

Consider the 2016 US Election data on our course website for this quiz. This is preliminary data from the election as the election results have not yet been certified. A snippet of the data is provided here. For this quiz, we will investigate the popular vote, i.e. the number of votes for Clinton and Trump.

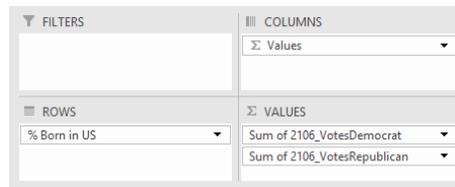
	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	State	County Name	FIPS	St	Col	Vote	2106_VotesDemocrat	2106_VotesRepublican	cent	entF	% Bachelors Degree	% Born in US	% Female	% White
2	AL	Autauga County, AL	##	1	1	##	5908	18110	0.2	0.7	10-15	95-100	50-55	70-80
3	AL	Baldwin County, AL	##	1	3	##	18409	72780	0.2	0.8	15-20	95-100	50-55	80-90
4	AL	Barbour County, AL	##	1	5	##	4848	5431	0.5	0.5	5-10	95-100	45-50	40-50
5	AL	Bibb County, AL	##	1	7	##	1874	6733	0.7	0.8	5-10	95-100	45-50	70-80

2016 Election Outcomes
 [Red = Trump, Blue = Clinton]



- Set up the following PivotTable in Excel / Google Sheets. The summary measure being used here is SUM -- this will need to be changed as the default in Excel is to use Count. The SUM is needed as we need the total number of votes for each candidate. Also, specify % Born in US for Rows.

PivotTable Setup to Obtain Total Number of Votes
 Across levels of % Born in US



- Fill in the following table using the output you obtained above. (2 pts)

% Born	Democrat	Republican
80 and below	20170586	9896093
80-85	7352896	5141644
85-90	9833099	8923966
90-95	14801917	17427458
95-100	10139830	19606380
Total	62298328	60995541

3. Answer the following using your output. (4 pts)

a. Overall, how many total votes are there for Clinton? 62298328

b. Overall, how many total votes are there for Trump? 60995541

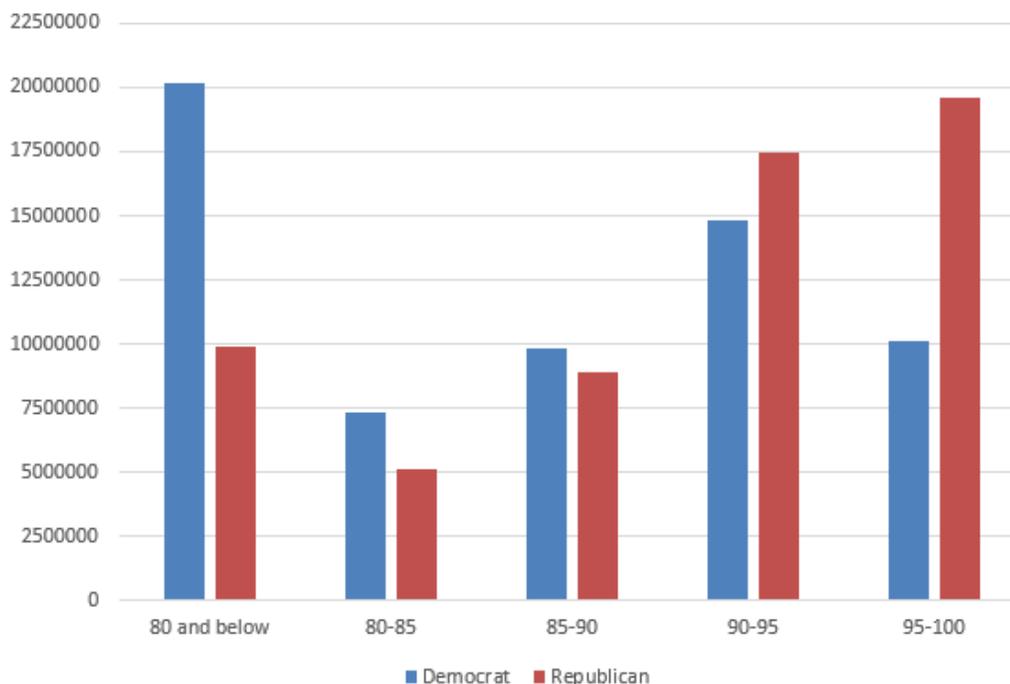
c. Clinton supposedly won more of the popular vote. Is this true? By how much did she win?

Yes, this appears to be true. Clinton had 62298328 votes and Trump had 60995541 votes. There is a difference of about 1.3 million votes, i.e. $62298328 - 60995541 = 1302787$.

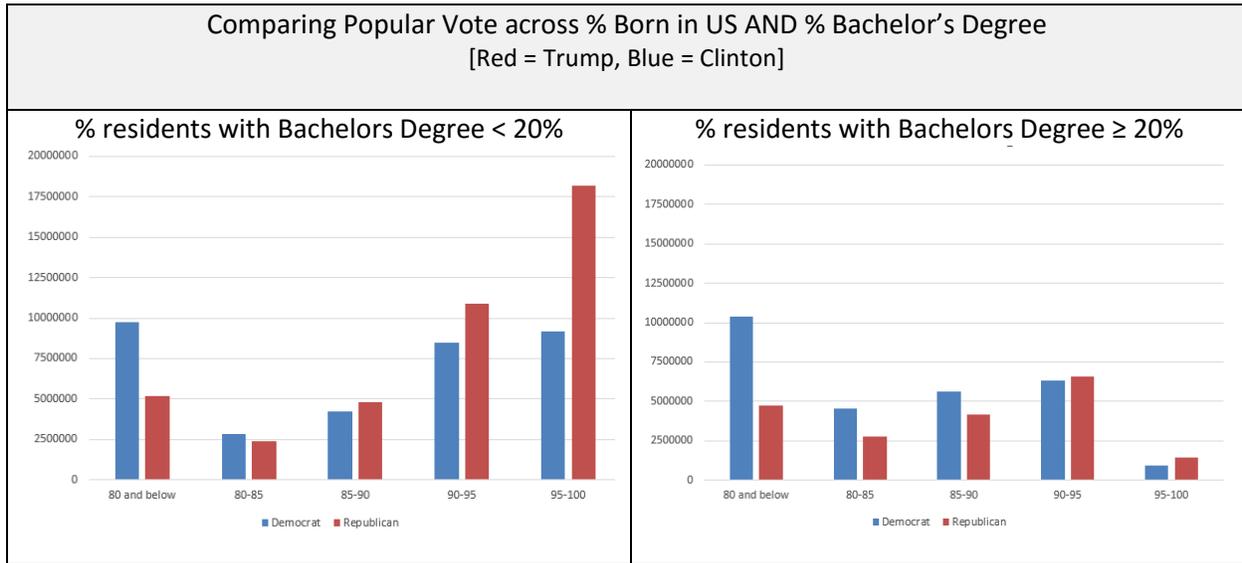
4. What can be said about the relationship between the % Born in the US and how people voted? Your discussion must be based on the data presented here. Discuss. (4 pts)

Clinton did better in counties in which the % Born in US was less than 90%. For the 80 and below, 80-85, and 85-90 groups, Clinton won; however, when the % Born in US was high, i.e. 90-95 and 95-100, Trump did somewhat better than Clinton.

5. Next, create a bar graph that will allow one to visually compare the break-down of the popular vote based on the % of residents born in the US. Provide a sketch of your bar graph here. (2 pts)



Next, let us consider how educational level of the residents may influence this relationship discovered above between % Born in US and support for Clinton / Trump. The plot on the left was constructed for only the counties that a bachelor’s degree rate less than 20%, i.e. less than 20% of the residents had a bachelor’s degree; whereas, the graph on the right used only counties with a bachelor’s degree rate of 20% or more.



6. Answer the following True / False questions. (2 pts each)

a. The educational level of the residents does not appear to have an impact on how people voted.	TRUE	FALSE
b. Consider the following statement, “Trump gained more of the popular vote for counties where the % born in the US was above 90%.” This statement is true only for the less educated counties (% bachelors low).	TRUE	FALSE
c. For the least diverse counties (% born in US high) and the less educated counties (% bachelors low), Trump got about double the number of votes compared to Clinton.	TRUE	FALSE
d. Consider the counties where the educational level is high and where almost all residents in the county were born in the US, i.e. the 95-100% group. The voter turnout rate, i.e. the percent of voters who actually voted, is very low for these counties because both bars are so low.	TRUE	FALSE