



Role of Physical Appearance in the Severity and Frequency of Traffic Stops

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Introduction

Race and ethnicity have been heavily polarizing topics when it comes to mistreatment by police and other positions of authority. People of color have been found to face harsher judgment regarding their psychological and behavioral characteristics, based solely on their appearance. Black Americans are killed by police officers at double the rate of white Americans based on their representation in the population, while Hispanic Americans are killed at disproportionate rates as well (Walsh, 2021). Young, black males have been found to be more are most likely to be pulled over to receive a warning compared to any other demographic group (Tillyer and Engel, 2010). The goal of this research is to examine traffic stop data from the state of Connecticut to determine if gender, age and race are associated with the rate and severity of traffic stops. Given differences in the racial makeup of its cities and towns, the goal is to determine if traffic stop frequency and severity is disproportional with what would be expected if there were no racial bias.

Research Questions

- Does physical appearance affect how likely a driver will be pulled over?
- Does physical appearance cause more severe punishments for certain drivers?
- Does time of day affect how likely police officers are going to pull someone over?

Methods

Sample

Data was collected from the Connecticut Traffic Stop Study which was conducted in 2022. Data is reported through county police departments and studies 1,016,722 individual traffic stop cases that occur through people of all age that occurred that year. The races were broken into four categories: Asian, Black, White, and American Indian. Ethnicity was broken into three answers: Hispanic, Non-Hispanic, and Middle Eastern. Traffic stop cases were measured and reported by police departments across the entire state of Connecticut. The data relied its accuracy on the submissions of police departments.

Measures

The traffic stop cases were measured in this research as they were reported by police departments. This means that the racial variables used the responses that they were given in the dataset. Ethnicity was data managed in order to create a "Yes or No" answer by making the new responses either "Hispanic/Middle Eastern" or "Neither". Age was sorted by the mean ages of people reported for some graphs and for others, it was based on individual response. Some specific age responses had to be sorted out due to answer mistakes and improbabilities. Other variables such as traffic stop result were sorted based on their variables given in the dataset.

Results

Multivariate

- Asian drivers are more likely to be searched if they are approximately 39.5 years old, being the oldest group. American Indian drivers are more likely to be searched around the age of 27.4 years old, which is youngest group.
- The oldest mean age of people who were not searched belonged to White people with a value of 41.6 years old.

Bivariate

- People who are either Middle Eastern or Hispanic have a higher mean traffic stop duration with a mean traffic stop variable of 1.21 whereas non-ethnic drivers have a mean duration of 1.09.
- Ethnic drivers who were pulled over had a traffic stop over 30 minutes 3.36% of the time, however non-ethnic people were stopped for over 30 minutes 1.79% of the time.

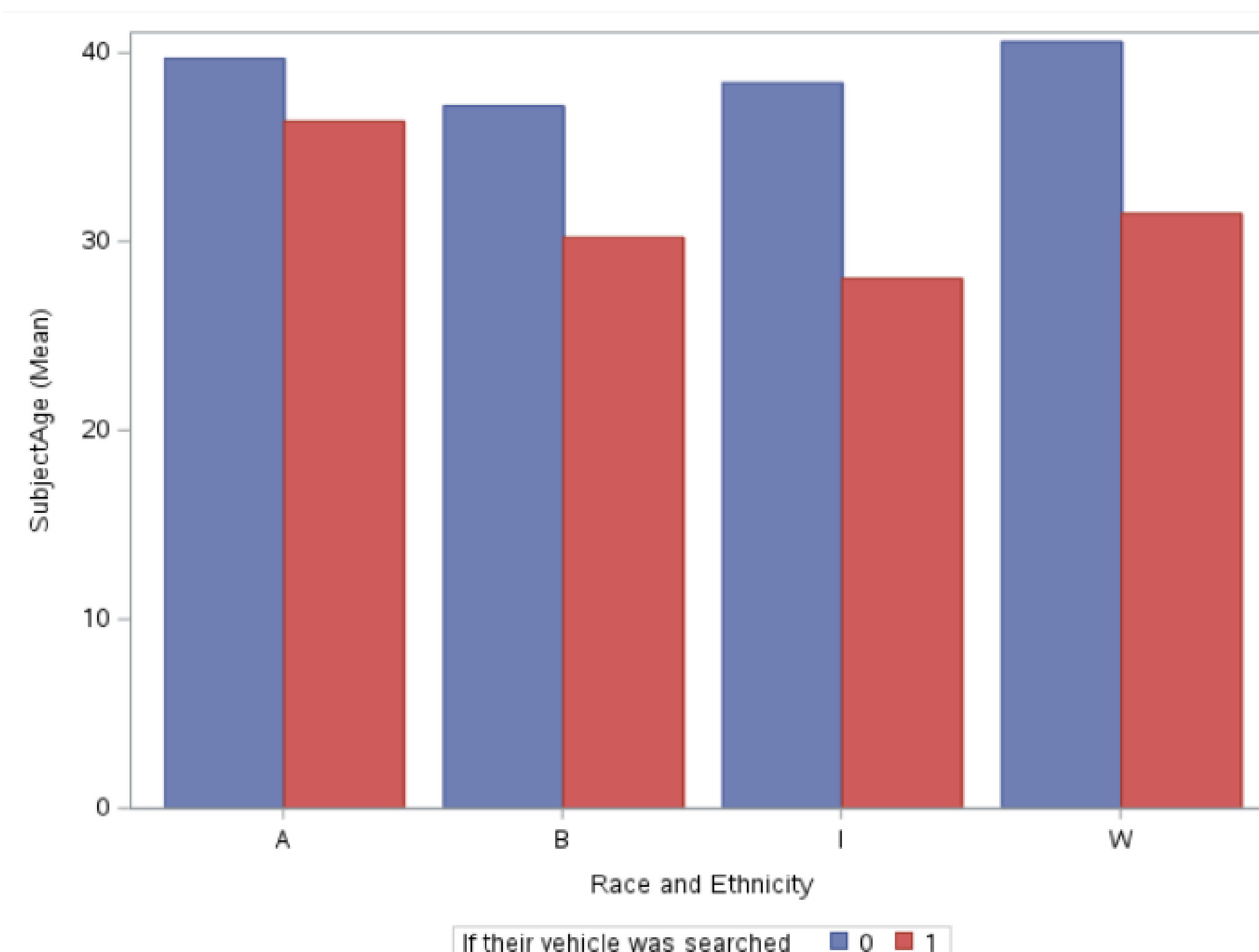


Figure 1: The Distribution of a Vehicle Search by Mean Age and Race.

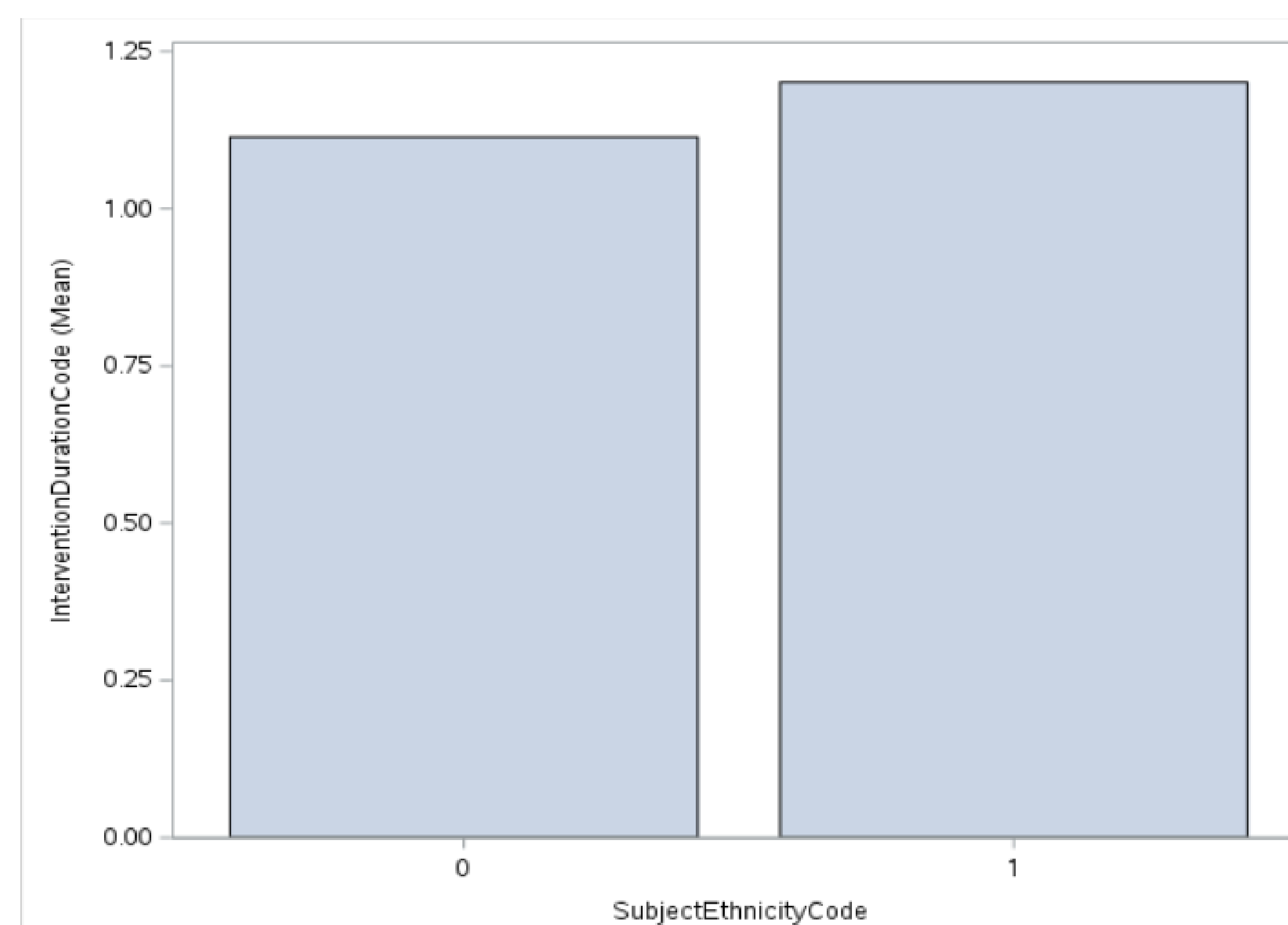


Figure 2: Average Length of Traffic Stop based on Ethnicity of Driver

Discussion

- The results illustrated by the multivariate analysis demonstrates that on average, Asian drivers are searched the most as they get older whereas white people are searched the least. White people also have the largest disparity in age of which they are searched on average.
- Demonstrated from the bivariate analysis, there is clear evidence of a discrepancy between a driver's ethnicity and how long their traffic stop lasts. People who belong to an ethnic group will on average, be pulled over for a longer time than those are aren't. After multiple tests, time of day really had no correlation to traffic stop frequency.

References

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