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MATH 171

Written Paper/Project 1

Political Leanings at Longwood University

 Have you ever wondered how the people around you feel about politics, and where they would identify themselves as on a political scale? Data from surveys, such as the one the MATH 171 class took at the beginning of the semester, can provide that insight. While this data may not provide a complete picture of where everyone in our community would identify in terms of political leaning, it does give a view into where some of us fall. In cases where large amounts of data are used, such as in this analysis, random samples can be used to gain a representation of the data while being able to work through less material. Graphs will also be used to visually present this data is a way that allows a viewer to understand what percentage of people fall where without having to go through all the data.

 The individuals in the population used were everyone who took the survey, which totaled 300 participants. The individuals in the sample used for this work were 50 of those individuals who were randomly selected from the population. The variable used from the three available in this data set was political leaning, with the categories for this variable being; very liberal, somewhat liberal, moderate, somewhat conservative, and very liberal. This data is qualitative, since each variable is sorted by a set of categories and doing averages or similar operations on the data wouldn’t be possible or make sense. In order to obtain the random sample from the overall data the first step was to isolate the variable from the other two variables present. I copied the 300 entries for political leaning and moved them to a new sheet in excel. Once this was done, I entered =rand() into the top cell of the column to the right of the column where I had inserted the political leaning data. I then copied this formula for the other 299 entries, by dragging the formula down the sheet using the small square at the corner of the original cell. This generated a random number between 0 and 1 for each of those political leanings. After this I sorted those random numbers from smallest to highest using the sort and filter tab in excel. I picked and copied the smallest 50 random numbers and used those for my sample in another sheet.

This was an observational sample, since the collection of the data didn’t involve any treatment of the individuals participating that would change the response. The survey used to obtain the sample simply asked for the individuals’ beliefs and didn’t offer any benefit or punishment for them answering one way or another. I think this sample is representative of all students at Longwood University since it was offered to be taken by a large portion of the students and students didn’t have any incentive to participate based on how they lean politically. For instance, student who falls into the very conservative category would get the same extra credit in MATH 171 for taking the survey as would a student who falls into the very liberal category. I also believe this sample is representative of all college students in Virginia, given that Longwood has students from all parts of Virginia and is not known for being conservative or liberal leaning. Aside from Liberty University most other Virginia colleges don’t have any formal political leaning and thus are likely to draw students from all over the political spectrum. I do not believe that this sample is representative for all college students in the U.S. since other states tend to have more conservative or liberal leaning student populations based on where they’re located in the United States. For example, colleges in the Northeast would show many liberal leaning students while colleges in the Southeast would show many conservative leaning students. I also do not believe that this sample is representative of college students all over the world since many countries are either very liberal or conservative leaning and thus their student populations would reflect that leaning. Some students in other countries also may not identify as any of the categories for political leaning listed in this study.

This sample from the survey portrayed Longwood students as being largely moderate which could be expected given that most college students range between the ages of 18 and 22 and thus tend to not have shifted to one side of the political spectrum or the other as they’re still learning and understanding the political system. The main improvement that could be made on this data sample would be to make the survey used mandatory for all Longwood students and then use that data set. The data from the random sample taken from the overall population that participated in the survey will be presented in a table, pie chart, and bar chart in this work on the next page.

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| **Political Leaning** | **Frequencies (n=50)** |
| Very Liberal | 4 |
| Somewhat Liberal | 9 |
| Moderate | 23 |
| Somewhat Conservative | 9 |
| Very Conservative | 5 |