subset instructions.

Explaining support for Sinn Féin

In the survey, one question asks “How probable is it that you will ever give your first preference vote to the following parties?”, with one of the answer categories Sinn Féin. Respondents can provide their answer on a scale from 0 to 10. Table 2 provides the results of a series of regression models attempting to explain support for Sinn Féin using this variable. See Table 1 for an overview of variables used.

1. Produce a frequency table for the dependent variable. Are missing values correctly defined? Are there any?
2. Produce a box plot for the dependent variable. How would you describe this distribution?
3. Re-produce all regressions in Table 2.
4. Fully interpret the regression output.

| | |
|------------------------------------|--------------|
| Age | v0906 |
| Union membership | v0936 |
| Probability to ever vote Sinn Féin | v0192 |
| Left-right self-placement | v0239 |
| Attitude towards immigrants | v0248 |
| Attitude towards Northern Ireland | v0253 |
| Importance Northern Ireland issue | v0260 |

Table 1: Overview variables

| | (1) | (2) | (3) | (4) | (5) |
|---|---------------------|----------------------|----------------------|----------------------|----------------------|
| Left-right self-placement (LR, 0–10) | | −0.146*** (0.047) | −0.181*** (0.044) | 0.065 (0.093) | −0.555*** (0.173) |
| LR squared | | | | | 0.032** (0.014) |
| Pro-immigrant attitude (0–10) | | −0.034 (0.035) | | | |
| Member of trade union | | −0.386* (0.204) | −0.362* (0.195) | | −0.344* (0.195) |
| Pro-unification attitude (PUN, 0–10) | | | 0.171*** (0.061) | 0.586*** (0.098) | 0.165*** (0.061) |
| Northern Ireland important (NII, yes/no) | | | −0.188 (0.454) | | −0.208 (0.453) |
| PUN × NII | | | 0.173** (0.079) | | 0.175** (0.079) |
| LR × PUN | | | | −0.044*** (0.015) | |
| <i>intercept</i> | 3.064*** (0.077) | 3.821*** (0.349) | 2.442*** (0.420) | 0.855 (0.592) | 3.429*** (0.609) |
| <i>N</i> | 1,381 | 799 | 771 | 851 | 771 |
| <i>R</i> ² | 0.000 | 0.018 | 0.116 | 0.108 | 0.122 |
| Adjusted <i>R</i> ² | 0.000 | 0.014 | 0.111 | 0.105 | 0.115 |
| Residual Std. Error | 2.846 | 2.797 | 2.634 | 2.667 | 2.627 |
| <i>F</i> -Statistic | | 4.849*** | 20.139*** | 34.216*** | 17.700*** |

Note:

*p<0.1; **p<0.05; ***p<0.01

Table 2: Linear regressions explaining probability to ever vote Sinn Féin