



# The Association between Race and Decision to Search Vehicles Found With or Without Contraband During Traffic Stops

Caroline Asnes, Applied Data Analysis, Wesleyan University

## Introduction

- Racial discrimination in criminal justice is a primary concern of many legislators and activists; one its most discernable manifestations is the use by officers of racial profiling, particularly as seen in traffic stops. Racial profiling in this context is the higher likelihood of an officer to associate Black drivers with criminality.
- Higher use of police authority has been recorded in lower-income, minority neighborhoods, likely leading to more stops and searches. (Alpert, 2005)
- Some argue that this conflicting research on racial profiling comes from using census data which is not sufficient, and that it is more pertinent to compare the number of Black and White drivers stopped with those who committed an infraction. (Lange, 2005)
- Research has shown that discriminatory acts during traffic stops are most likely to occur in the decision to search. (Higgins, 2012).
- Little research has been conducted to measure whether there is an association between race and rate of non-consensual, forced search by the officer.

## Research Questions

- Does the race of a driver relate to whether a police search was consensual or performed forcefully due to claims of probable cause? Do these relationships change based on whether contraband was found in the search?
- Are there disparities between Black and White drivers between towns?

Figure 2. Proportion of Drivers searched by Force by Location of Incident and Race

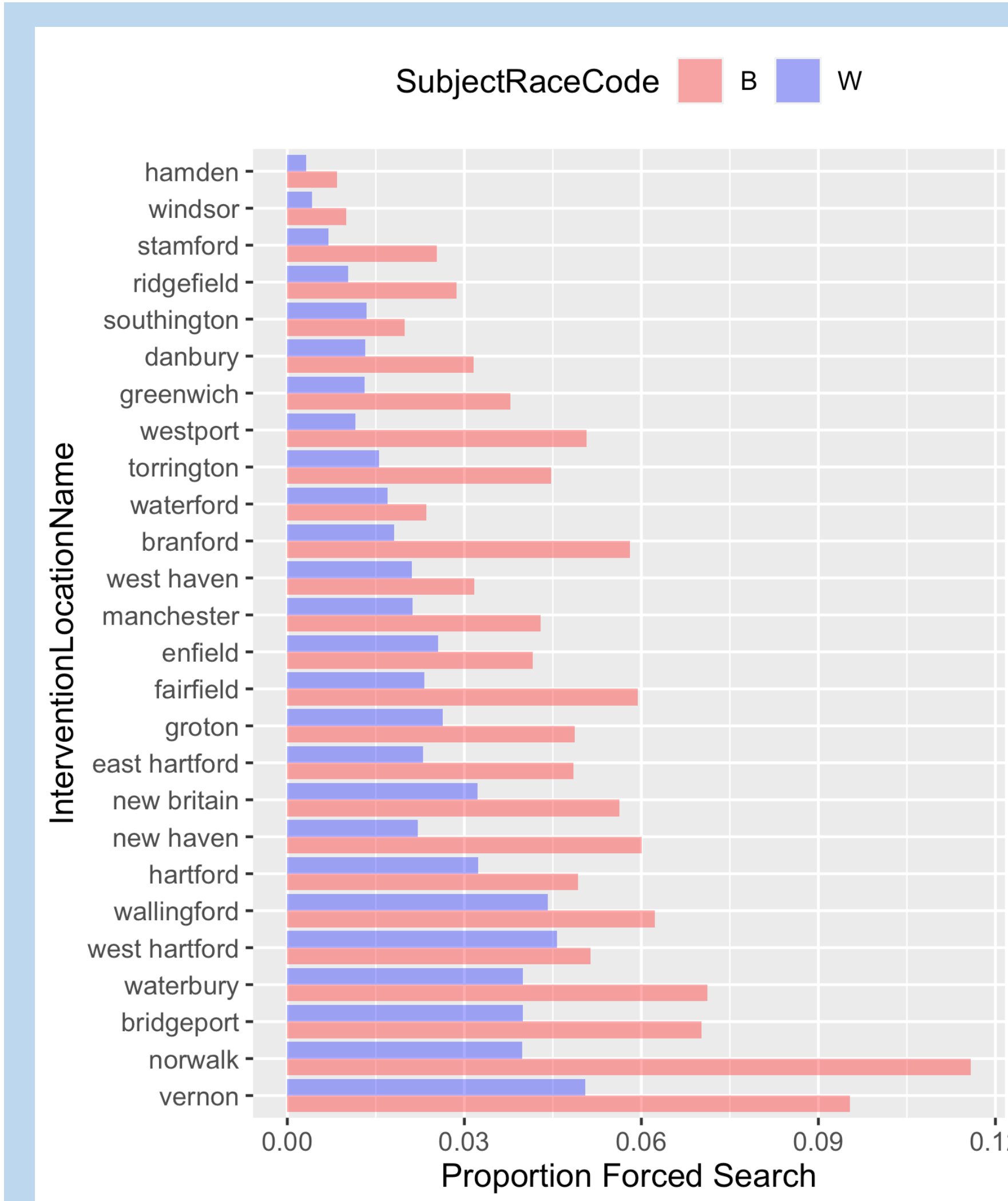
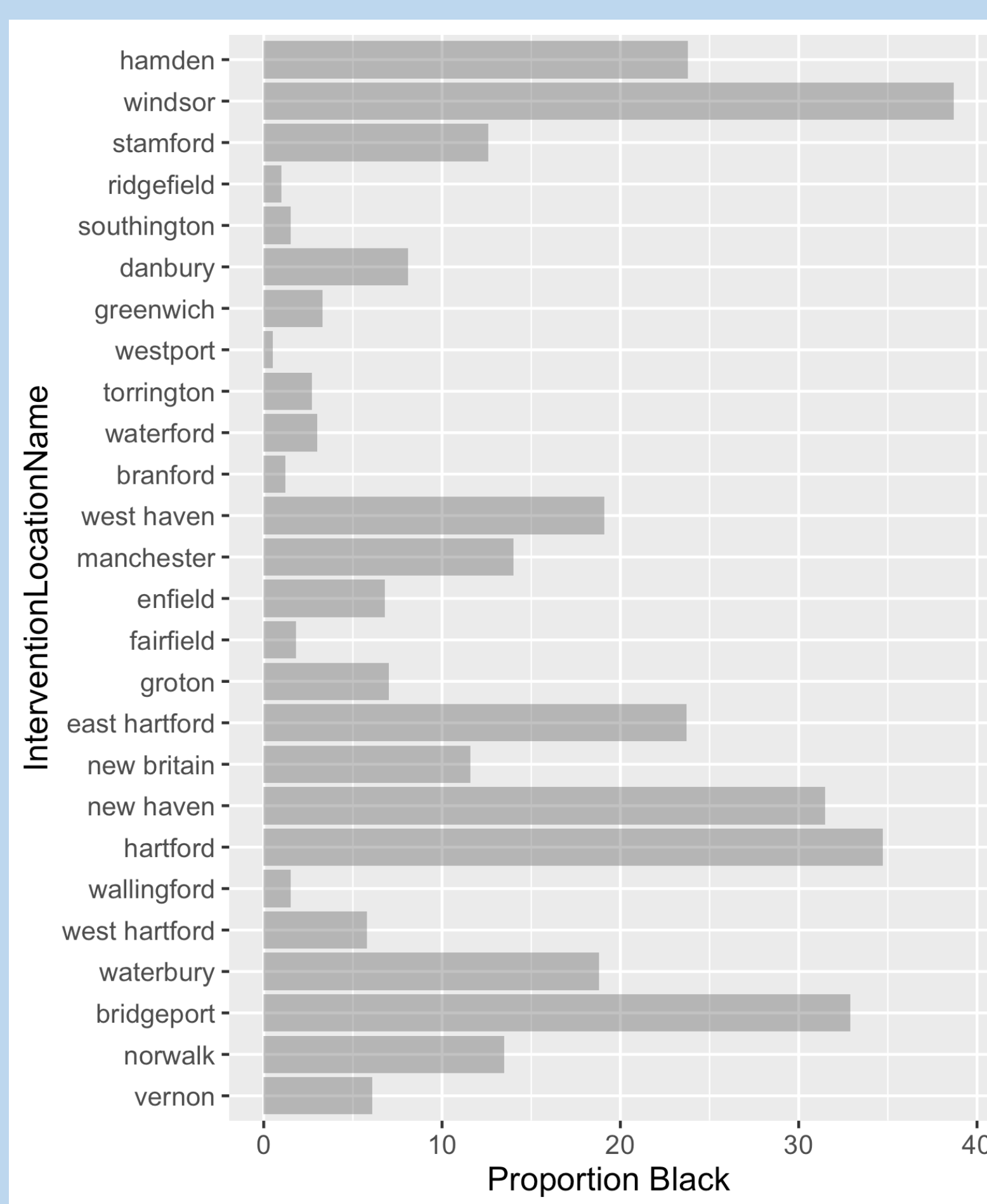


Figure 3. Proportion of Black Residents in Examined Towns



## Results

### Univariate

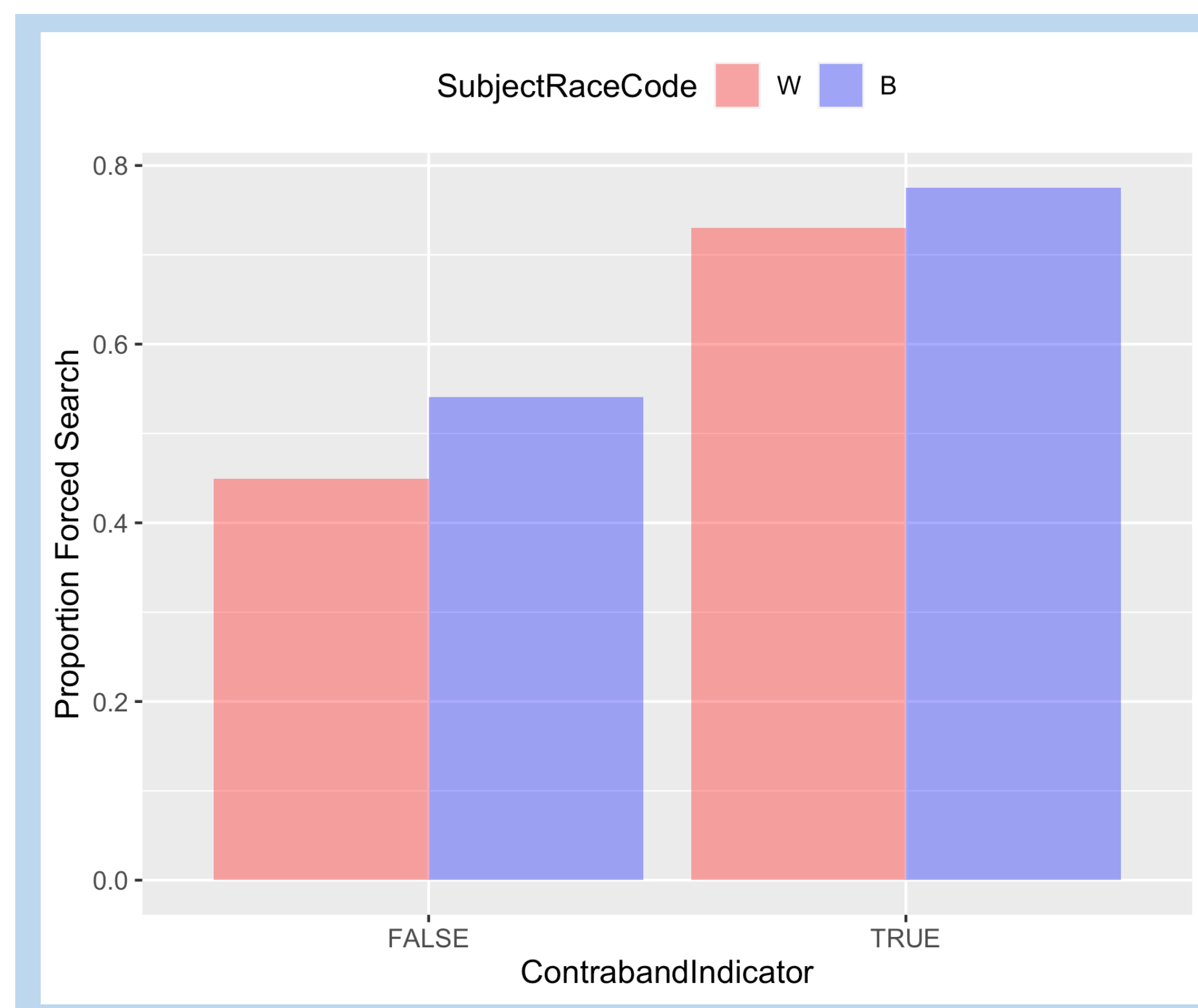
- 18.05% of sampled drivers are Black.
- 2.55% of vehicles were searched.

### Bivariate

- A chi-square test of independence showed that **among Black and White drivers who were stopped, Black drivers were significantly more likely to be searched (4.8%)** compared to White drivers (2.1%); ( $\chi^2=4347.4$ , 1 df,  $p<2.2e-16$ )
- A chi-square test of independence revealed that **among Black and White drivers who were searched White drivers were more likely to be found with contraband (46.5%)** compared to Black drivers (40.3%),  $\chi^2=82.57$ , 1 df,  $p<2.2e-16$

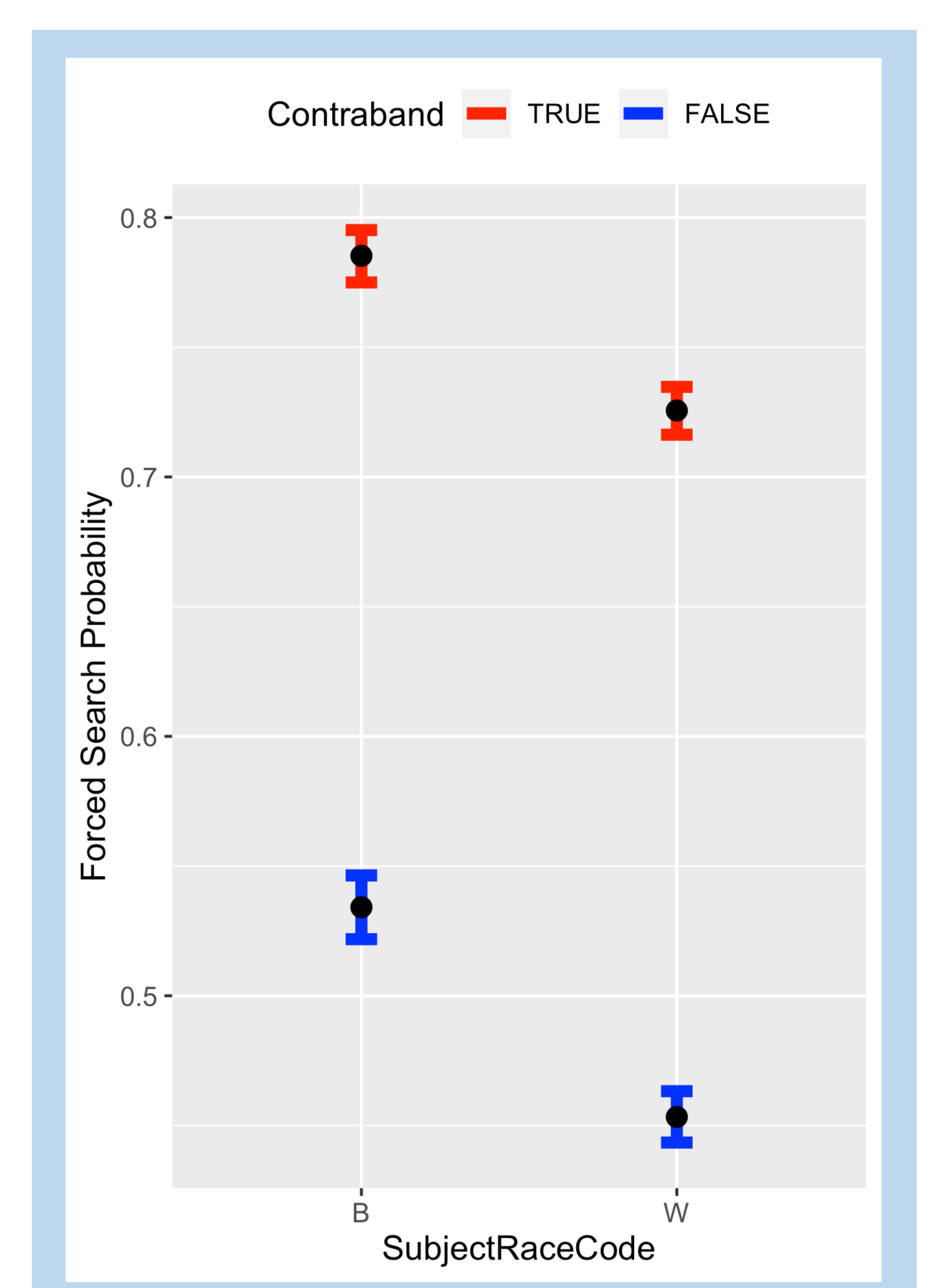
### Multivariate

Figure 1. Proportion of Drivers searched by Force by Finding of Contraband and Race



- A chi-square test showed that **among Black and White drivers who were searched and found without contraband, Black drivers were significantly more likely to be forced to search (54.1%)** compared to White drivers (44.9%); ( $\chi^2=104.2$ , 1 df,  $p<2.2e-16$ ), and **among those searched and found with contraband, Black drivers were still more likely to be forced to search (77.5%)** compared to White drivers (73.0%); ( $\chi^2=24.6$ , 1 df,  $p=7.171e-07$ , Figure 1)

Figure 4. Multiple Logistic Regression Plot of Race and Forced Search as Affected by Contraband



- The race of a driver (O.R. 1.38, CI 1.31-1.46) is significantly associated with the likelihood that a vehicle will be searched without consent after controlling for whether contraband was ultimately found in the vehicle.
- The presence of contraband (O.R. 3.19, CI 3.02-3.37) is significantly and positively associated with the odds of forced search in the model stated above. The odds of forced search is expected to increase by a factor of 3.19 when contraband is ultimately found in the vehicle.

## Discussion

- As expected, the data revealed that Black drivers might be more likely to be pulled over and searched.
- There is a significant relationship between race and authorization for search that indicates that more Black drivers may be forced to search than White drivers.
- The disparity found between Black and White drivers in forced search is significant when contraband is found in the vehicle, and almost doubles when no contraband is found. This might indicate that race is a significant factor in the decision to force a vehicle search, as the disparity increases when the search was ultimately unnecessary and unsuccessful.
- Police departments might use this information to revise and reform their search training to minimize racial bias.
- Some less-diverse towns seem to have higher disparities of increased Black forced searches than towns with more Black population.
- Further research is needed to understand whether there is a correlation between location and these practices of racial profiling.