

Team A Proposal : A Political Survey of the CMU Community

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Description:

A. Why is this topic interesting? Why does this survey need to be done now? Is there a client for whom you might do the survey?

This topic is interesting because we are in an election year and, since the CMU community is full of current and future leaders, it would be interesting to see how such a community feels about political issues and their informedness/choices for the election. The survey should be done now to assess how informed the community is; if people are not as informed as they should be before voting, more action can be taken to increase informedness. The political parties and their candidates would be clients who might also find the results of the survey useful.

B. What question(s) do you propose to study? Give a brief answer that would be understandable to a non-statistician.

We are seeking a measurement of each respondent's stance on social, political, economic, and election issues. We will obtain demographic information like {age, gender, student/faculty/staff, major/department, QPA} and see if there is a relationship between the demographic information and stance. That is, can we predict a person's political leaning or election behavior given their demographic information? Also, we want to ask how representative of the US population the CMU community is.

C. What research has already been done on the topic or on the theoretical construct of central importance to your topic? What could be learned from the survey results?

Dev Doshi

- The American National Election Studies (www.electionstudies.org). THE ANES GUIDE TO PUBLIC OPINION AND ELECTORAL BEHAVIOR. Ann Arbor, MI: University of Michigan, Center for Political Studies [producer and distributor].
- This website contains a large amount of data from the past 50 years of elections. It includes examples of the question phrasing and analysis of the results. It should be useful for refining our research/survey questions and methodology and also for giving us a baseline to evaluate our results against.

Emily Gehrels

- Mary Beth Marklein. Study: College Freshmen Move Left on Key Issues. *USA Today*. Retrieved Jan 29 2012 from: <http://content.usatoday.com/communities/onpolitics/post/2012/01/college-freshmen-political-views-ucla-study/1>.
- This article discusses the changes in political views of incoming college freshman since 2009. The percentage of incoming freshman who reported as moderate has increased. However, when asked about specific campaign issues such as gay rights, and right to abortions, the results showed an increase in the percentage of responders whose responses were "leftward leaning." This provides an interesting possible survey area of comparing overall leaning with leaning on specific issues.

Will Weiner

- Gage, Rachel. Zick, Jennifer. Tully, Kaylie and Simon, Eliana. "Choice of Major and Political Attitudes: A Study of University of Minnesota Students" *Sentience. The University of Minnesota Undergraduate Journal of Psychology* (2010). http://www.psych.umn.edu/sentience/files/Gage_2010.pdf
- This study looks at whether there is a correlation between a student's major and their political views. It was carried out at the University of Minnesota, so the results may or may not generalize well to the US as a whole, but they seem intuitive. There did not seem to be much other research at a larger national level so it could be interesting to see how our findings compare. In this study it was found that major is uncorrelated with social views, but is significantly related to the economic views of a student. It was found that business, economics, engineering, and computer science majors were significantly more conservative economically than arts, lab science, and social science majors. This gives us an idea of what results we might see and would be interesting to see if these results match our findings.

Crystal Wray

- Perez, Esten and John Della Volpe (eds.) (2011). *Survey of Young Americans' Attitudes Toward Politics and Public Service: 20th Edition*. Harvard University Institute of Politics: Cambridge. <http://www.iop.harvard.edu/Research-Publications/Survey/Fall-2011-Survey>
- This survey polled 2,028 18-29 year-old U.S. citizens and found that a plurality predict Obama will lose bid for re-election and that Mitt Romney leads among young Republican primary and caucus goers. This survey can provide the framework for how we should conduct our study as well as allow us to compare CMU students to the general population of young adults.

Pavan Yalamanchili

- "College Students and Politics: A Literature Review" by Ross P. Meyer and Nicholas V. Longo <http://www.civicyouth.org/PopUps/WorkingPapers/WP46LongoMeyer.pdf>
- This article is about the political views and voting tendencies that are common among college students. It explores the reasoning behind the perceived apathy among college students about politics, and whether it is a misconception or an actuality. It uses literature as its main focus of research, however, while we would like to use survey methodology to provide evidence for or against the notion that college students are not very politically involved.

D. What is the sampling frame? What population or populations do you plan to sample from? (This is the question many tend to miss).

The sampling frame is all students, faculty, and staff who currently attend school or work at the Pittsburgh campus of CMU. We will use the C-Book to gather emails of faculty and students to distribute the surveys via email. To account for those who do not reply to the email we will use Facebook to attempt to contact them in order to improve our response rate.

E. What is the target population? To what population(s) do you wish to make inferences? How does the target population differ from the sampling frame, for your survey? What possible sampling and non-sampling errors could arise in the survey that you plan to conduct? Explain each possible error, how it could occur, and how you suggest tackling it.

The target population is all of the students, faculty, and staff from the Pittsburgh campus of CMU. We do not intend to generalize to a greater population such as all US universities. Because not all faculty, students, and staff can be accessed using emails from the C-Book we may encounter coverage error. However, since the vast majority of students and faculty have school-provided email addresses, we can cover most of our population using this frame. Also, depending on how long the survey is available, people may not check their email in time to respond to the survey. These issues might be improved by using media like Twitter and Facebook to get more coverage.

We may also encounter sampling error based on the method we have chosen for choosing a sample from our sampling population, students and faculty who have emails listed in the C-Book, as well as the possibility of ineligible units in our sampling frame. In order to account for ineligible units, we would use screening questions early in the survey to determine the status of those answering the survey, such as what year, whether they are undergraduate or graduate students, if they are faculty, and whether they are actually full time students or not.

There will likely be some nonresponse error based on those who are chosen to be part of our sample, but do not choose to respond to the survey. We will attempt to minimize this error by re-contacting those who do not respond to the survey after our first contact.

We are also aware of the possibility of measurement error if students are unwilling to disclose their political beliefs or perhaps even QPA. In order to minimize this error we will assure the respondents that the results will be kept anonymous.

F. What is the mode of data collection? How do you plan to carry out the survey (e.g., by telephone, e-mail) and why?

The data will be collected via Google Docs Forms. It is a free alternative to SurveyMonkey that facilitates easier analysis. Links to the survey will be distributed via email to andrew ID's that are randomly selected from the C-BOOK. This should give us improved coverage as well as additional information about the population. If we have non-response issues we feel confident that we can either follow up with those selected on facebook or select an additional random sample to augment our respondent numbers as necessary.

G. What variables do you propose to measure?

We propose to measure the age, gender, ethnicity, and state referred to as permanent home of each of the respondents, as well as whether the respondent is student/faculty/staff, and if applicable, their QPA, primary major, and home department. We will also measure the subjects' informedness (self-reported, e.g. where and how frequently they get political information) about election expectations, candidates' stances, and their stance on major political issues.

J. How do you plan to protect the privacy and assure the confidentiality of respondents? Talk about data collection, protection, and disclosure.

The andrew IDs will be used solely to recruit participants. We will not link a participant's answers to his or her andrew ID. Therefore the survey will be anonymous.

K. Sampling Scheme

- We will perform a stratified simple random sample without replacement of the CMU community for our project. We are doing this because the CMU population contains different populations that we would like to sample. So, we would like to stratify each of these groups to make comparisons between them as well as to make sampling a little bit easier by reducing the sample size. The specific strata we will use will be one for full-time students and another for full-time faculty of CMU. We will use the student section of the C-Book to sample students and the faculty section to sample faculty. Each member of each group will be assigned numbers by us based on their listing in the C-Book (alphabetical by last name) and we will then use Minitab to generate random numbers to sample based on the sample size we choose for each strata. We will then match the randomly chosen number with the student or faculty member it was assigned to and contact that person through email with a link to our survey.

L. Questionnaire

Background Questions:

- 1) In what year were you born?
(drop down with 1930-2000 or four digit open answer)
- 2) Please specify your race/ ethnicity (check all that apply):
 - a) American Indian or Alaska Native
 - b) Asian
 - c) Black or African American
 - d) Native Hawaiian or Other Pacific Islander
 - e) White
 - f) Hispanic and/or Latino
 - g) Other_____
- 3) What is your religious affiliation?
(write-in)
- 4) What is your gender?
 - a) Male
 - b) Female
- 5) What is your home department? (If you are a student, choose the department which represents most closely your primary major. If you are faculty or staff, choose the department of your primary appointment.)
(Drop down list of possibilities with "other" to write in)
- 6) What is your current status at CMU?
 - a) 1st year undergraduate student (freshman)
 - b) 2nd year (sophomore)
 - c) 3rd year (junior)
 - d) 4th year (senior)
 - e) 5th + year

- f) Master's Student
 - g) PhD Student
 - h) post-doctoral student
 - i) Faculty/teaching
 - j) Staff/administration
- 7) What is your approximate GPA? (drop down with 2 digits)(Only students)
- 8) Are you a US Citizen?
Yes/No
- 9) In which state have you spent the majority of your life?
(drop down with US states, and a choice of outside the US)
- 10) How often have you worried about financial issues in the past year (think of tuition, housing costs, travel, etc...)?

o o o o o o o

Daily Occasionally Never

11) How often have you worried about employment issues in the past year (think of post graduate employment, job security, etc...)?

o o o o o o o

Daily Occasionally Never

Political Questions:

- 12) Are you eligible to vote in the US?
Yes/No
- 13) Have you previously voted in a US presidential election?
Yes/No
- 14) Who did you vote for in the 2008 presidential election?
- a) Abstained from voting
 - b) Barack Obama
 - c) John McCain
 - d) Ralph Nader
 - e) Ineligible to vote
 - f) Other_____
- 15) What political party do you most strongly associate with?
- a) Democrat
 - b) Republican
 - c) Independent
 - d) Green Party
 - e) Other_____

- 16) Where on the following scale would you place your political preferences?

o o o o o o o

Strong Moderate Weak

central government central government

- 17) How much do your religious views impact your everyday life?

o o o o o o o

No Moderate Strongly

influence influential
18) Where on the following scale would you place your economic views?

o o o o o o o
Very Moderate Very
pro-government regulation pro-unregulated private

19) Where on the following scale would you place your views on social issues (such as abortion, gay marriage, immigration, gun control etc)?

o o o o o o o
Very Moderate Very
liberal conservative

20) Have you been following the Republican primaries?

o o o o
Not at all A little Some A lot

21)
(randomize order of and names contained in the following four anchoring vignettes).
Answer choices are:

o o o o
Not at all A little Some A lot

22) Tom has watched the majority of the Republican debates and actively follows election news by reading articles every day. How would you rank the amount that Tom has been following the Republican primaries?

23) Betty reads articles about the candidates about once a week, knows the major issues, and has watched one or two of the Republican debates. How would you rank the amount that Betty has been following the Republican primaries?

24) Bob knows the candidates' names, and has heard a little bit about the issues, but hasn't watched any debates and does not keep up to date with the political news. How would you rank the amount that Bob has been following the Republican primaries?

25) Suzy doesn't know who's running for the Republican party or what the major issues are. How would you rank the amount that Suzy has been following the Republican primaries?

26) List the candidates who are currently in the running for Republican nomination.
(open answer)

27) Rank the following candidates in the order you would vote for them in the 2012 presidential elections if given the chance: If you are not planning on voting, do not rank any. (order randomized for each survey)

- a) Barack Obama
- b) Rick Santorum
- c) Mitt Romney
- d) Newt Gingrich
- e) Ron Paul
- f) Other _____

28) How effective do you feel the US Public K-12 Education System is at preparing students to attend college?

o o o o
Not Very Moderately Very

Sure
Ineffective
Effective
Effective
 29) How do you feel about the state of alternative energy research (e.g. solar, wind, geothermal)?

0
0
0
0
0
0
Not Sure
Poor
Adequate
Excellent
 30) How representative of the average person do you think members of Congress are (with respect to political stance, background, education level, income level)?

0
0
0
0
0
0
Not
Not Very
Moderately
Very
Sure
Representative
Representative
Representative
 31) How would you rank the importance of each of the following issues on a scale from 1 to 10 with 10 being the most important? If you do not feel an issue is important, mark it as 0.
 (order randomized in survey)

- a) Abortion/ contraception policy
- b) Health care policy
- c) Same-sex marriage
- d) War in the Middle East
- e) Immigration policy
- f) Web Censorship policy
- g) Education Reform
- h) Separation of church and state
- i) Military Spending
- j) Alternative energy research
- k) Environmental policy
- l) Drug law (decriminalizing or legalizing marijuana)
- m) Employment/Unemployment issues
- n) Foreign Policy
- o) Government spending/ National Debt
- p) Scientific/ Technical Research

M. Sample Size

- We will be using a random sample without replacement. Therefore, we will use that information to make our calculation of the sample size. To make this calculation we will consider one of our most important questions, which is an individual's political affiliation. The difficult part of this is determining what the population standard deviation. To do this we consulted a semesterly survey conducted at Harvard University that polls their students on their political views (we felt this acted as a good comparison to CMU students). In this case we looked at two measures of political affiliation, whether they self-identified as liberal, conservative or moderate and their party affiliation. In both cases, the standard deviation was very similar (16.8 percentage points for political leaning and 17.0 percentage points for party affiliation). As such we decided to use a round number for the two and put the population standard deviation at 17 percentage points for this question. The general results for both of these questions ranged between the 20 and 30 percent, with 1 and 2 percent replying not sure for each. We additionally included a calculation for the case where a variable is binary.

- Here is the link to the survey from Harvard where we found our statistics
http://www.iop.harvard.edu/var/ezp_site/storage/fckeditor/file/fall_poll_11_M_exec_summ.pdf
- Survey size calculations for chosen MOE:

N= 10,266 (Students and Staff combined) In this case we did a calculation for a sample size without replacement using the standard formula for finding a sample size $((1.96^2) * (SD^2) / (ME^2))$, then multiplying it by the population size and dividing that by the population size plus the calculated sample size. That number is represented in the final sample size column. With the low standard deviation found for political affiliation a sample size needed for margin of error of .05 is ~45. For a margin of error of .025 the sample size would be ~175. We also included calculations for questions with standard deviation of .5, because we do have several binary response variables. In this case for a MOE of .05 our sample size would be 370 and for .025 it would be 1337. Comparing the results for these two calculations it appears that our ideal sample size would probably be between 200-300, because that would give us a standard deviation around .05 depending on the question. With a response rate between 20% and 30% we would need to sample about 1000 individuals to get the ideal sample size to get our desired margins of error. Examples of several of our calculations are listed below.

MOE	SD	n0	Final Sample Size
0.05	0.17	44.4089	44.21761842
0.01	0.17	1110.222	1001.874151
0.1	0.17	11.10222	11.09023041
0.025	0.17	177.6356	174.614184
0.05	0.5	384.16	370.3030339
0.01	0.5	9604	4961.98611
0.1	0.5	96.04	95.14985852
0.025	0.5	1536.64	1336.577769