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<table>
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<tbody>
<tr>
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<td>651 6th St. NE, Sioux Center, Iowas 51250</td>
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<tr>
<td></td>
<td>Narayan Nunez Blandon (<a href="mailto:nrynnzb@dordt.edu">nrynnzb@dordt.edu</a>)</td>
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<td>Title</td>
<td>Racial Profiling in Sioux County</td>
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<td>Institution</td>
<td>Department of Mathematics, Dordt College</td>
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<tr>
<td>Instructor Sponsor</td>
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Racial Profiling in Sioux County
Background Information

- Racial Profiling is defined as, “the discriminatory practice by law enforcement officials of targeting individuals for suspicion of crime based on the individual's race, ethnicity, religion or national origin” (The American Civil Liberties Union).

- Racial profiling should not be used by law enforcement because it could “constitute [to] a violation of the Fourth Amendment’s prohibition against unreasonable search” (Feder, 1).

- The Federal Government realizes that racial profiling is a problem that they need to eradicate (Feder, 12).
Background Information

- There is anecdotal evidence of racial profiling in Sioux County.
- According to the evidence, any non-white individual is more likely to get pulled over by the police.
- This research is important because we investigate if factors like gender, race or origin have any correlation with being pulled over.
- We undertook this task under the assumption that we would find no concrete findings due to confounding variables. Nevertheless, the results would open the door to discussion if necessary.
Study #1: Newspaper

- We gathered data from the “Sioux County Index – Reporter” on the people that were ticketed last year (2012) on the months of January, February and March.

- Because the gender and the race of the individuals were not published, we inferred them based on the individuals' names.

- We conducted a "one sample T-test" to see how probable the results of our gathered data was, considering the proportion of the Sioux County population that our tested variable makeup. Our tested variable are race and gender.
The proportion of Hispanic/Latino people in Sioux County is only 9.3% while they made up 15.4% of all tickets.

From the data that we gathered from the newspaper, we found strong evidence that Hispanic/Latino people (in 2012) were getting ticketed more than their population percentage warranted

(sample size for number of tickets=215

p-value = 0.015, T-statistic= 2.455)

This means that there is some factor that is causing Hispanic/Latino people to get pulled over more than they deserved considering the amount of the population that they make up.
Proportion of tickets given to Hispanic/Latino

- Ticketed Hispanics/Latino: 15%
- Ticketed Non-Hispanics/Non-Latino: 85%

Population of Sioux County

- Hispanic/Latino Population: 9%
- Non-Hispanic/Non-Latino population: 91%
Newspaper - Limitations

- This is an observational study; therefore, we cannot draw any cause-and-effect conclusions.
- We assumed that the population proportions of Sioux County for the months of January-March remained the same throughout the rest of the year (2012).
- There is a plethora of confounding variables that does not let us draw solid conclusions, e.g.: some of the hispanic population may have grown up in countries with less rigorous road law.
Newspaper - Limitations

- The high percentage of ticketed Hispanic/Latino people does not necessarily mean that law enforcement performed racial profiling against them. Probably such individuals did not respect the driving law and deserved to be pulled over and ticketed.

- A better study would have included the driving population of Sioux County instead of the entire population because not all Hispanics drive.
Study #2: Survey

- We created a survey for students at a local college to fill out. The purpose of the survey was to know the answers to these four main questions:
  - Is there racial profiling?*
  - Is there gender profiling?
  - Is there profiling of people not from Iowa?
  - Is there a perception of profiling among the local college’s students?

- We sent out the survey to a group of students randomly selected to remove possible confounding variables.

- With the results of the surveys we conducted a logistic regression test to see how the explanatory variables relates to the response variable.

*(it is important to remember that the vast majority of students at the local college are white)*
Survey question

- These are the main questions we asked. Through the questions, we tried to not lead the students to any particular answer or conclusion.

<table>
<thead>
<tr>
<th>Do you regularly drive in Sioux County?</th>
</tr>
</thead>
<tbody>
<tr>
<td>What is your gender?</td>
</tr>
<tr>
<td>What is your race?</td>
</tr>
<tr>
<td>Are you from Iowa?</td>
</tr>
<tr>
<td>Have you ever been pulled over in Sioux County while being a student at college?</td>
</tr>
<tr>
<td>Do you feel like you have been profiled in Sioux County?</td>
</tr>
</tbody>
</table>
Through the survey we wanted to see if the students feel profiled (racially or otherwise) by the police.

Perception of profiling refers to the feeling of being profiled that each student has disregarding if they are being profiled or not.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Odds Ratio</th>
<th>95% Conf. Interval.</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>1.89</td>
<td>(0.79, 4.55)</td>
<td>0.1557</td>
</tr>
<tr>
<td>Iowan or not**</td>
<td>3.52</td>
<td>(8.65, 1.43)</td>
<td>0.0061</td>
</tr>
<tr>
<td>Race</td>
<td>1.51</td>
<td>(16.64, 0.14)</td>
<td>0.7345</td>
</tr>
</tbody>
</table>

**This is (1/odds ratio) for non-lowans vs. lowans**
Survey Findings (Perception of Profiling)

- We found that 31 out of 110 students that were pulled over felt profiled. That is 28% of pulled over students.
- Male students are 1.9 times more likely to feel profiled than female students.
- Non-Iowan students are 3.52 times more likely to feel profiled than Iowan students. This is our only statistically significant value.
- White students are 1.5 times more likely to feel profiled than Non-White students.
In this study we did not find any statistical evidence of race being a factor of being pulled over.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Odds Ratio</th>
<th>95% Conf. Interval</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>1.20</td>
<td>(0.74, 1.94)</td>
<td>0.4676</td>
</tr>
<tr>
<td>Iowan or not**</td>
<td>1.78</td>
<td>(1.10, 2.89)</td>
<td>0.0186</td>
</tr>
<tr>
<td>Race</td>
<td>2.33</td>
<td>(0.50, 10.82)</td>
<td>0.2804</td>
</tr>
</tbody>
</table>

**Different than slide 11: This is Iowans vs. non-Iowans ([not 1/odds ratio])**
Survey Findings (Being Pulled Over)

- We found that out of 415 students, 110 had gotten pulled over, which is 26.5% of students.
- Male students are 1.2 times more likely to get pulled over than Female students.
- Iowa students are 1.8 times more likely to get pulled over than Non-Iowan students.
- Non-White students are 2.3 times more likely to get pulled over than White students.
Survey - Limitations

- By nature, surveys can be leading in the way that questions are asked. We try to avoid this as much as possible but the leading is possibly there.

- Also we are at the mercy of the honesty of the survey takers for our data.

- Another limitation is that the local college that we drew our samples from, has a vast majority of white students.
Survey’s General Demographic Findings

- 46/110 (41.8%) pulled over students had an Iowa driving plate
- 47/110 (42.7%) pulled over students did not have an Iowa driving plate
- 31/110 (28.2%) pulled over students feel they been profiled
- 4/110 (3.6%) pulled over students are not white
- 60/110 (54.5%) pulled over students are females
- 50/110 (45.5%) pulled over students are males
Survey Graphs

Ratio of being pulled over

Ratio of perception of Profiling
According to the p-values of our testing, we have no strong evidence that there is any type of discrimination by either race or gender in Sioux County.

There is strong statistical evidence that there is a perception of some discrimination of non-Iowan students at the local college by law enforcement.

We also found that more than 25% of the pulled over students felt profiled.

Ironically, non-Iowan students feel more profiled (as if they are more likely to get pulled over) while Iowan students get pulled over statistically more.
Resources


United States Census Bureau. Sioux County Iowa http://quickfacts.census.gov/qfd/states/19/19167.html