The Relationship Between Driver Race, Search Likelihood, and Stop Duration in Connecticut Traffic Stops

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Introduction

- Racial disparities in traffic stops and searches have been extensively studied, with research consistently finding that Black and Hispanic drivers are searched at higher rates than White drivers (Rojek et al., 2012; Ridgeway, 2006).

- Factors such as officer perception, neighborhood demographics, and implicit biases significantly influence search likelihood and stop outcomes (Ritter, 2017; Higgins et al., 2012; Rojek et al., 2012; Antonovics & Knight, 2009).

- The relationship between driver race and stop duration, particularly in Connecticut, remains underexplored.

Research Questions

- Is there a relationship between driver race and whether a vehicle is searched in Connecticut (CT)? What about between driver race and whether lengthy stops occur?

- Does driver sex moderate the relationships above, when controlling for driver age?

Methods

Sample

- Drivers stopped during traffic stops in CT in 2022 (n=313,346) were analyzed. The data was sourced from the CT Racial Profiling Prohibition Project.
- This dataset provides information on officer-perceived race of the stopped driver, stop durations, search indicators, etc., and represents the entire population of traffic stops in CT for 2022.

Measures

- Race and ethnicity data were categorized into 6 racial groups, including: Hispanic, Black, White...

- Searches were recorded using a binary variable indicating whether one occurred during a stop.

- Stop durations were categorized into "<15 min.," "16–30 min.," and ">30 min.," with an additional binary variable identifying stops exceeding 30 min. ("Long Stop").

Results

Univariate

- Black drivers accounted for 19% of stops, Hispanic drivers 17%, and White drivers 59%. Searches occurred in 1.7% of stops. 90% of stops lasted <15 min.
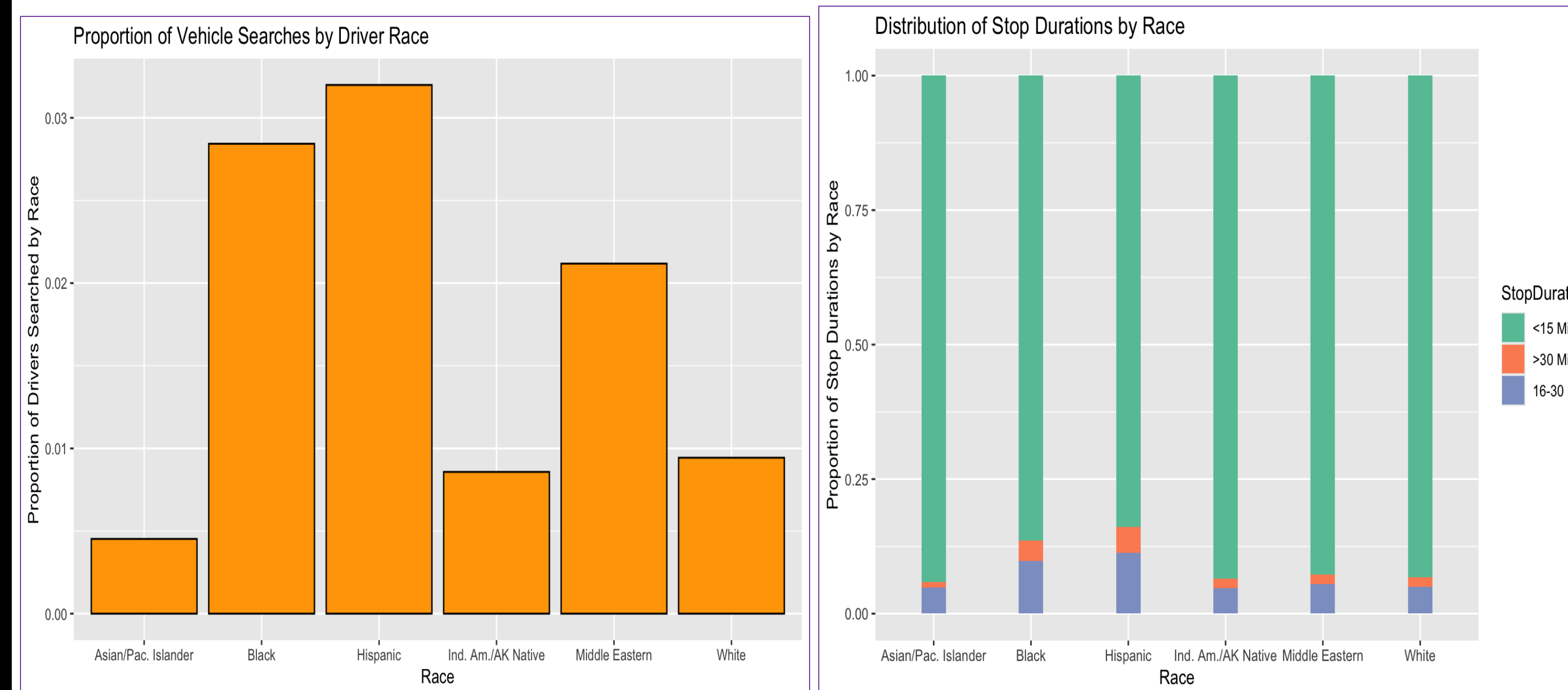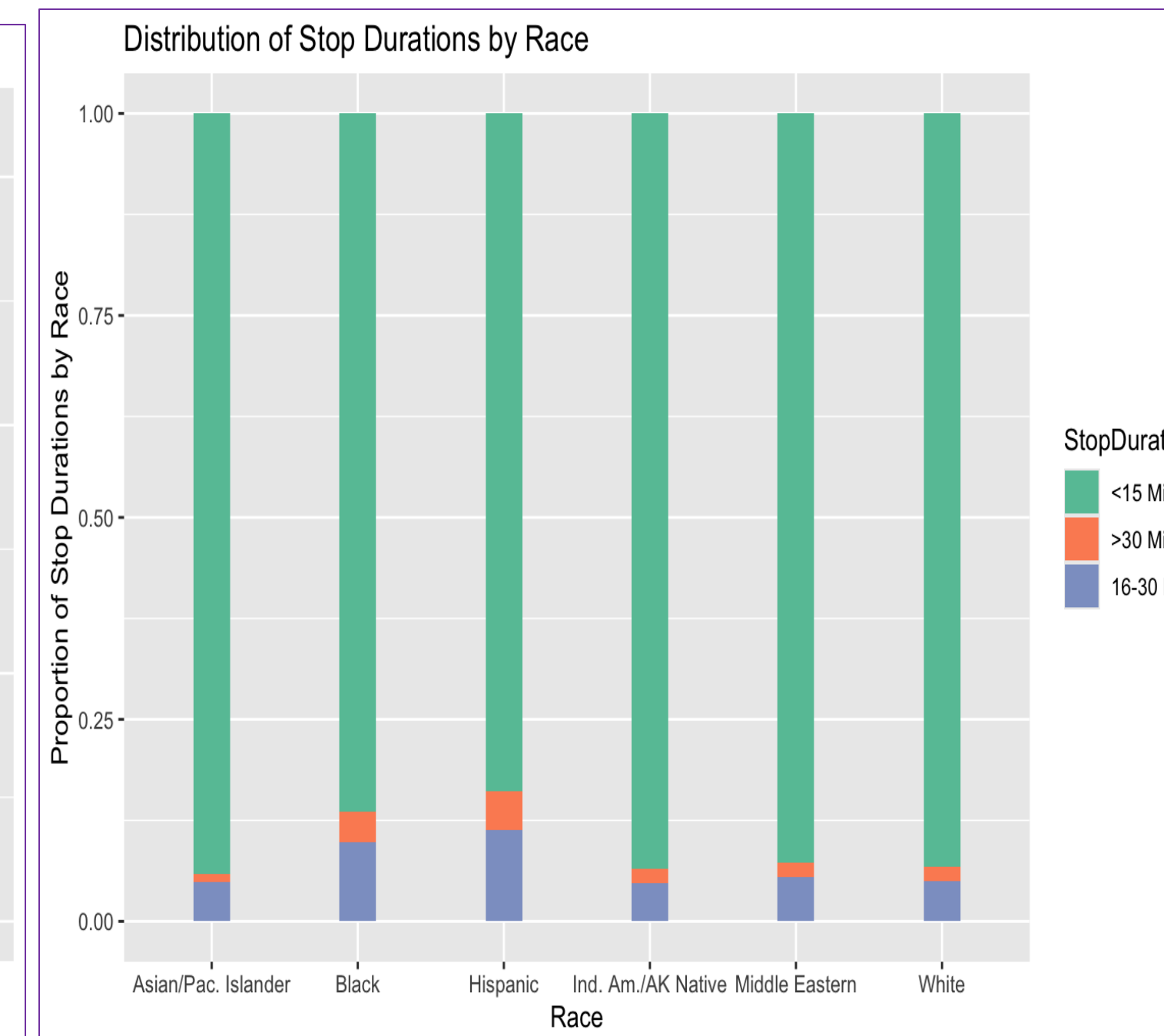
Bivariate

Figure 1

Figure 2

- Chi-square analysis showed significant differences in vehicle search likelihood across races ($\chi2=1915.6$, $p<0.001$). Black drivers (2.84%) and Hispanic drivers (3.2%) were searched more often than White drivers (0.94%) (fig. 1). Post-hoc tests revealed that Hispanic drivers were significantly more likely to be searched compared to all other groups ($p<0.05$). Black drivers and Middle Eastern drivers also had significantly higher search rates compared to White and Ind. American/Alaska Native drivers ($p<0.001$).

- Significant differences in stop durations by race were observed ($\chi2=1959.4$, $p<0.001$). Black and Hispanic drivers experienced long stops (>30 min.) more frequently than White drivers (fig. 2). Post-hoc tests indicated that Hispanic drivers were significantly more likely to experience long stops compared to all other groups ($p<0.001$). Black drivers were also significantly more likely to experience long stops compared to White, Asian/Pacific Islander, Middle Eastern, and Ind. American/Alaska Native drivers ($p<0.001$).
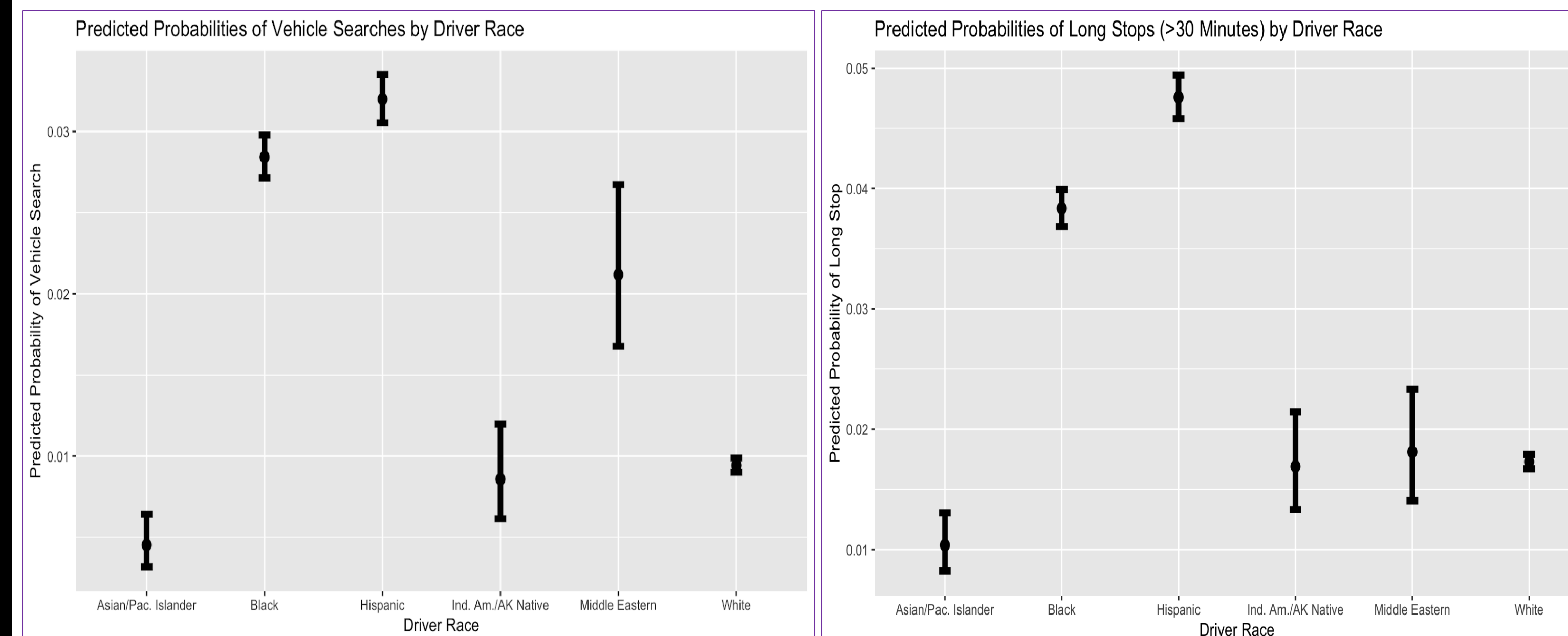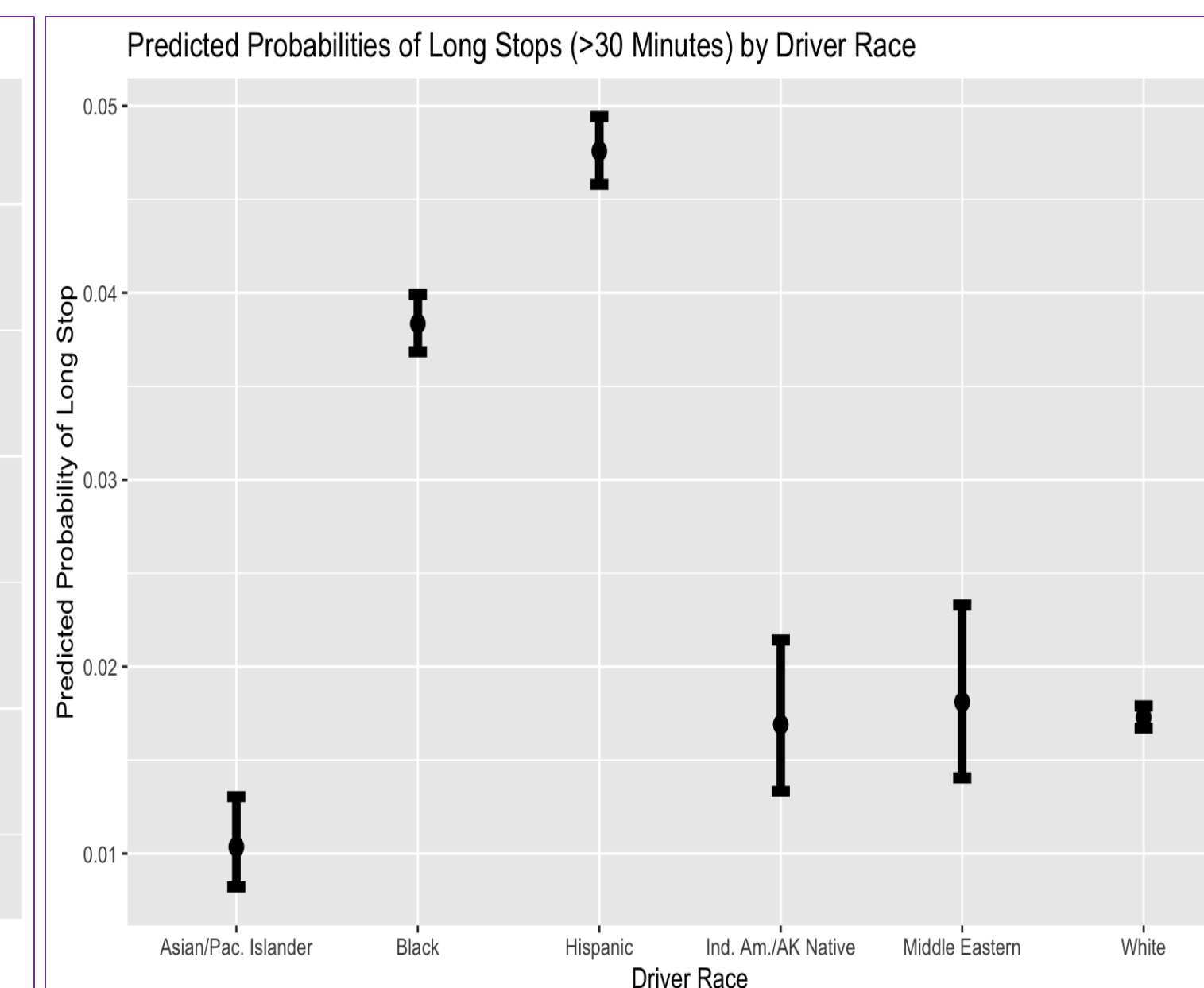

Figure 3

Figure 4

- Logistic regression indicated that Black drivers (OR=6.44) and Hispanic drivers (OR=7.27) had higher expected odds of being searched compared to Asian/Pacific Islander drivers. Middle Eastern (OR=4.76), White (OR=2.10), and Ind. American/Alaska Native drivers (OR=1.90) also had elevated odds (fig. 3).

- Longer stops were more likely for Black (OR=3.81) and Hispanic drivers (OR=4.77) compared to Asian/Pacific Islander drivers. Middle Eastern drivers (OR=1.76), White drivers (OR=1.68), and Ind. American/Alaska Native drivers (OR=1.64) also had elevated expected odds of experiencing a long stop, though to a lesser extent than Black and Hispanic drivers (fig. 4).

Multivariate

- Likelihood ratio tests on multiple logistic regression models (controlling for age and sex) revealed that sex moderated the relationships between race and both outcomes. Male drivers were more likely to experience vehicle searches than female drivers, though not significantly (p=0.11). They were significantly more likely to experience long stops than female drivers across all races (p<0.05).

- Controlling for driver age also revealed that older drivers had significantly lower odds of being searched or experiencing long stops (p<0.001 for both).

Discussion

- Black and Hispanic drivers in CT had higher search likelihoods and longer stop durations compared to other racial groups, consistent with prior studies. Middle Eastern drivers also exhibited elevated search likelihoods, a less commonly reported finding.

- Male drivers had higher predicted odds of both searches and long stops across all races, with driver sex significantly moderating these relationships.

- Older drivers were less likely to experience searches or long stops.

- Future research could examine how factors such as time of day, geographic location, or officer demographics relate to race, sex, and age in their relationships with search likelihood and stop durations.

References

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