

Exit Poll Results
of the
2006 Midterm Elections in Centre County, PA
prepared for
Citizens for Concerned Voters

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1. Introduction

1.1. Description of the Data

Exit polls were conducted at three locations on Election Day, November 7, 2006. A summary of the races is in Table 1-1.

Table 1-1: Summary of Election Races

| Race | Democratic | Republican | Libertarian | Other |
|---|--------------------|---------------------|------------------|----------------|
| Senator | Bob Casey, Jr. | Rick Santorum | | |
| Governor | Ed Rendell | Lynn Swann | | |
| Representative in Congress 5 th District | Donald L. Hilliard | John E. Peterson | | |
| Senator in the General Assembly 34 th District | Jon Eich | Jacob D. Corman III | Thomas A. Martin | Robert J. Cash |

Interviewers were instructed to approach people as they exited the polling station. Individuals were not selected in a systematic approach, such as every third person, but rather when an interviewer was finished speaking with one voter, he or she was instructed to look at the polling station's door, and approach the next person who exited. When voters were clearly together (e.g. spouses, parents and children), only one individual in the group was approached. For example, if an individual was selected to be interviewed, the partner often accompanied the interviewee and listened to the discussion between interviewer and interviewee. In this situation, only the initially selected individual was asked to complete the survey.

The data was double, and in some cases triple, entered to ensure accuracy. The official results were obtained from the Centre County Government (Centre County, Pennsylvania) website on November 22, 2006.

1.2. Data analysis

Data analysis was conducted in SAS v9.1. Two basic analyses were conducted.

To assess whether the exit poll votes matched the official results, a one sample test of proportions was conducted. This test compares a sample proportion to a true proportion. In our setting the sample proportion was the proportion in the interviewed sample (e.g. the exit poll) who voted for the winning candidate. The true proportion was assumed to be the proportion recorded in the official results who voted for the exit poll winning candidate. The exit poll winner agreed with the official winner, with the exception of two races at College Township North. A level of significance of 0.05 was used, so that a

p-value from this test of less than 0.05 suggests that the claim cannot be made that the exit poll results match the official results. In all analyses, a Fisher's exact test was performed.

For each race, a 95% confidence interval around the sample proportion was obtained.

This analysis was conducted with three datasets: the entire dataset, those who voted a straight ticket, and those who didn't vote a straight ticket (see Section 7).

2. Ferguson Northeast 1 Precinct

A total of 245 exit surveys were completed at the Ferguson Northeast 1 Precinct; 89 individuals chose not to complete the poll. Hence a total of 334 individuals were approached. The official election results report that 548 individuals voted. Hence, 60.9% of the voters were approached by the exit poll interviewers.

2.1. Individual Race Results

For each of the four races considered, the exit polls indicated the same winner as the official results. The exit polls' results agreed with the official recorded percent voted for three of the four race winners (Table 2-1). In the governorship race, the exit poll results indicate that 72.20% of those interviewed voted for Mr. Rendell. However, the official results indicate that 65.61% of the votes were cast for Mr. Rendell, which is significantly lower than the exit poll results (p-value 0.0425).

Table 2-1: Results for Ferguson NE 1 for the full sample

| Ferguson NE 1 | Official Winner | Exit Poll Winner | Exit Poll Percent | 95% Confidence Interval | Official Percent for Exit Poll Winner | p-value |
|--|-----------------|------------------|-------------------|-------------------------|---------------------------------------|---------------|
| US Senator | Casey | Casey | 77.00 | (68.53, 80.35) | 69.62 | 0.1066 |
| Governor | Rendell | Rendell | 72.20 | (65.83, 77.97) | 65.61 | 0.0425 |
| 5 th District Congress | Hilliard | Hilliard | 65.74 | (59.00, 72.05) | 60.08 | 0.1031 |
| 34 th District General Assembly | Eich | Eich | 65.00 | (58.30, 71.29) | 60.15 | 0.1598 |

The data was further examined in terms of those who voted a straight ticket and those who did not. Of those who completed the exit poll, 119 indicated that a straight ticket vote had been placed. However, only 107 individuals indicated for which party the vote was cast. Among these, 90 voted for a democratic ticket (84.11%). In the official results, 239 voted a straight ticket, 178 of whom voted for a democratic ticket (74.48%). There are significantly more exit poll straight ticket democratic votes than reported in the official results (p-value of 0.0239).

The final comparison is among those who did not vote a straight ticket. In comparing the percent of votes for the winning candidate reported in the exit poll to those reported in the official results, votes

from those casting straight ticket votes were removed. There was no statistically significant difference between the exit poll results and the official results.

Table 2-2: Results for Ferguson NE 1 for those who did not vote a straight ticket

| Ferguson NE 1 | Official Winner | Exit Poll Winner | Exit Poll Percent | 95% Confidence Interval | Official Percent for Exit Poll Winner | p-value |
|--|-----------------|------------------|-------------------|-------------------------|---------------------------------------|---------|
| US Senator | Casey | Casey | 66.38 | (57.02, 74.88) | 65.64 | 0.9524 |
| Governor | Rendell | Rendell | 61.54 | (52.09, 70.38) | 58.53 | 0.5736 |
| 5 th District Congress | Hilliard | Hilliard | 48.18 | (38.55, 57.91) | 47.87 | 1.000 |
| 34 th District General Assembly | Eich | Eich | 47.37 | (37.94, 56.94) | 48.46 | 0.8899 |

2.2. Demographic characteristics of responders and non-responders to the exit poll

In general the demographic characteristics of those who completed the exit poll differed from those who we approached but declined to participate. Among men, 68% participated whereas among women, 78% participated, which is marginally significant with a p-value of 0.0597. There was a 1.44 greater probability that a man would refuse to complete the exit poll than a woman would.

Table 2-3: Responders by Gender at Ferguson

| Gender | Responded | | Total |
|--------------|--------------|---------------|-------------|
| | no | yes | |
| Male | 50 31.85% | 107 68.15% | 157 100% |
| Female | 37 22.02% | 131 77.98% | 168 100% |
| Total | 87 | 238 | 325 |

Participant race was broadly classified as Caucasian and non-Caucasian to minimize misclassification (Table 2-4). Significantly more Caucasians (76%) participated than non-Caucasians (63%), with a p-value of 0.0353. The proportion of non-responders was 1.6 times higher for non-Caucasians than for Caucasians.

Table 2-4: Responders by Race at Ferguson

| Race | Responded | | Total |
|---------------|--------------|---------------|-------------|
| | no | yes | |
| Non-Caucasian | 27 36.99% | 46 63.01% | 73 100% |
| Caucasian | 62 23.75% | 199 76.25% | 261 100% |
| Total | 89 | 245 | 334 |

Participants were classified into four age categories (Table 2-5). If individuals in the four age categories chose to participate in the same proportion as those who chose not to participate, the column proportions in Table 2-5 would be the same under the ‘yes’ category as under the ‘no’ category. This is what we expect. However, in this exit poll, those 18 to 35 years old were more likely to participate and those 56 to 75 were less likely to participate (p-value 0.0006). The proportion of non-responders was 2 times higher for those over 56 than those younger than 55.

Table 2-5: Responders by Age at Ferguson

| Age | Responded | | Total |
|--------------|--------------|---------------|-------|
| | no | yes | |
| 18 - 35 | 26 18.71% | 113 81.29% | 139 |
| 36 - 55 | 21 23.33% | 69 76.67% | 90 |
| 56 - 75 | 36 42.86% | 48 57.14% | 84 |
| over 75 | 5 41.67% | 7 58.33% | 12 |
| Total | 88 27.08% | 237 72.92% | 325 |

3. Patton South 3

A total of 351 exit surveys were completed at the Patton South 3 Precinct; 157 individuals chose not to complete the poll. Hence a total of 508 individuals were approached. The official election results report that 1,221 individuals voted. Hence, 41.6% of the voters were approached by the exit poll interviewers.

3.1. Individual Race Results

For each of the four races considered, the exit polls indicated the same winner as the official results. The exit polls' results agreed with the official recorded percent voted for each of the four race winners (Table 3-1).

Table 3-1: Results for Patton South 3

| Patton South 3 | Official Winner | Exit Poll Winner | Exit Poll Percent | 95% Confidence Interval | Official Percent for Exit Poll Winner | p-value |
|--|-----------------|------------------|-------------------|-------------------------|---------------------------------------|---------|
| US Senator | Casey | Casey | 65.76 | (60.36, 70.87) | 62.89 | 0.3070 |
| Governor | Rendell | Rendell | 65.96 | (60.59, 71.05) | 61.53 | 0.1070 |
| 5 th District Congress | Hilliard | Hilliard | 53.46 | (47.81, 59.04) | 50.59 | 0.3334 |
| 34 th District General Assembly | Eich | Eich | 59.15 | (53.61, 64.51) | 54.72 | 0.1192 |

The data was further examined in terms of those who voted a straight ticket and those who did not. Of those who completed the exit poll, 172 indicated they had completed a straight ticket. However, among these 172, only 160 indicated for which party they voted; 112 voted for a democratic ticket (70%). In the official results, 432 voted a straight ticket, 265 of whom voted for a democratic ticket (61.34%). There are significantly more exit poll straight ticket democratic votes than reported in the official results (p-value of 0.0281).

Among those who did not vote a straight ticket, the exit poll results agree with the official results (Table 3-2).

Table 3-2: Results for Patton South 3 for those who did not vote a straight ticket

| Patton South 3 | Official Winner | Exit Poll Winner | Exit Poll Percent | 95% Confidence Interval | Official Percent for Exit Poll Winner | p-value |
|--|-----------------|------------------|-------------------|-------------------------|---------------------------------------|---------|
| US Senator | Casey | Casey | 61.76 | (54.01, 69.10) | 63.77 | 0.6385 |
| Governor | Rendell | Rendell | 62.21 | (54.51, 69.48) | 61.64 | 0.9450 |
| 5 th District Congress | Peterson | Peterson | 60.13 | (52.04, 67.82) | 55.21 | 0.2444 |
| 34 th District General Assembly | Eich | Eich | 48.81 | (41.03, 56.63) | 50.98 | 0.6271 |

3.2. Demographic characteristics of responders and non-responders to the exit poll

In general the demographic characteristics of those who completed the exit poll differed in terms of race and age from those who we approached but declined to participate. However, there was no difference based on gender (Table 3-3). In our sample, 68.14% of the men and 68.68% of the women approached chose to participate.

Table 3-3: Responders by Gender at Patton South 3

| Gender | Responded | | Total |
|--------------|--------------|---------------|-------------|
| | no | yes | |
| Male | 72 31.86% | 154 68.14% | 226 100% |
| Female | 83 31.32% | 182 68.68% | 265 100% |
| Total | 155 | 336 | 491 |

Participant race was broadly classified as Caucasian and non-Caucasian to minimize misclassification (Table 3-4). At this station, significantly more non-Caucasians (84.44%) participated than Caucasians (67.70%), with a p-value of 0.0197. The proportion of Caucasians who refused was 2 times greater than the proportion of non-Caucasians.

Table 3-4: Responders by Race at Patton South 3

| Race | Responded | | Total |
|---------------|---------------|---------------|-------|
| | no | yes | |
| Non-Caucasian | 7 15.56% | 38 84.44% | 45 |
| Caucasian | 150 32.40% | 313 67.60% | 463 |
| Total | 157 | 351 | 508 |

Participants were classified into four age categories (Table 3-5). There was a significant discrepancy among the ages of those who did and did not participate in the exit poll (p-value <0.0001). Voters aged 18 to 35 participated in the exit survey in greater proportions than expected and those over 75 participated in lower proportions than expected. The proportion of those aged 36 to 75 who refused was 2.4 times greater than those younger than 36. Further, the proportion of those over 75 who refused was 1.6 times greater than those aged 36 to 75.

Table 3-5: Responders by Age at Patton South 3

| Age | Responded | | Total |
|--------------|--------------|---------------|-------|
| | no | yes | |
| 18 - 35 | 14 14.43% | 83 85.57% | 97 |
| 36 - 55 | 83 37.05% | 141 62.95% | 224 |
| 56 - 75 | 50 31.45% | 109 68.55% | 159 |
| over 75 | 10 55.56% | 8 44.44% | 18 |
| Total | 157 100% | 341 100% | 498 |

4. College Township North Precinct

A total of 498 exit surveys were completed at the College Township North Precinct; 146 individuals chose not to complete the poll. Hence a total of 644 individuals were approached. The official election results report that 1,211 individuals voted. Hence, 53.2% of the voters were approached by the exit poll interviewers.

4.1. Individual Race Results

The exit poll results agreed with the official results for the US Senator race (Casey) and for the 5th District Congress race (Peterson). However the exit poll incorrectly predicted that Rendell won the Governor race and that Eich won the 34th District General. Further, the proportion of votes for the winning candidate reported by the exit poll was significantly different than the official results in each of the four races (Table 4-1).

Table 4-1: Results for College Township North

| College Township North | Official Winner | Exit Poll Winner | Exit Poll Percent | 95% Confidence Interval | Official Percent for Exit Poll Winner | p-value |
|--|-----------------|------------------|-------------------|-------------------------|---------------------------------------|---------------|
| US Senator | Casey | Casey | 59.43 | (54.76, 63.97) | 52.52 | 0.0035 |
| Governor | Swann | Rendell | 55.53 | (50.86, 60.13) | 47.83 | 0.0011 |
| 5 th District Congress | Peterson | Peterson | 50.67 | (45.94, 55.39) | 58.33 | 0.0013 |
| 34 th District General Assembly | Corman | Eich | 50.77 | (46.07, 55.47) | 44.59 | 0.0095 |

Of the 495 voters who completed the exit poll, 189 indicated they had completed a straight ticket. However, among these 189, only 169 indicated for which party they voted; 92 voted for a democratic ticket (54.44%). In the official results, 396 voted a straight ticket, 187 of whom voted for a democratic ticket (47.22%). The p-value for the test of whether these two proportions are equal is 0.0720, indicating marginal yet not strictly significant results.

The final comparison is among those who did not vote a straight ticket. In comparing the percent of votes for the winning candidate reported in the exit poll to those reported in the official results, votes from those casting straight ticket votes were removed. The exit poll results indicated significantly higher number of votes cast for Casey, Rendell, and Peterson than reported in the official results (p-values 0.0151, 0.0083, and <0.0001, respectively). The exit poll results indicated marginally more votes cast for Eich than reported in the official results (p-value 0.0718).

Table 4-2: Results for College Township North for those who did not vote a straight ticket

| Ferguson NE 1 | Official Winner | Exit Poll Winner | Exit Poll Percent | 95% Confidence Interval | Official Percent for Exit Poll Winner | p-value |
|--|-----------------|------------------|-------------------|-------------------------|---------------------------------------|-------------------|
| US Senator | Casey | Casey | 62.46 | (56.66, 68.10) | 55.16 | 0.0151 |
| Governor | Swan | Rendell | 56.06 | (50.12, 61.86) | 48.13 | 0.0083 |
| 5 th District Congress | Peterson | Peterson | 53.79 | (47.73, 59.77) | 38.50 | <0.0001 |
| 34 th District General Assembly | Eich | Eich | 48.76 | (42.80, 54.75) | 43.27 | 0.0718 |

4.2. Demographic characteristics of responders and non-responders to the exit poll

There was no difference based on gender (Table 4-3). In our sample, 79.07% of the men and 78.71% of the women who were approached chose to participate.

Table 4-3: Responders by Gender at College Township North

| Gender | Responded | | Total |
|--------------|--------------|---------------|-------|
| | no | yes | |
| Male | 63 20.93% | 238 79.07% | 301 |
| Female | 66 21.29% | 244 78.71% | 310 |
| Total | 129 | 482 | 611 |

Participant race was broadly classified as Caucasian and non-Caucasian to minimize misclassification (Table 4-4). Significantly more Caucasians (80.70%) participated than non-Caucasians (64.12%), with a p-value of <.0001. The proportion of non-Caucasians who refused is 1.9 times greater than the proportion of Caucasians who refused.

Table 4-4: Responders by Race at College Township North

| Race | Responded | | Total |
|---------------|-------------|--------------|-------|
| | no | yes | |
| Non-Caucasian | 47 35.88 | 84 64.12 | 131 |
| Caucasian | 99 19.30 | 414 80.70 | 513 |
| Total | 146 | 498 | 644 |

Participants were classified into four age categories (Table 5). There was a significant discrepancy among the ages of those who did and did not participate in the exit poll (p-value <0.0067). There was a 1.6 greater probability that someone over 56 would refuse to participate than someone younger than 55.

Table 5: Responders by Age at College Township North

| Age | Responded | | Total |
|--------------|-------------|--------------|-------|
| | no | yes | |
| 18 - 35 | 25 14.88 | 143 85.12 | 168 |
| 36 - 55 | 65 21.81 | 233 78.19 | 298 |
| 56 - 75 | 41 30.83 | 92 69.17 | 133 |
| over 75 | 7 30.43 | 16 69.57 | 23 |
| Total | 138 | 484 | 622 |

5. Evaluation of the Touch Screen Voting System

The survey asked participants about the use of the touch screen voting system in two questions. The first question asked whether the participant had any trouble, with answers of Yes or No. The second question asked the participant to indicate satisfaction with the system on the four point scale of very satisfied, somewhat satisfied, somewhat dissatisfied, and very dissatisfied. Summaries of responses to these two questions are presented below.

5.1. Reports of difficulty with the touch screen voting system

Overall, 54 of the 1056 participants (who answered this question) at the three stations indicated having difficulties with the touch screen system.

There was a significant discrepancy among the ages of those who did and did not have trouble with the touch screen voting system (p-value <0.0001). Among individuals 55 or older, 11% indicated difficulties, in comparison with less than 3% of individuals in the younger age groups.

Table 5-1: Effect of Age on the Probability of Having Difficulty with the Touch Screens

| Age | Trouble | | Total |
|----------------|------------|--------------|-------|
| | Yes | No | |
| 18 - 35 | 10 2.99 | 325 97.01 | 335 |
| 36 - 55 | 13 2.94 | 429 97.06 | 442 |
| 56 - 75 | 24 9.68 | 224 90.32 | 248 |
| over 75 | 7 22.58 | 24 77.42 | 31 |
| Total | 54 | 1002 | 1056 |

Participants were classified into two education categories (Table 5-2). Those with a high school diploma or less were more likely to report experiencing difficulties than those with at least two years of college (p-value 0.0517). The proportion of those with a high school diploma or less reporting a difficulty was two times greater than among those with some college experience.

Table 5-2: Effect of Education on the Probability of Having Difficulty with the Touch Screens

| Education | Trouble | | Total |
|--|-------------|---------------|-------|
| | Yes | No | |
| High School Diploma or less | 9 9.68% | 84 90.32% | 93 |
| At least two years college experience or more | 47 4.81% | 931 95.19% | 978 |
| Total | 56 | 1015 | 1071 |

Participants were asked how frequently they used the internet, with choices of once a day, a few times a week, a few times a month, hardly ever, and do not have internet access (Table 5-3). There was a significant discrepancy based on internet usage of those who did and did not report difficulties (p-value <0.0001). Those who do not have internet access experienced the greatest difficulties. There was a 4.6 times greater probability that someone who hardly ever or never uses the internet reported problems than someone who uses the internet at least a few times a month.

Table 5-3: Effect of Internet Exposure on the Probability of Having Difficulty with the Touch Screen

| Internet usage | Trouble | | Total |
|------------------------------------|-------------|---------------|-------|
| | Yes | No | |
| Once a day or more | 38 4.28% | 850 95.72% | 888 |
| A few times a week | 1 1.10% | 90 98.90% | 91 |
| A few times a month | 3 14.29% | 18 85.71% | 21 |
| Hardly ever | 3 10.34% | 26 89.66% | 29 |
| Do not have Internet access | 9 27.27% | 24 72.73% | 33 |
| Total | 54 | 1008 | 1062 |

Using a logistic regression model, the probability of experiencing difficulties with the touch screen voting system was calculated. This analysis shows that internet computer usage and age have the greatest effect. The probability of encountering problems using the touch screen system is greatest for those who are over 56 years old and hardly ever use the internet (Table 5-4).

Table 5-4: Probability of Experiencing Difficulties with the Touch Screen System

| Age Group | Internet usage | Probability of Experiencing Difficulties |
|------------------|------------------------------|---|
| 18-35 | At least a few times a month | 0.029 |
| | Hardly ever | 0.078 |
| 36-55 | At least a few times a month | 0.028 |
| | Hardly ever | 0.076 |
| 56-75 | At least a few times a month | 0.084 |
| | Hardly ever | 0.205 |
| over 75 | At least a few times a month | 0.154 |
| | Hardly ever | 0.340 |

5.2. Overall satisfaction with the Touch Screen Voting System

Overall 90% of the participants reported being somewhat or very satisfied with the touch screen voting system. A total of 63 individuals (6%) reported being very dissatisfied. Satisfaction did not vary by age, education or internet exposure (Table 5-5 through Table 5-7).

Table 5-5: Effect of Age on Satisfaction

| Age | Overall Satisfaction | | Total |
|----------------|-----------------------------|------------------|--------------|
| | Dissatisfied | Satisfied | |
| 18 - 35 | 30 8.90% | 307 91.10% | 337 |
| 36 - 55 | 47 10.61% | 396 89.39% | 443 |
| 56 - 75 | 26 10.44% | 223 89.56% | 249 |
| over 75 | 7 22.58% | 24 77.42% | 31 |
| Total | 110 | 950 | 1060 |

Table 5-6: Effect of Education on Satisfaction

| Education | Overall Satisfaction | | Total |
|---|----------------------|--------------|-------|
| | Dissatisfied | Satisfied | |
| High School Diploma or less | 6 5.31 | 107 94.69 | 113 |
| At least two years college experience or more | 105 10.73 | 874 89.27 | 979 |
| Total | 111 | 981 | 1092 |

Table 5-7: Effect of Internet Usage on Satisfaction

| Internet Usage | Overall Satisfaction | | Total |
|-----------------------------|----------------------|---------------|-------|
| | Dissatisfied | Satisfied | |
| Once a day or more | 86 9.66% | 804 90.34% | 890 |
| A few times a week | 10 10.99% | 81 89.01% | 91 |
| A few times a month | 4 19.05% | 17 80.95% | 21 |
| Hardly ever | 3 10.34% | 26 89.66% | 29 |
| Do not have Internet access | 7 20.59% | 27 79.41% | 34 |
| Total | 110 | 955 | 1065 |

6. Challenges

In this report, we noticed that some of the respondents who said they voted a straight ticket answered the questions of who they voted for in the races of US senator, Pennsylvania governor, representative in Congress in the 5th district, and state senator in the General Assembly (34th district), although they were instructed to skip them. As a result we compared their answers (to the questions just mentioned) with the political party they chose if they voted a straight ticket. We found four cases that did not match. The analyses in Sections 2, 3, and 4 exclude these four individuals. The analysis discussed in Section 5 includes the four individuals.

7. Summary

- The following significant differences were detected between the exit poll results and the official results:
 - Ferguson
 - When considering all votes cast, the proportion of votes cast for Mr. Rendell was significantly higher in the exit poll results than those reported in the official results.
 - Significantly more democratic straight ticket votes were reported in the exit poll than in the official results
 - Patton South 3
 - Significantly more democratic straight ticket votes were reported in the exit poll than in the official results
 - College Township
 - When considering all votes cast, the results from the exit poll were significantly different than the official results in each of the four races
 - Excluding straight ticket votes, significantly more votes were reported in the exit poll than in the official results for Mr. Casey, Mr. Rendell, and Mr. Peterson.
- We tested for any differences between those who completed the exit poll and those who didn't. There was a marginally significant difference in the proportion of men (and women) who completed the poll in comparison to those who didn't at the Ferguson precinct. There was a significant difference in the proportion of Caucasians (and non-Caucasians) who completed the poll in comparison to those who didn't at the three precincts sampled: Ferguson, Patton South, and College Township. There was also a significant difference based on age between those who completed the poll in comparison to those who didn't at the three precincts.
- Individuals over 55 years old with limited internet experience were most likely to report difficulties with the touch screen system. Within this group, one third of individuals greater than 75 and one fifth of individuals between 56 and 75 years old experienced difficulties.
- Overall, respondents were satisfied with the touch screen voting system.

APPENDIX A:
SAS CODE

ANALYSIS OF EXIT POLL vs OFFICIAL RESULTS

```

libname vote 'R:\SCC Research\Concerned
Voters\Exit_Poll';
*libname vote 'C:\Documents and
Settings\boomer\My Documents\Dec 06';
libname spsdats spss 'R:\SCC Research\Concerned
Voters\Exit_Poll\complete_withoutmismatch.por';

*libname library 'C:\Documents and
Settings\boomer\My Documents\Dec 06' ;
libname library 'r:\scc research\concerned
voters\exit_poll' ;

*physical location of your permanent sas data
file;
data vote.fromSPSS ;set spsdats.fromSPSS ; run;

*****
*****
***Double check frequencies from dataset within
SPSS
***Originally done on double entered data
****
***Redone with single entries to produce RTF
output for report ****
*****
*****

proc freq data=vote.fromSPSS;
tables QUESA QUESB QUESB1 QUESC QUESD QUESE
QUESF QUESG QUESH QUESI
      QUESJ QUESK QUESL QUESM/norow nocol
nopct;run;

*****
*****
*** Manage the data
****
*****
*****

data vote.final vote.fergusonNE1 vote.CollegTwpN
vote.PATtonS3;
      set vote.fromSPSS (where=(PRIMARYF=1)
rename=(QUESI=race)); *keep only single record;
if QUESB=1 then do; *if straight ticket then
fill in races;
      if QUESB1=1 then do; *if straight ticket
democrat;
              QUESC=2; QUESD=1; QUESE=1;
QUESF=1; end;
      else if QUESB1=2 then do; *if straight
ticket republican;
              QUESC=1; QUESD=2; QUESE=2;
QUESF=2; end;
      end;
if race=6 then QUESI=7; *non-response didn't
have Pacific Islander category;
else QUESI=race;
if 1000 le ID_NEW le 1999 then do;
      station='Ferguson NE 1';output
vote.fergusonNE1;end;
else if 2000 le ID_NEW le 2999 then do;
      station='College Twp N'; output
vote.CollegTwpN;end;
else if 3000 le ID_NEW le 3999 then do;
      station='Patton South 3'; output
vote.PATtonS3;end;

if PRIMARYF=1 then output vote.final; **still
retain one large dataset;
drop PRIMARYF OFFICIAL race; *drop indicator and
ID of data entry person;
run;

proc freq data=vote.final;
      format QUESB QUESB.; format QUESC
QUESD.; format QUESD QUESD.;
      format QUESB QUESB.; format QUESF
QUESF.; format QUESA QUESA.;
      format QUESG QUESG.; format QUESH
QUESH.; format QUESJ QUESJ.;
      format QUESK QUESK.; format QUESL
QUESL.; format QUESM QUESM.;
      format QUESI QUESI.; format QUESB1
QUESB1.;
tables QUESA QUESB QUESB1 QUESC QUESD QUESE
QUESF QUESG QUESH QUESI
      QUESJ QUESK QUESL QUESM/norow nocol
nopct;run;
ods RTF CLOSE;

%macro PropTest(datast=, vars=, fom=, prop=,
prop2=);
proc freq data=&datast order=freq;
format &vars &fom;
tables &vars /binomial(p=&prop) ;
exact binomial;
title "&datast and &vars";
run;
%mend PropTest;

%Proptest(datast=vote.CollegTwpN2, vars=QUESC,
fom=QUESC., prop=0.5252);
%Proptest(datast=vote.CollegTwpN2, vars=QUESD,
fom=QUESD., prop=0.4783);*Rendell;
%Proptest(datast=vote.CollegTwpN2, vars=Quese,
fom=Quese., prop=0.5833);
%Proptest(datast=vote.CollegTwpN2, vars=Quesf,
fom=Quesf., prop=0.4459);

%Proptest(datast=vote.PATtonS3, vars=QUESC,
fom=QUESC., prop=0.6289);
%Proptest(datast=vote.PATtonS3, vars=QUESD,
fom=QUESD., prop=0.6153);
%Proptest(datast=vote.PATtonS3, vars=Quese,
fom=Quese., prop=0.5059);
%Proptest(datast=vote.PATtonS3, vars=Quesf,
fom=Quesf., prop=0.5472);

%Proptest(datast=vote.fergusonNE1, vars=QUESC,
fom=QUESC., prop=0.6962);
%Proptest(datast=vote.fergusonNE1, vars=QUESD,
fom=QUESD., prop=0.6561);
%Proptest(datast=vote.fergusonNE1, vars=Quese,
fom=Quese., prop=0.6008);
%Proptest(datast=vote.fergusonNE1, vars=Quesf,
fom=Quesf., prop=0.6015);

```

```

*****
*****;
** Consider those who did straight ticket versus
not ***;
*****
*****;

%macro straight(datast=, vars=, fom=, prop=,
prop2=);
*prop=straight; *prop2=no straight;
data straight nostraight; set &datast;
if QUESB=1 then output straight;
else if QUESB=2 then output nostraight;
run;

%Proptest(datast=straight, vars=&vars, fom=&fom,
prop=&prop);
%Proptest(datast=nostraight, vars=&vars,
fom=&fom, prop=&prop2);
%mend straight;

* C = US Senator => Casey => Dem;
* D = Governor => Rendell => Dem;
* E = 5th District Congress => Hilliard =>
Dem;
* F = 34th district General Assembly => Eich =>
Dem;

%straight(datast=vote.fergusonNE1, vars=QUESC,
fom=QUESC., prop=0.7448, prop2=0.6564);
%straight(datast=vote.fergusonNE1, vars=QUESD,
fom=QUESD., prop=0.7448, prop2=0.5853);
%straight(datast=vote.fergusonNE1, vars=Quese,
fom=Quese., prop=0.7448, prop2=0.4787);
%straight(datast=vote.fergusonNE1, vars=QUESF,
fom=QUESF., prop=0.7448, prop2=0.4846);

proc freq data=vote.pattons3; tables
quesb*quesbl;run;
data patton; set vote.pattons3
(where=(quesb=1));run;
proc freq data=patton; tables quesb*quesbl;run;
%Proptest(datast=Patton, vars=QUESb1,
fom=QUESa., prop=0.6134);

%straight(datast=vote.PattonS3, vars=QUESC,
fom=QUESC., prop=0.6134, prop2=0.6377);
%straight(datast=vote.PattonS3, vars=QUESD,
fom=QUESD., prop=0.6134, prop2=0.6164);
*peterson won in non straight ticket; *so needed
to enter results for him;
%straight(datast=vote.PattonS3, vars=Quese,
fom=Quese., prop=0.6134, prop2=0.5521);
%straight(datast=vote.PattonS3, vars=QUESF,
fom=QUESF., prop=0.6134, prop2=0.5098);

proc freq data=vote.CollegTwpN2; tables
quesb*quesbl;run; *did you vote str ticket;

data college; set vote.CollegTwpN2
(where=(quesb=1));run;
proc freq data=College; tables quesb quesbl
quesbl*quesc;run; *str ticket choice;
proc freq data=vote.collegtwpn2; tables
quesb*quesbl*quesf/norow nocol nopct;run;
**These all work with 92 v 77 votes when done
manually;

proc freq data=college;
tables quesbl quesd /binomial (p=0.4722);

```

```

exact binomial;
run;

data vote.collegtwpn2; set vote.collegtwpn;
if quesbl=1 then do; *if dem ticket;
quesc= 2; *senator 2= casey (dem);
quesd = 1; *governor 1=rendell (dem);
quese =1; *cong_rep 1 = hilliard (dem);
quesf = 1;* (senator 1=eich (dem);
end;
else if quesbl=2 then do; *if rep ticket;
quesc= 1; *senator 1= santorum (rep);
quesd = 2; *governor 2=swann (rep));
quese =2; *cong_rep 2 = peterson (rep);
quesf = 2;* (senator 2=corman (rep);
end;

run;

%Proptest(datast=college, vars=QUESC,
fom=QUESC., prop=0.4722);
%Proptest(datast=college, vars=QUESC,
fom=QUESC., prop=0.4722);
%Proptest(datast=college, vars=QUESC,
fom=QUESC., prop=0.4722);

%straight(datast=College, vars=QUESC,
fom=QUESC., prop=0.4722, prop2=0.5516);

%straight(datast=vote.CollegTwpN2, vars=QUESC,
fom=QUESC., prop=0.4722, prop2=0.5516);
%straight(datast=vote.CollegTwpN2, vars=QUESD,
fom=QUESD., prop=0.4722, prop2=0.4813);
%straight(datast=vote.CollegTwpN2, vars=Quese,
fom=Quese., prop=0.4722, prop2=0.385);
%straight(datast=vote.CollegTwpN2, vars=QUESF,
fom=QUESF., prop=0.4722, prop2=0.4327);

*****;
proc freq data=vote.final; tables quesk;run;

data recode; set vote.final;
if quesj le 3 then educ='HS Diploma or
Less';
else if quesj ge 4 then educ='some college';
else educ=' ';

if QUESM le 3 then internet='few times
month';
else if QUESM ge 4 then internet='hardly never';
else internet=' ';

if QUESL le 2 then sat='satsified';
else if QUESL ge 3 then sat='dissat';
else sat=' ';
trouble=quesk;run;

proc freq data=recode;
*age;format QUESH QUESH.;
*internet;format QUESM QUESM.;
tables educ*trouble ques*trouble
internet*trouble QUESM*trouble/chisq nocol
nopct;run;
ods rtf close;

proc freq data=recode;
tables trouble*educ*QUESH*internet/norow nocol
nopct;run;

```

```

proc logistic data=recode;
class educ QUESH internet/param=ref ref=last;
model trouble= QUESH internet/aggregate
scale=none;
run;

proc freq data=recode;
*internet;format QUES1 QUES1.;

```

```

tables sat QUES1 ;run;

proc freq data=recode;
*age;format QUESH QUESH.;
*internet;format QUESM QUESM.;
tables educ*sat qesh*sat internet*sat
QUESM*sat /chisq nocol nopct;run;

```

ANALYSIS OF THE NONRESPONDERS

```

libname vote 'R:\SCC Research\Concerned
Voters\Exit_Poll';
libname library 'r:\scc research\concerned
voters\exit_poll\';
libname spsdats spss 'R:\SCC Research\Concerned
Voters\Exit_Poll\no_res1.por';
*****
*****;
data no_res1 ;set spsdats.no_res1;run;
libname spsdats spss 'R:\SCC Research\Concerned
Voters\Exit_Poll\no_res2.por';
data no_res2 ;set spsdats.no_res2;run;
libname spsdats spss 'R:\SCC Research\Concerned
Voters\Exit_Poll\no_res3.por';
data no_res3 ;set spsdats.no_res3;run;
libname spsdats spss 'R:\SCC Research\Concerned
Voters\Exit_Poll\no_res5.por';
data no_res5 ;set spsdats.no_res5;run;
libname spsdats spss 'R:\SCC Research\Concerned
Voters\Exit_Poll\no_res6.por';
data no_res6 ;set spsdats.no_res6;run;

**Variable names are quite awkward, but need to
have them match the ones;
**in the respondents data sets - run proc
contents to check names ;
proc contents data=no_res6;run;
data vote.no_resp; set no_res1 no_res2 no_res3
no_res5 no_res6;
ID_NEW=Q00; QUESG= OFFICI_1; *gender; QUESH=
OFFICIAL; *age;
if OFFICI_2=1 or OFFICI_2=2 then QUESI=OFFICI_2;
else if OFFICI_2=3 then QUESI=5;
else if OFFICI_2=4 then QUESI=3;
else if OFFICI_2=5 then QUESI=4;
else if OFFICI_2=6 then QUESI=7;
else QUESI=.;
drop q00 official offici_1 - offici_3;
run;
*****
*****;
*data fergusonNR CollegTwp_NR Patton_NR; *make
nonresponse datasets;
data CollegTwp_NR;
set vote.no_resp;

if 4000 le ID_NEW le 4999 then output
fergusonNR;
else if 5000 le ID_NEW le 5999 then output
CollegTwp_NR;
else if 6000 le ID_NEW le 6999 then output
Patton_NR;
run;

*****
*****;

```

```

** FERGUSON
*****
*****;

**Stack new datasets;
data vote.fergusonTTL; set vote.fergusonnel
fergusonNR;
if ID_NEW le 3999 then responded='yes';
else if ID_New ge 4000 then responded='no';
else responded=.;

if QUESI ne 5 then QUESI_2=1;
else if QUESI=5 then QUESI_2=QUESI;
else QUESI_2=.;
run;

*****
*****;
** QUESG= gender QUESH= age QUESI=race
****;
*****
*****;
ods rtf file='R:\SCC Research\Concerned
Voters\reports\results.rtf';
proc freq data=vote.fergusonTTL;
format QUESG QUESG.; format QUESH
QUESH.; format QUESI_2 QUESI.;
tables QUESG*responded QUESH*responded
QUESI_2*responded
/ nocol nopct chisq cmh exact
expected;run;
ods rtf close;

proc freq data=vote.fergusonTTL;format QUESH
QUESH.;
tables QUESH*responded
/ nocol nopct chisq exact;* expected
deviation;
run;

*****
*****;
** PATTON
*****
*****;

data vote.pattonTTL; set vote.PattonS3
patton_NR;
if ID_NEW le 5999 then responded='yes';
else if ID_New ge 6000 then responded='no';
else responded=.;

if QUESI ne 5 then QUESI_2=1;
else if QUESI=5 then QUESI_2=QUESI;
else QUESI_2=.;
run;

*****
*****;

```

```

** QUESG= gender    QUESH= age    QUESI=race
****;
*****
proc freq data=vote.pattonTTL; tables
responded;run;
proc freq data=vote.pattonTTL;
format    QUESG QUESG.; format    QUESH
QUESH.; format    QUESI_2 QUESI.;
tables QUESG*responded QUESH*responded
QUESI_2*responded
/ nocol nopct chisq cmh exact;run;
ods rtf close;

```

```

*****
****;
** college
*****;
*****;
*data fergusonNR CollegTwp_NR Patton_NR; *make
nonresponse datasets;
data CollegTwp_NR;    set vote.no_resp;

```

```

if 5000 le ID_NEW le 5999 then output
CollegTwp_NR;
run;

```

```

data vote.collegeTTL; set vote.collegtwpn
CollegTwp_NR;
if ID_NEW le 4999 then responded='yes';
else if ID_New ge 5000 then responded='no';
else responded=.;

```

```

if QUESI ne 5 then QUESI_2=1;
else if QUESI=5 then QUESI_2=QUESI;
else QUESI_2=.;
run;

```

```

*****
*****;
** QUESG= gender    QUESH= age    QUESI=race
****;
*****
proc freq data=vote.collegeTTL;
format    QUESG QUESG.; format    QUESH
QUESH.; format    QUESI_2 QUESI.;
tables QUESG*responded QUESH*responded
QUESI_2*responded
/ nocol nopct chisq cmh exact;run;

```

APPENDIX B: EXIT POLL SURVEY



[A] Do you consider yourself to be a(n)

- 1. Democrat
- 2. Republican
- 3. Independent

[B] Did you just vote a straight ticket?

- Yes, for
 - 1. Democrats
 - 2. Republicans

Continue with question [H]

No, complete [C] - [F] below before moving to next column.

[C] In the race for the US Senator from Pennsylvania, who did you just vote for?

- 1. Rick Santorum
- 2. Bob Casey Jr.
- 3. Other

[D] In the race for Pennsylvania governor, who did you just vote for?

- 1. Ed Rendell
- 2. Lynn Swann
- 3. Other

[E] In the race for Representative in Congress in the 5th district, who did you just vote for?

- 1. Donald L. Hillard
- 2. John E. Peterson
- 3. Other

[F] In the race for State Senator in the General Assembly, 34th district, who did you just vote for?

- 1. Jon Eich
- 2. Jacob D. Corman, III
- 3. Thomas A. Martin
- 4. Robert J. Cash
- 5. Other

[H] Is your age between

- 1. 18-35
- 2. 36-55
- 3. 56-75
- 4. over 75

[G] Are you

- 1. Male
- 2. Female

[I] Are you

- 1. Native American
- 2. Asian
- 3. African American
- 4. Hispanic/Latino
- 5. White/Caucasian
- 6. Pacific Islander
- 7. Other

[J] What was the last year of school you completed?

- 1. Eighth grade or less
- 2. Some high school
- 3. High school graduate
- 4. Some college
- 5. College graduate
- 6. Current graduate student
- 7. Post graduate

[K] Did you have any trouble using the touchscreen voting system?

- 1. Yes
- 2. No

[L] How satisfied were you with the touchscreen voting system?

- 1. Very satisfied
- 2. Somewhat satisfied
- 3. Somewhat dissatisfied
- 4. Very dissatisfied

[M] How often do you use the Internet?

- 1. Once a day or more
- 2. A few times a week
- 3. A few times a month
- 4. Hardly ever
- 5. Do not have Internet access

Your answers are confidential

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Interviewer ID _____

Precinct ID _____

Non-respondent: Age18-35 36-55 56-75 75+

Gender: M F

Race: Native American Asian White African American Hispanic Other

Survey Entered: