

## Assignment 7: ANOVA and Correlation

1. Using the attached data from your own class survey, please test the following hypothesis using ANOVA:

“Republicans, Independents, and Democrats are statistically different from one another in their perspectives on the estate tax.”

If you’ll recall, the estate tax is a tariff levied by the Federal government on an individual’s estate after they die. The relatives or beneficiaries of the estate are responsible for paying these taxes.

In the survey, the question asked was worded this way:

Tell me which view is closer to your opinion. Some people say the estate tax is really just another big tax giveaway to the richest Americans who already use loopholes to avoid paying their fair share. Ninety-eight percent of Americans pay no estate tax, and family owned businesses and farms are already protected with a special exemption. Repealing this tax would be another windfall for the wealthy top 2 percent, increasing the tax burden on all the rest of us.

Other people say this is really a death tax, which forces family members to sell off family farms and small businesses just to pay the taxes. This plan (phasing out the estate tax) is fiscally sound, repealing the tax gradually over the next decade. This is money that was already taxed when the deceased earned it—the government should not have a right to tax it twice.

Which is closer to your opinion?

1. Just another big tax giveaway to the richest Americans
2. A death tax

Use the attached data for this question to test the assertion that Republicans, Democrats, and Independents are different in their opinions on the estate tax.

2. You are also interested in the relationship between party identification strength and the class's opinions on the privatization of Social Security. Using the question "Do you favor or oppose partial privatization of Social Security which would cut guaranteed benefits in return for allowing people to invest personally a portion of their Social Security in the stock market?" and its ancillary question (strongly favor to strongly oppose," test the assertion that as individuals become "more Republican" they are more likely to favor privatization of Social Security.

Use Pearson's R to test the assertion that Republicanism and privatization of Social Security are positively correlated (or that strong Democrats will be less likely to support privatization).

Here's a hint: The scale for "partisanship" runs from 1 (strong Republican) to 7 (strong Democrat). And the scale for Social Security privatization runs from 1 (strongly favor privatization) to 4 (strongly oppose privatization). Use the Pearson's R formula to analyze the hypothesis that Democrats will be less likely to support the privatization measure (i.e. that the correlation coefficient between strength of Democratic partisanship and privatization support will be positive and statistically significant at the 0.05 level).

PartyID	Estate	PartyIDs	SocSec
1	2	1	1
1	1	2	3
1	2	1	3
1	2	1	1
1	2	2	2
1	2	2	2
2	2	7	4
2	1	7	3
2	2	7	2
2	1	7	2
2	2	7	3
2	2	6	2
2	2	7	4
2	2	7	2
3	2	5	3
3	1	5	3
3	2	3	3
3	2	5	3
3	2	5	3
3	2	3	1
3	2	3	2
3	1	5	2
3	2	4	4
3	2	5	2
3	2	3	3

Where:

Party (Republican=1; Democrat=2; Independent=3)

Estate (1=just another big tax giveaway; 2=a death tax)

Partya (Strong Rep.=1; Not so strong Rep.=2; Indep. Leaning Rep.=3; Indep.=4; Indep. Leaning Dem.=5; Not so strong Dem.=6; Strong Dem.=7).

SocSec (1=strongly favor through 4=strongly oppose).