Spring 2013

Colorful Colorado: The relationship between demographics and the changing political color of Colorado.

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Colorful Colorado

The relationship between demographics and the changing political color of Colorado.

Leslie Forbes

Capstone
GEOG 4993
Spring Quarter 2013
Abstract

This research will address the individual relationships between five demographic variables and the changing political color of Colorado (from a "red" state to a "blue" state). The variables addressed are age, education, income, gender, and the Hispanic\(^1\) population growth. Building on recent literature reviews for Colorado’s political trends, I will attempt to show the relationships of the five variables and voting behavior. This data will then be statistically analyzed through Geographic Information Systems (GIS) to determine what relationship strength, weak or strong, exists between the demographic variables. My goal for this research is to determine which of the five variables has the strongest, positive relationship to the changing political color of Colorado.

Introduction

Colorado, part of the Mountain West, has experienced high population growth in the past ten years. In 2012 the population reached 5,187,582 (Figure 1). This was up 3% from the two previous years (US Census, 2012). The Mountain West is now home to some of the most "demographically diverse and geographically concentrated" states in the country, and, as a result of this diversity, the region has been progressively more welcoming to Democrats (Damore, 2012).

\(^1\)Throughout this paper, I refer to the Hispanic population. Some source material refers to Latinos. For the purposes of this paper the two terms will be used interchangeably.
Colorado County Populations

![Colorado County Populations Map](image)

**Figure 1: Colorado County Population, 2011.**

Colorado is currently considered a swing state that recently has been shifting from a "red" Republican state to a "blue" Democratic state. Demographics may have something to do with this. According to the Five-Year 2007-2011 American Community Survey (ACS) demographic dataset, Colorado has a highly educated population, above average median income, a large population of eligible voters, an almost equal female-to-male gender ratio, and a consistently growing Hispanic population.

The goal of my research is to determine what demographic variable has the strongest, positive relationship to the changing political color of Colorado. My hypothesis is that the growing Hispanic population has the
strongest, positive relationship to Colorado’s political change from a red state to a blue state.

**Background and Literature Review**

In determining what demographic variable is contributing the most to Colorado’s swing from red to blue, I reviewed the following five variables: age, education, income, the female population, and the Hispanic population. These are driving forces that can have a positive relationship to the changing color of the state’s politics. Historically, Colorado has been a predominately red state and, with the exception of its southern neighbor, New Mexico, has shared its other borders with red states. Despite this mountain of red and the fact that Colorado voted for Republican presidents in all but four elections since the Second World War, Colorado is considered a swing state due to its electoral self-reliance (270 To Win, 2012). The state started to shift to blue in 2006, and it continued to shift in 2008 and 2012 by voting for Barack Obama.

"In the electoral earthquakes of 2006 and 2008, old political calculations broke apart entirely as a new electoral geography - The Democratic West revealed itself" (Robinson and Noriega, 2010). In this "new electoral geography" Democrats in Colorado and other western states shook up the Republican incumbents by posting significant gains. And rising populations have led to more electoral votes. Colorado has more than doubled its electoral votes since the 1960s; the state now has nine electoral
votes (270 To Win, 2012). The recent political choices of Colorado voters coupled with the current demographic trends could be enough to change the political landscape in Colorado from swing state to blue state.

My theory is that the Hispanic population is the strongest demographic driver for Colorado’s political change. I also want to determine if the research and analysis is viable to use for other swing states. One benefit of determining if Colorado’s Hispanic population can shift Colorado’s politics is that the data analysis and results could be used for political indicators for other high Hispanic population states as well. For example, New Mexico has a high Hispanic population and is also considered a swing state. It followed Colorado by voting Republican in 2004 and Democratic in the 2008 and 2012 presidential elections. The results from my research could lead to insights into New Mexico’s changing color. The results for Colorado could also help political parties strategize for future political elections in other high Hispanic populated states such as Texas and Arizona; both states that historically voted Republican.

Age

Age can be an important political factor in Colorado politics. Of the roughly three million eligible voters in Colorado, about 15% are aged 65-and-over (US Census, 2012). The 65-and-older generation is a significant and growing part of the electorate. When all the living baby boomer constituents become part of the 65-and-over age group, it is anticipated
they will comprise 25% of the voting block (Binstock, 2000). As the
generation moves into the 65-plus category, and as the voter turnout keeps
increasing at the rate of 6.5% since 1972 (Binstock, 2000), they will bring a
pivotal heterogeneous cast to Colorado elections (Figure 2).

Figure 2: Age and Party Identification (Fisher, 2008).

Depending on when their political views were formed, some of these
voters will lean Republican and some will lean Democratic. The political
views people hold are fundamentally formed and developed by the
socioeconomic conditions that they lived through during childhood to their
early adulthood years (Fischer, 2008). The oldest members of this senior
group are products of the Depression and experienced first-hand the
introduction of Social Security and Medicare benefits during the New Deal.

The youngest members of this group were born in 1948 at the
beginning of the Iron Curtain era. They came of age and formed their
political views during conflicts such as the Cuban Missile Crisis and the
Vietnam War. As a result this age group places a high value on defense spending (Fisher, 2008). These two major interests--government entitlements and military expenditures--create a paradoxical group of voters.

It is commonly believed that concern about Social Security and Medicare leads the 65-and-over age group to support the Democratic Party, while an emphasis on defense spending and less government involvement leads to support of the Republican Party (Fisher, 2008). In 2012, Medicare topped the list of important issues for the 65-and-over population (Figure 3).

<table>
<thead>
<tr>
<th>Medicare a Top Issue for Older Voters</th>
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<tr>
<td>% of voters saying each is &quot;very important&quot; to vote</td>
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<tr>
<td>18-49</td>
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<td>Jobs</td>
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<td>Budget deficit</td>
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<tr>
<td>Education</td>
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<tr>
<td>Taxes</td>
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</tbody>
</table>

Figure 3: Medicare a Top Issue for Older Voters (Pew Research Center, 2012).

The Republican Party has an advantage among voters in their late 60s, while the Democratic Party is gaining voters in the 70s and 80s age brackets (Newport, 2009). Another potential reason for the demographic to swing blue is that the 65-and-over demographic are 15% more likely to be registered to vote than those aged of 18-30 (Heyden, 2011). Less mobility
may also be a factor for greater participation in the 65-and-over group. The older a person is, the more likely he or she has lived in the same place for a longer period of time than other generations. And the longer a person has lived in the same house, the more likely it is that he or she is registered to vote there. (Heyden, 2011). The voting trends of the over-65 demographic population can have large implications for political districts in Colorado.

Education

"There was a time when political scientists could look at a voter’s income and church attendance and determine which political party a person was affiliated with. That was a time where those that went to church voted Republican and the working-class voted Democratic" (The Chronicle of Higher Learning, 2008). This may no longer be the case as education may be the next predictor of party affiliation.

Achieving higher levels of education has become a personal goal for many people. Education can define a person and provide many with a path to a better life. Education can provide an economic boost for people living in poverty, it can provide opportunities, and it can provide greater knowledge and understanding of political issues. One of the strongest factors determining how people think about politics and how their knowledge of politics affects them is education (Nie, et al, 1996). It is common knowledge in political science arenas that the higher level of education a person has, the more politically active he or she is (Figure 4). An individual’s education
level has a direct, positive impact on their political views and participation (Converse, 1972).

The widely known civic education theory states that as an individual becomes better educated—and therefore better prepared to understand political concepts—the more likely that person is to be politically active and vote (Tenn, 2007). In the Figure 4 graph, the voting rate of US citizens with at least a Bachelor's degree was approximately 60%, compared to a little over 21% for those who had not received a high school diploma. Less-educated people tend to be distrustful and cynical about politics, whereas well-educated people tend to be more positive about government and political institutions (Bovens and Wille, 2010).

Colorado has a highly educated population. According to the US Census, Colorado has an 89.7% high school graduation rate and 36.3% of the population holds a Bachelor's degree (US Census, 2012). These numbers are higher than the national averages by 4.3% and 8.1% respectively (US
Census, 2012), which may lead Colorado residents to vote more. According to the Colorado Secretary of State there were 2,639,397 active registered voters in Colorado in 2012 and it is possible the majority of those educated voters voted for the Democratic Party.

Income

There has been a long standing idea in the social sciences that income influences if and how US citizens participate in politics. The idea that citizens with more material wealth and education participate in politics and vote at higher rates has been assumed for decades (Verba, 1995). In fact for the past forty years individuals with higher incomes have a voting turnout 20% higher on average than those with lesser incomes (Figure 5).

Figure 5: US Voting by Labor Force (US Census Bureau, 2010).
Since the late 1960s the US has experienced fluctuating trends between employment and unemployment. The closest margin, ~12%, occurred in 2008. This inequality mathematically means a larger portion of low-income voters vie for political agendas that may be able to help them. Agendas such as government assistance, increased job growth, and lower taxes for the lower and middle classes have historically fallen with the Democratic ideologies. Also in the last sixty years income inequality has consistently increased during Republican government tenure and trended downward during Democratic tenure (Moberg, 2010). As a result poorer people tended to vote for the Democratic Party and richer ones for the Republican Party. However, there is a recent trend that poorer states tend to vote red while richer states tend to vote blue (Yglesias, 2006).

The median income in Colorado between the years of 2007-2011 was approximately $58,000 and the state’s population in poverty was around 12.5% (US Census, 2012). Compared to national averages, Colorado’s median income was almost 9% higher and the state had approximately 1.5% less people in poverty. Figure 6 shows that a larger voter turnout correlates with a richer constituency, and Colorado is within the reported 48.8% voting group. Swing states like Colorado that have a high percentage of the population living in urban areas, a higher number of minorities, and larger per capita incomes, which are all associated with a greater egalitarian
vote (Galbraith and Hale, 2008). Income could be the driver to turn Colorado blue.

Female Population

In 2011 there was almost a fifty-fifty gender split in Colorado. Females comprised 49.8% of the population and males comprised 50.2% (US Census, 2012). Even though the gender demographics are almost equal, the same cannot be said for political party affiliation. There seems to be a fundamental difference within all major race, age, and marital segments of women who are significantly more likely than men to identify with the Democratic Party (Newport, 2009). The main distinction in political party identification today revolves around the percentage of each gender who identify as a Democrat or a Republican. 41% of women identify as a Democrat versus 32% of men. For Republicans, there is only a 3% difference between genders, 25% women to 28% men (Figure 7).
Figure 7: Party Identification by Gender (Gallup, 2009).

This means there is 16% difference for women with Democratic Party identification compared to Republican Party identification (Newport, 2009).

Party identification for females did not always sway toward the Democratic Party. In the 1950s and 1960s female voters predominately voted Republican (Judas and Yeixera, 2007). According to the 2002 National Center for Policy Analysis, the gender gap has risen significantly over the past few decades: 2% in 1952 to 41% in 2009. Much of the gap increase can be attributed to political ideology. Women tend to place higher importance on the national economy, pro-choice policies, and social welfare than men (Chaney, et al., 1998). Women have also consistently voted at a higher rate than men, more often for a Democratic presidential candidate and are less likely to vote for "maverick" candidates. (Norrander, 2003)

Nation-wide, women voted for Barack Obama over the "maverick" John McCain 56-43 in the 2008 presidential election (Roper Center, 2008).
This voting preference may also be due in part to the Republican Party announcing its pro-life stance in its platform in the 1980s. Before 1980, there was very little gender-based difference in presidential election voting (National Election Survey), but since then the abortion rights issue has been on every political agenda (Chaney, et al., 1998). The Democratic Party ideology has historically had a pro-choice stance which aligns with more women’s ideals. The gap could also be explained by salient preferences women have on social welfare, defense spending, and economic well-being.

The gender gap may become wider as the two parties explicitly choose policy positions that appeal to the different voting groups; thus magnifying the difference in political behavior between men and women (Chaney, et al., 1998).

The Democratic Party’s political ideologies that are parallel with issues women deem important and continue to vote for can lead to a future durable Democratic majority in Congress and a potential end to the Republican lock on the electorate (Jidis and Yeixera, 2007). This unlocking of the Republican electoral door and the rise of the single women voter exposes the Republican Party vulnerability (Rosin, 2012) and may lead the reliable women voter base to turn Colorado blue.

Hispanic Population

From a demographic perspective there are three “engines” contributing to a state’s population change: natural changes due to births and deaths, state
to state migration, and international immigration (Frey and Abresch, 2002). In the last decade the Hispanic population of Colorado increased 41 percent to over one million people (US Census, 2012). This group now accounts for almost 21 percent of Colorado’s population (US Census, 2012). This new century represents a major reversal with respect to race and demographics. The US used to be a nation of baby boomers that were predominantly either white or black, but the country now offers a "juxtaposition of an aging white population with burgeoning, ‘new minority’ Latino and Asian populations" (Frey, 2011). Colorado is a leader in this new burgeoning population with the Hispanic population leading the way. According to US Census data nearly one-third of Colorado Hispanic residents are under the age of eighteen. This percentage almost doubles the 17.1 percentage in 2000 (US Census, 2010). According to the Pew Research Center the overall US Hispanic population is set to triple by 2050. The Pew Research Center has also made the following projections for 2050 (Pew Research Center, 2012):

- **The Hispanic population, 42 million in 2005, will rise to 128 million in 2050, tripling in size. Latinos will be 29% of the population, compared with 14% in 2005. Latinos will account for 60% of the nation’s population growth from 2005 to 2050.**

- **Immigrants who arrived after 2005, and their U.S.-born descendants, account for 82% of the projected national population increase during the 2005-2050 period.**
• The nation’s foreign-born population, 36 million in 2005, is projected to rise to 81 million in 2050, growth of 129%.

• In 2050, nearly one in five Americans (19%) will be an immigrant, compared with one in eight now (12% in 2005).

• The foreign-born share of the nation’s population will exceed historic highs sometime between 2020 and 2025, when it reaches 15%. The historic peak share was 14.7% in 1910 and 14.8% in 1890.

• Births in the United States will play a growing role in Hispanic and Asian population growth, so a diminishing proportion of both groups will be foreign-born.

Even if immigration is restricted, Hispanics’ share of the population will increase because of higher birth rates than the overall population (Figure 8) and largely because Hispanic immigrants as a whole are younger than the nation’s aging baby boom population (Passel, et al., 2011). Politically, these increases create a diverse and cut-throat electoral environment (Damore, 2012).
Figure 8: Fertility Rate, by Race and Ethnicity, 2010 (Pew Research Center, 2010).

The United States has a total 538 electoral votes: 435 in the U.S. House of Representatives, 100 in the Senate, and 3 are dedicated to the District of Columbia. These votes are determined by area and population. Redistricting is the process of redrawing political boundaries where officials are elected and takes place after each census. The movement of people migrating to or emigrating from a state can have huge political ramifications (gains or losses) for a state’s electoral votes. The potential impact the Hispanic population can have in the electorate has much to do with the population growth and the concentration of Hispanics in swing states such as Colorado, making it crucial to Presidential elections (Vargas, 2000). The Hispanic population can swing the political color in Colorado to blue.

Data Resources and Collection

To determine what may be contributing to Colorado’s swing from red to blue I will perform analysis between each county’s 2012 presidential election results and each of the following five variables: age, education,
income, the female population, and the Hispanic population. The US Census Bureau’s 2007-2011 American Community Survey is the data source for the five variables, and the Colorado Secretary of State will provide the data source for the election results. Other secondary data includes Colorado census tracts and counties. I will use the ACS data to create histograms and scatterplot graphs for the variables. The five demographic variables are defined as five separate independent variables to the political party dependent variable. The graphs will then be analyzed to determine the relationship between the variables.

There are two concerns I will address. The first concern I will address is the Modifiable Areal Unit Problem (MAUP) as it relates to data aggregation. My first approach will be to aggregate at the county level, but I will also test the data at the census-tract level to determine the most accurate scale. The challenge for this is the availability of 2012 voting results at the census tract level. I will perform statistical analysis at both the census tract and county level to see if accurate trends emerge. The second concern that I will address is that of ecological fallacy that can occur when individual data results are inferred from group data sets. I will create maps to display the demographic data at both the county and census levels. Tobler’s First Law of Geography: Things closer together are more alike than things farther apart may also play into the results. My goal is to choose research methodologies that will reduce erroneous inferences.
Findings

Based on my research I found the results for the five demographic variables to have varied relationships with the Democratic votes in Colorado. The first independent variable histogram, the 65-and-over population, shows that below 18% this demographic population had more county votes for the Democratic Party. But as the 65-and-over population increased above 18%, the counties that voted Republican also increased (Figures 9 and 10). These results do not indicate a strong relationship for the 65-and-over population to swing Colorado blue.

Figure 9: 65 and over population Democratic results by county (ACS, 2012).

Figure 10: 65 and over population Republican results by county (ACS, 2012).

The second variable I analyzed was the college educated population. Colorado’s college education population average is 36.3% (US Census,
2012). My findings show that only four counties at or above the state’s average voted Republican, while the other 14 counties voted Democratic. There were also 13 counties below the 36.3% average that voted Democratic (Figures 11 and 12). These results do not indicate a strong relationship with college educated voters voting Democratic, but it does show a negative relationship with the Republican Party.

![College Degree Population Vote Democratic by County](image1)

**Figure 11: College Degree population Democratic results by county (ACS, 2012).**

![College Degree Population Vote Republican by County](image2)

**Figure 12: College Degree population Republican results by county (ACS, 2012).**

The third variable I analyzed was the median income population. The lowest median income of $25,000 voted Democratic and the top income of $101,200 voted Republican. But when the state’s median income of $58,000 was evaluated, 23 counties voted Democratic and 36 voted Republican.
(Figures 13 and 14). These findings do not produce a strong relationship between median income and voting Democratic.

The female population was the fourth variable I analyzed. This demographic yielded split results between the red and blue votes. There were almost equal counties voting Democratic and Republican when the female vote percentage was over 60%, 23 to 22 respectively. Below the 60% category there was a wider margin of vote difference: four counties voting Democratic versus 15 counties voting Republican (Figures 15 and 16).
These findings do not depict a strong relationship with the female population and voting blue.

The final variable I analyzed in turning Colorado politics blue is the Hispanic population. Colorado’s population is 21% Hispanic (US Census, 2012). Of the 20 counties with higher than average Hispanic populations, 12 voted Democratic versus eight counties that voted Republican. Also, as the percentage of Hispanic population decreased there was an increase in counties that voted Republican: 28 counties with a Hispanic population below 20% voted red (Figures 17 and 18).
Figure 17: Hispanic population Democratic results by county (ACS, 2012).

Figure 18: Hispanic population Republican results by county (ACS, 2012).

This does not indicate a strong relationship; but of the five independent variables it shows the most promise. As the Hispanic population is projected to triple by 2050 (Pew Research, 2012) the current spread between the Democratic and Republican voting may also widen. Figure 19 displays the ACS independent variable averages compared to the Colorado county presidential voting results for 2012. For the Hispanic population the spread is almost 10%. The Hispanic population and the college educated post the largest differences between political party and demographics in Colorado.
These findings align with the negative relationship between the Republican Party and college educated voters, and the higher percentage of counties with a larger Hispanic population that voted Democratic.

**Analysis Discussion**

I had two concerns with the dataset: Modifiable Areal Unit Problem (MAUP) and ecological fallacy. Both the county level and census tract level datasets had the five demographic variables, but only the county level data was tied directly to the Colorado Secretary of State 2012 Presidential voting records. To overcome my concerns I graphically displayed each dataset and accommodated for the census tract level by creating color-coded county boundaries based on the Secretary of State’s data. This allowed for the statistical relationships to show on the maps both at the census tract and the aggregated county level datasets because ultimately the voting results are rolled to the county level. The county level maps were not necessarily misleading, but they would be a weak visual reference for targeted political strategy. For example, the income and education variables display quite...
similarly at both census tract level (Figures 20 and 22) and at the country level (Figures 21 and 23).

Figure 20: Census Tract Median Income and Voting Results (ACS, 2012).

Figure 21: County Level Median Income and Voting Results (ACS, 2012).
Figure 22: Census Tract College Educated and Voting Results (ACS, 2012).

Figure 23: County Level College Educated and Voting Results (ACS, 2012).
But if the data was only displayed at the county level for the female population the reader would miss the variance of the population that voted Democratic in the upper-mid counties of Larimer, Boulder, and Jefferson (Figures 24 and 25).

**Figure 24**: County Level Female Population and Voting Results (ACS, 2012).

**Figure 25**: Census Tract Level Female Population and Voting Results (ACS, 2012).
The results also showed Tobler’s First Law of Geography at work. In the Hispanic population’s census tract level map (Figure 26) the viewer can see the various percent differences in Eagle county. This shows that regardless of the percentage in each tract there is a shared Democratic political view with neighboring census tracts.

**Figure 26: Census Tract Level Hispanic Population and Voting Results (ACS, 2012).**

Similar geographic patterns can be viewed at the county level for adjacent counties across the state (Figure 27).
This may reveal that geographic clustering of western blue counties duplicate their ideals in a “spatially dependent biofeedback loop” (Robinson and Noriega, 2010). The geographic clustering of like-minded voters does not mean these voters just share a physical block, but it also allows for “political socialization... people who are proximate to one another influence each other’s attitudes and behavior” (Gimpel and Schuknecht, 2003). As the Hispanic population continues to increase in Colorado we may see the trend of the last two presidential elections swing Colorado’s political color to blue for many elections to come. For the past few decades Hispanic voters have steadily exercised their voting rights and political power. According to the
National Association of Latino Elected and Appointed Officials, in Colorado there are 15 percent (224,000) more registered Hispanic voters now than there were in 2008. In 2012 they made up 10.2 percent of Colorado’s registered voters (Figure 28).

**Figure 28: Latino Voter Turnout (America’s Voice, 2010).**

This increase in voter turnout could be caused by the opportunity of Hispanic populations living in the same neighborhoods discussing politics and the recent immigration policies that affect them. The Hispanic population has trended Democratic in the past few elections, voting for a Democratic Governor in 2006, two Democratic US Senators, and Barack Obama in the last two presidential elections (Robinson and Noriega, 2010). This does not guarantee the Hispanic population is completely tied to the Democratic Party, but the ideologies and policies the Democratic candidates have recently affected voter turnout and party choice to sway Democratic.

There are three major factors Hispanic voters look for in a party’s agenda: the economy, education, and immigration reform (Cote, 2012). The Democratic foundational principles of economic governmental intervention, progressive taxation, and a safety net of more openhanded government
programs align with the Hispanic population’s core values (Mac Donald, 2012).

While Hispanics are concerned with working and having a good education system for their children, the recent immigration policies have also become a hot topic within the Hispanic communities. The Democratic stance on immigration policy is more favorable to Hispanics, and as discussions continue to be heard within the various Hispanic communities it’s an issue that will remain decisive for future elections (Cote, 2012). Many Hispanics are disillusioned by the lack of progress on inclusive immigration reform, and the ideology some candidates have toward penalizing immigration policies have rejuvenated many Hispanic voters to get to the voting booths (America’s Voice, 2010). Based on a recent poll (Figure 29) there is every reason to believe that Hispanics will continue increased voter turnout and political participation in years to come.

![Latino electoral engagement in 2012](image-url)

*Figure 29: Latino electoral engagement in 2012 (Latino Decisions, 2012).*
Conclusion

My findings support the idea that the Hispanic population is capable of swinging Colorado blue in the future, but my statistical results do not confirm my theory. The Hispanic population does not have a strong, positive relationship to turn Colorado blue. The counties that voted Democratic had a 24% Hispanic average population, but for the whole state the results were not as statistically significant as I expected. As the Hispanic population continues to grow in Colorado further analysis and research will be necessary to fully support my theory. One suggestion is to cross-analyze the five variables to identify if trends emerge between demographic pairings such as the Hispanic population and college degree together. Appendices 1 and 2 each show an initial scatterplot matrix to provide more in-depth analysis between demographics. Other research methods such as surveys or multivariate logistic regression may also provide more conclusive results in determining what demographic(s) have a strong, positive relationship to turn the political color of Colorado blue.
References


Appendix

Appendix 1: Political party and demographic variables (ACS, 2012).

Appendix 2: Vote democratic and demographic variables (ACS, 2012).
Appendix 3: County level Hispanic Population and voting results (ACS, 2012).

Appendix 5: Census tract level 65 and Over voting results (ACS, 2012).

Appendix 6: County level 65 and Over and voting results (ACS, 2012).

Chi-Square: 16.279 (DF = 17; Prob. = 0.504)
V:
Lambda: 0.042
Lambda: 0.600
Lambda: 0.206
(DV=3)
(DV=32)

Chi-Square significance problem: Expected Frequencies fewer than 5.

Ordinal Statistics
Gamma: -0.276
s.error: 0.269
Dy: -0.133
s.error: 0.129
Prob. = 0.304

Appendix 8: 65 and Over Political Party Bivariate Results (MicroCase, 2000).


**Appendix 9: College Educated \( R^2 \) (US Census, 2012).**

![Graph showing the relationship between % College Educated Per County and Democratic vs Republican support.](image)

**Chi-Square: 9.046 (DF = 4; Prob. = 0.060)**

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<th>Value</th>
<th>Value</th>
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<tr>
<td>Lambda</td>
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<td>Lambda (DV=11)</td>
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**Chi-Square significance problem:** Expected Frequencies fewer than 5.

**Ordinal Statistics**

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<td>s.error</td>
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**Prob. = 0.094**

**Appendix 10: College Educated Political Party Bivariate Results (MicroCase, 2000).**

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<td>C: 0.273</td>
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<td>Lambda: 0.120</td>
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Ordinal Statistics

| Gamma: 0.445         |
| s.error: 0.129       |
| Dyx: 0.227           |
| s.error: 0.066       |
| Prob.: 0.001         |
| Tau-b: 0.263         |
| s.error: 0.077       |
| Dxy: 0.305           |
| s.error: 0.089       |
| Tau-c: 0.298         |
| s.error: 0.087       |

Appendix 12: Median Income Political Party Bivariate Results (MicroCase, 2000).

Appendix 14: Female Population Political Party Bivariate Results (MicroCase, 2000).