



# The Impact of Driver Race and Time of Day on Vehicle Search Likelihood in Connecticut Traffic Stops



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## Introduction

- Traffic stops are the most common form of police-initiated contact in the United States and a key site for examining racial disparities in enforcement (BJS 2022).
- Prior research consistently finds that Black drivers are searched at higher rates than White drivers, with evidence suggesting race may influence stop and search outcomes (Pierson et al. 2020; Knowles & Lowenkamp 2017).
- Most studies rely on national or multi-state data, while fewer focus on state-level variation despite differences in enforcement practices across jurisdictions.

## Research Questions

- To what extent does driver race predict the probability of a vehicle search during traffic stops in Connecticut?
- Does the time of day condition this association?

## Methods

### Sample

- Data were drawn from the Connecticut Traffic Stops – Racial Profiling Prohibition Project, which compiles stops reported under Public Act 12-74. Each observation represents a single traffic stop (N = 313,351). The analysis includes all cases with complete data on driver race and search outcome.

### Measures

- Driver race was recorded by the reporting officer and categorized as White, Black, Asian, or American Indian.
- Vehicle search was measured as a binary indicator of whether a search occurred during the stop (search conducted vs. no search).
- Time of day was coded as daytime or nighttime, with daytime defined as hours  $\geq 6$  and  $\leq 17$  (5 PM).

## Results

### Bivariate

- Chi-Square Test of Independence shows a statistically significant association between driver race and vehicle searches ( $\chi^2(2) = 638.57, p < .001$ ).
- Search rates differ by race: Black drivers (2.84%) are searched most often, followed by White drivers (1.46%), and drivers in the “Other” category (0.60%).
- These results indicate that the likelihood of a vehicle search is not evenly distributed across racial groups.

### Multivariate

- Logistic regression analyses show that Black drivers are significantly more likely to be searched than the reference group (O.R. = 1.87,  $p < .001$ ), while drivers in the “Other” category are significantly less likely to be searched (O.R. = 0.38,  $p < .001$ ).
- Male drivers are significantly more likely to be searched than female drivers (O.R. = 2.29,  $p < .001$ ).
- Stops conducted at night are associated with higher likelihood of a search compared to daytime stops (O.R. = 1.57,  $p < .001$ ).

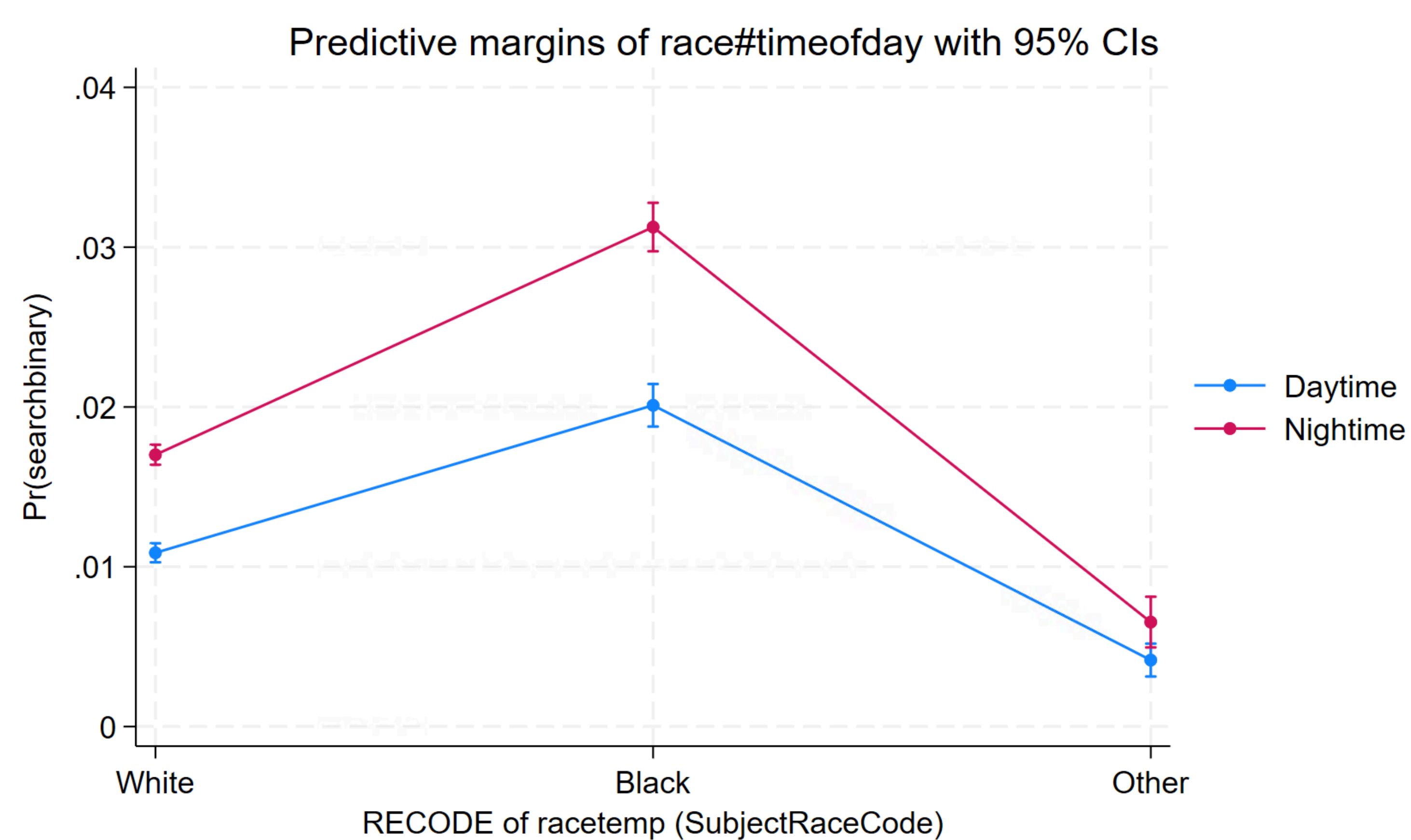


Figure 1: Predicted Probability of Vehicle Search by Driver Race and Time of Day

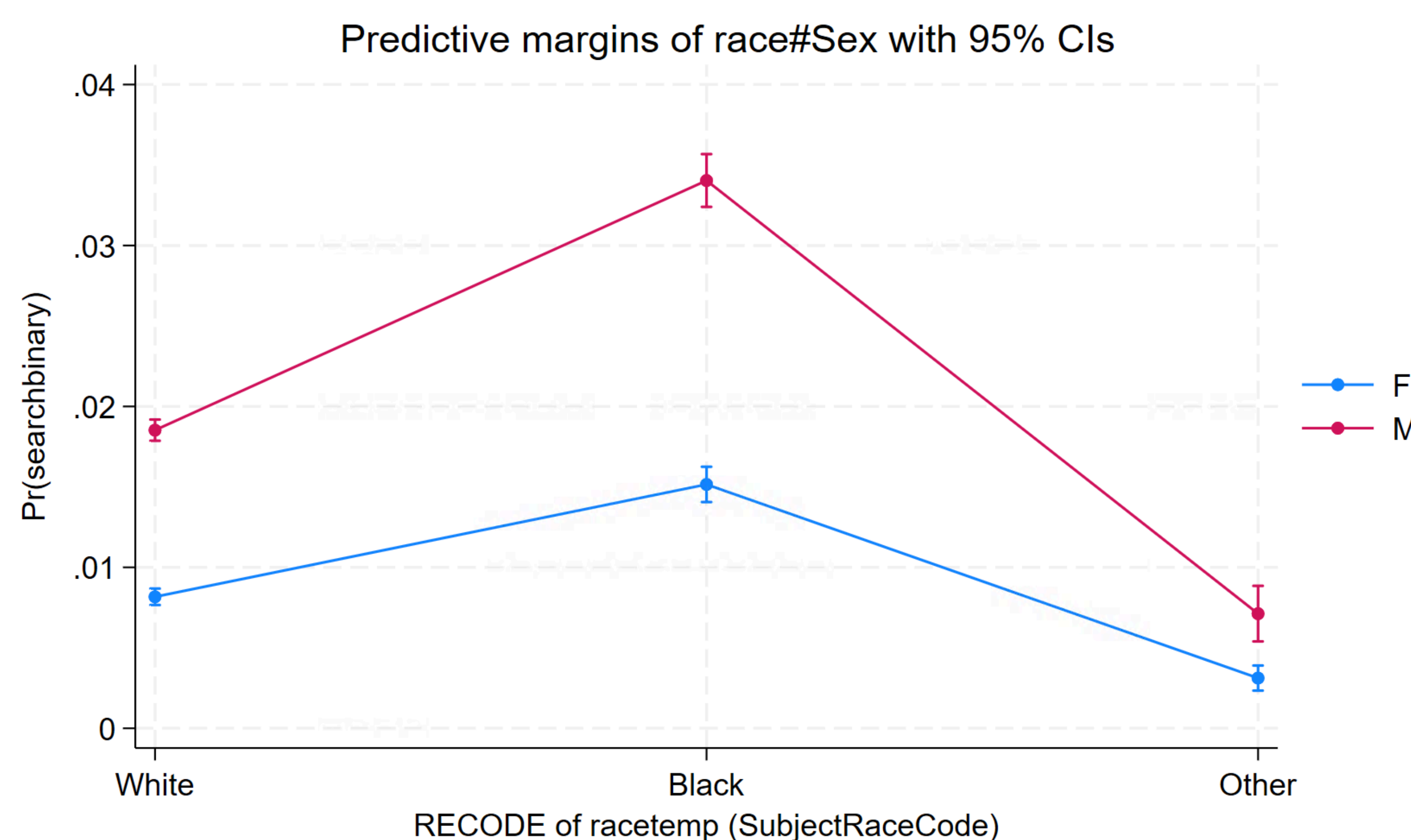


Figure 2: Predicted Probability of Vehicle Search by Driver Race and Sex

## Discussion

- Although vehicle searches are rare overall, they are not evenly distributed across racial groups, with Black drivers experiencing higher search rates than other groups.
- There is a statistically significant association between driver race and the likelihood of a vehicle search, indicating that search outcomes vary systematically by race.
- Vehicle searches occur more frequently during nighttime stops than daytime stops, suggesting that time of day also influences search likelihood.
- Future research should examine how race and time of day interact, as well as incorporate additional variables (e.g., location, reason for stop) to better understand the factors shaping search decisions.

## References

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