

# Applied Data Science Project 1:

Jimmy Smiley Cognitive Dissonance Voter Trends:

The aim of this project is to look into the trends associated with voters who show cognitive dissonance. The data that will be considered is from American National Election Studies (ANES). There were two forms for this survey form 1 (1498 surveys) and form 2 (1582 surveys). More specifically the data is from the 2020 exploratory testing survey. More info about the survey will be in the data folder. The first step in this analysis is to describe the qualifications for cognitive dissonance and to make a global definition.

Cognitive dissonance is defined as the state of having inconsistent thoughts, beliefs, or attitudes, especially as relating to behavioral decisions and attitude change. This is according to google dictionary. This will be our working definition. In terms of our survey, being in this state of inconsistency will shine through certain questions and answers. The scope of this project will explore three paired questions on the survey.

## Pair One:

The first pair of questions on the survey that will be analyzed are below. These questions were only on form one which had 1498 responses.

1.) (antirelig1) There are always some people whose ideas are considered bad or dangerous by other people. For instance, somebody who is against all church and religion. If such a person wanted to make a speech in your community against churches and religion, should he or she be allowed to speak or not?

The two answers were

1. Allowed to speak
2. Not Allowed to speak

2.) (moralcert3) How well do the following statements fit with your own views? Diversity of opinion is valuable in any group or organization.

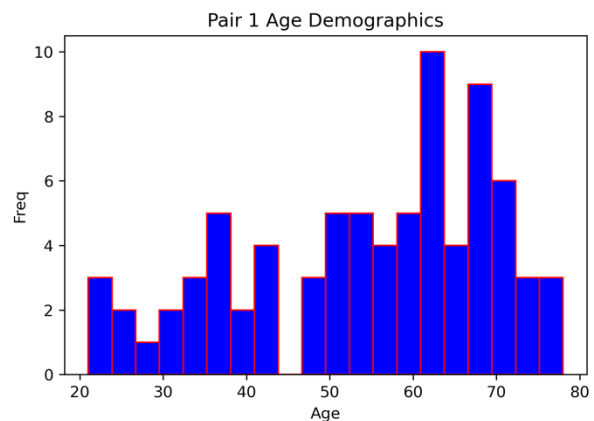
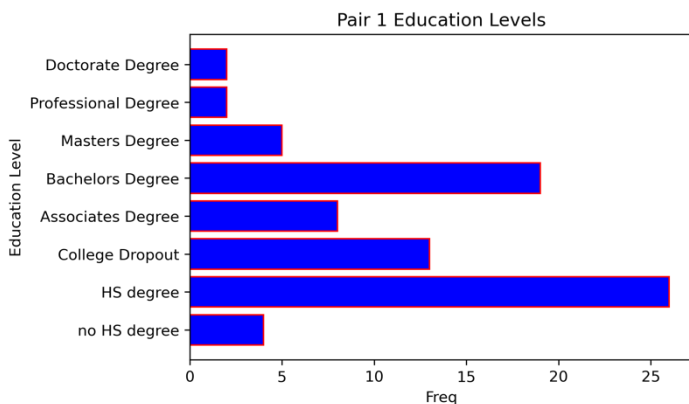
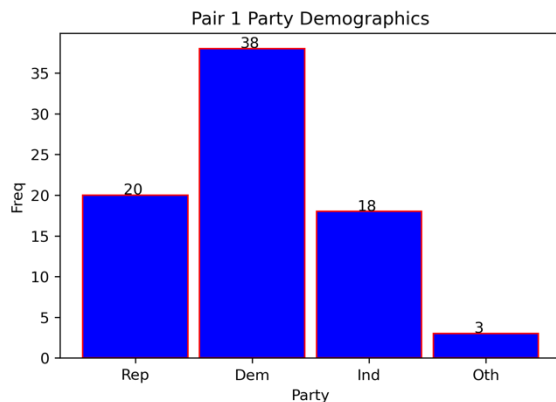
The answers were

1. Not well at all
2. Slightly well
3. Moderately well
4. Very well
5. Extremely well

The answers that are very contradictory are "Not allowed to speak" and "Extremely well". The opposite contradictory answers; "Allowed to speak" and "Not well at all" aren't as strong with the wording. Because of this only the first set of contradictory answers will be analyzed.

In our analysis we will look at mainly demographics of the people who were contradictory. This will include party, age, education level, and sex.

This Pair was only in form 1. Out of 1498 surveys, 5.3 % (79) of the surveys were contradictory.



## Pair Two:

The second pair of questions on the survey that will be analyzed are below. These questions only appeared in form 1 so only 1498 people answered.

1.) (callout2) When a person unintentionally behaves in a way that is hurtful or that discriminates against others, how important is it for people to point out and publicly criticize this behavior?

The answers were

1. Extremely important
2. Very important
3. Moderately important
4. A little important
5. Not at all important

2.) (speech1) Some complain that too many people are easily offended these days and too quick to police what others say. They refer to this as "political correctness." In your view, how serious of a problem is political correctness?

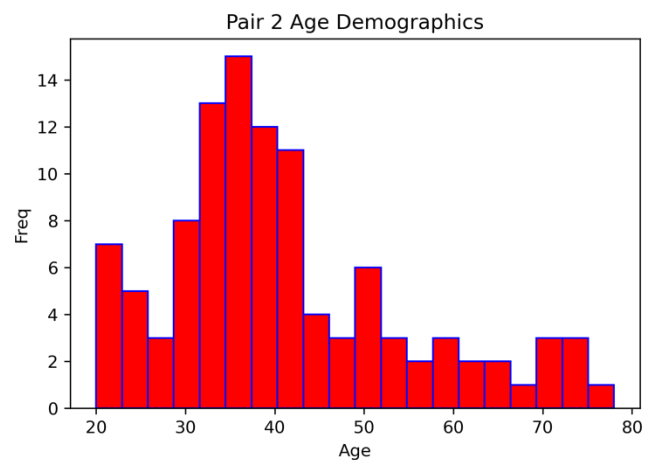
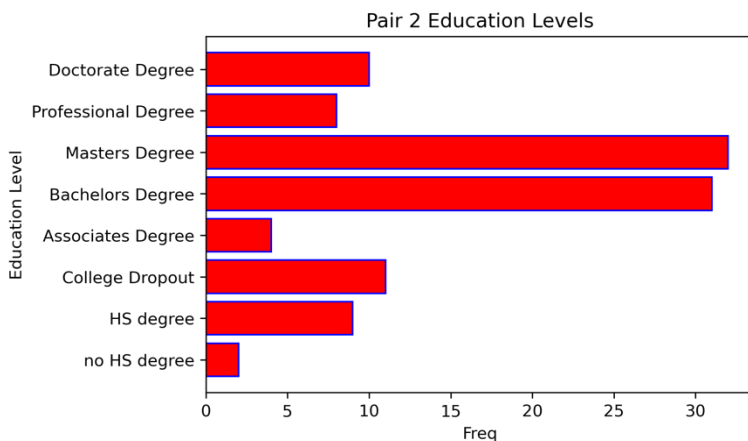
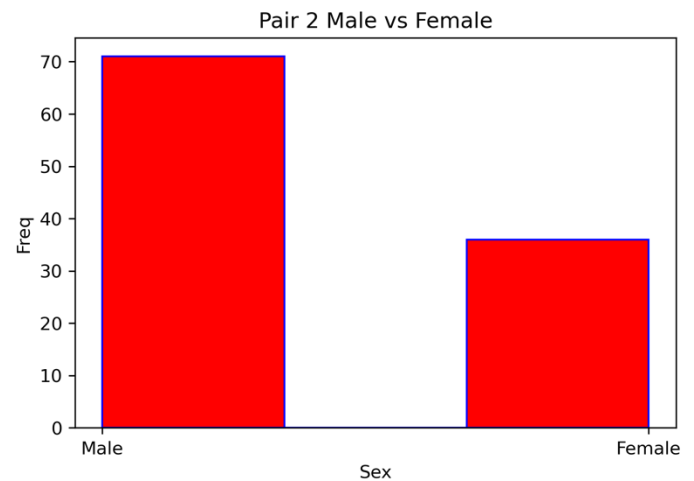
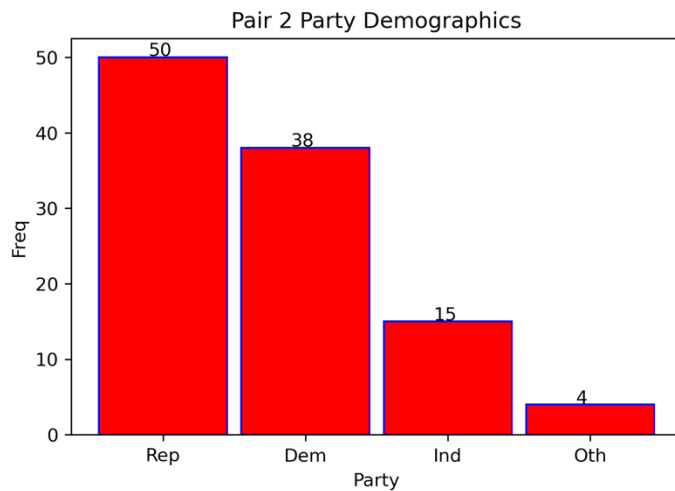
The answers were

1. Extremely serious
2. Very serious
3. Moderately serious
4. A little serious
5. Not at all serious

The answers that are very contradictory are "Extremely Important" and "Extremely serious". The opposite contradictory answers aren't as strong with the wording. Because of this only the first set of contradictory answers will be analyzed.

In our analysis we will look at mainly demographics of the people who were contradictory. This will include party, age, education level, and sex.

This Pair was only in form 1. Out of 1498 surveys, 7.14 % (107) of the surveys were contradictory.



## Pair Three:

The third pair of questions on the survey that will be analyzed are below. These questions appeared on both forms. This is the most direct contradicting questions there were on the survey. On page 9 of the survey there is a check question. If someone didn't answer this question properly then they weren't paying attention.

1.) (check) To help us be sure your device is working properly with ours, please select "slightly disagree" below.

The answers were

1. Strongly agree
2. Moderately agree
3. Slightly agree
4. Neither agree nor disagree
5. Slightly disagree
6. Moderately disagree
7. Strongly disagree

2.) (serious) We sometimes find people don't always take surveys seriously, instead providing funny or insincere answers. How often did you give a serious response to the questions on the survey?

The answers were

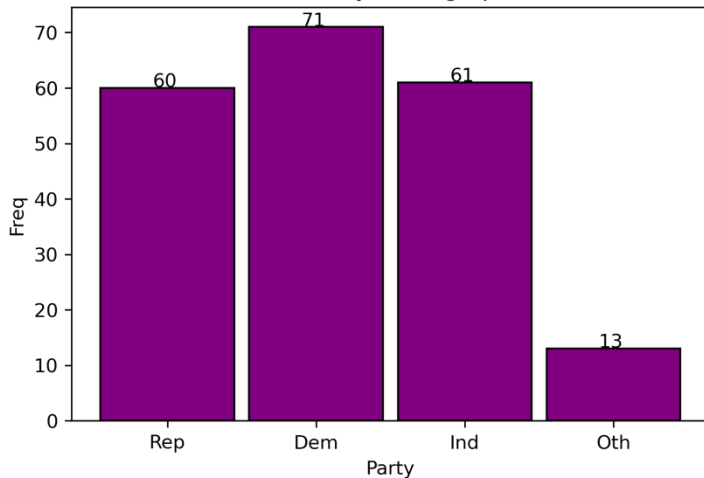
1. Never Serious
2. Serious some of the time
3. Serious half of the time
4. Serious most of the time
5. Always serious

The answers that are very contradictory are "Always serious" and one of the wrong answersto the check question. If someone answered the check question wrong then they weren't always serious. It is very easy to see the contradiction here.

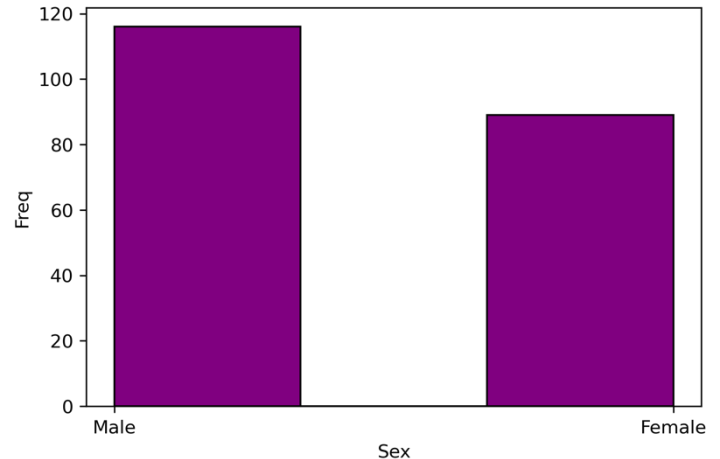
In our analysis we will look at mainly demographics of the people who were contradictory. This will include party, age, education level, sex, and stress levels(if form 2).

This Pair was on both forms. Out of 3080 surveys, 6.7 % (205) of the surveys were contradictory.

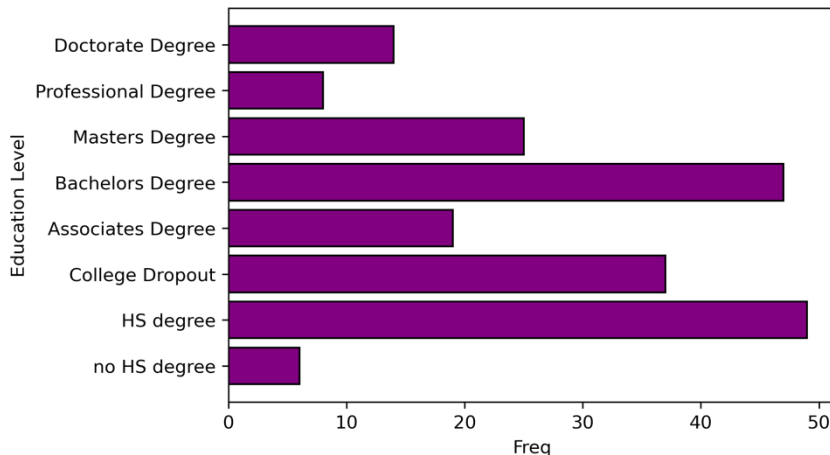
Pair 3 Party Demographics



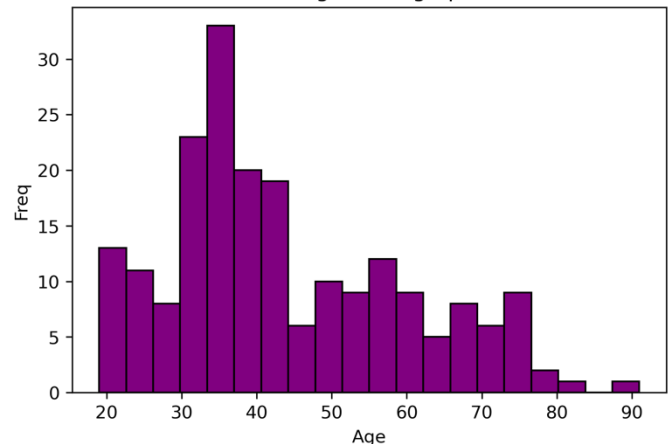
Pair 3 Male vs Female



Pair 3 Education Levels

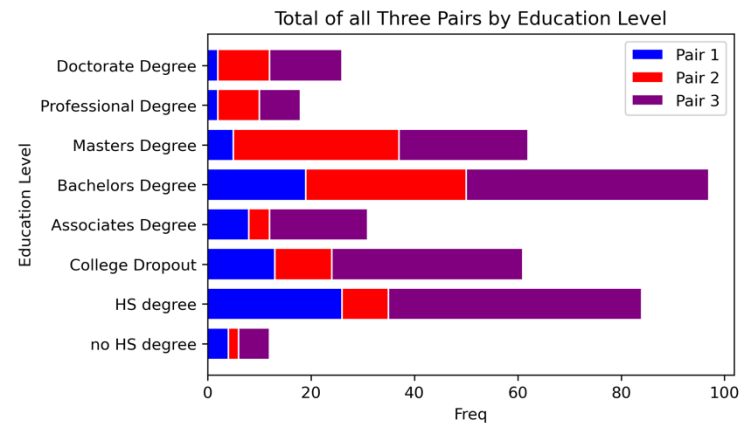
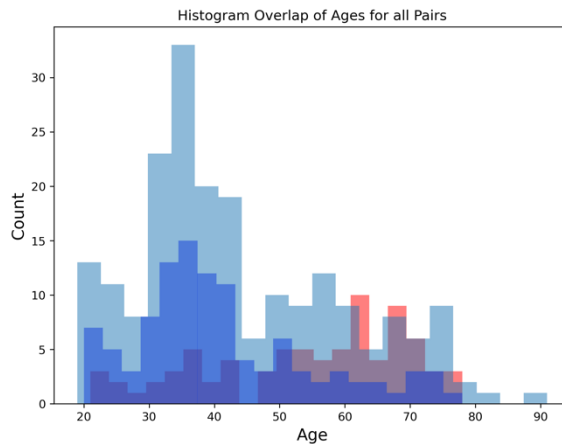
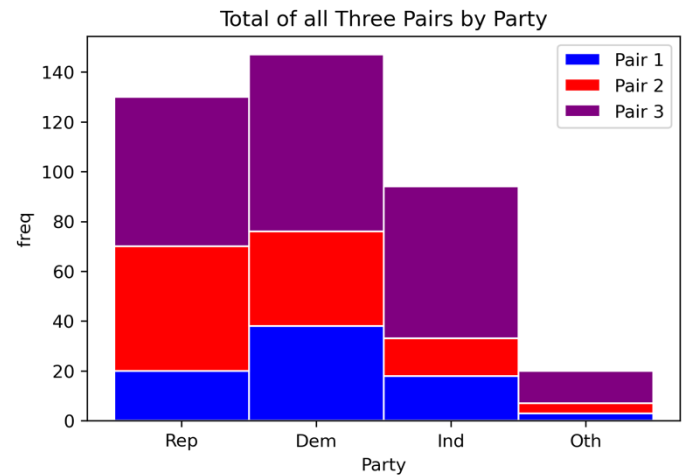
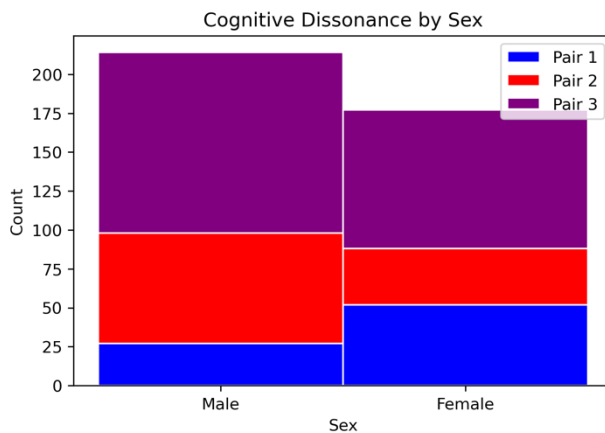


Pair 3 Age Demographics



# Conclusion:

Below are the aggregated numbers for various demographics for the people who answered with contradicting viewpoints. As you can see males tend to do it more often than females. In terms of party, it's too close to make a conclusion on it. When it comes to education this analysis is short sighted in the fact that it should be tested against the percentages of the US populations' education level to fully understand if this cognitive dissonance group has a substantial percentage of one or more demographics. The same should be done with age. For example, I would assume most of the people that took this survey had just a bachelors degree and were in the 30-40 year old age range. This would push the frequency of these people in the cognitive dissonance group higher. This was a mistake and will be noted for future analysis.



## Side note:

One of the questions in the survey asked how often a person was able to control important things in their life. This was part of the stress portion of the survey. To the right are the answers from people who showed cognitive dissonance (stress1) and from the whole group (ControlStress1). Red represents the answers of often and all the time. Blue represents the answers of never and rarely. This shows that people who show conflicting political beliefs tend to be more stressed about their life.

