Self-reported driving behaviors: Using health surveys to inform road safety efforts

Research on the Road

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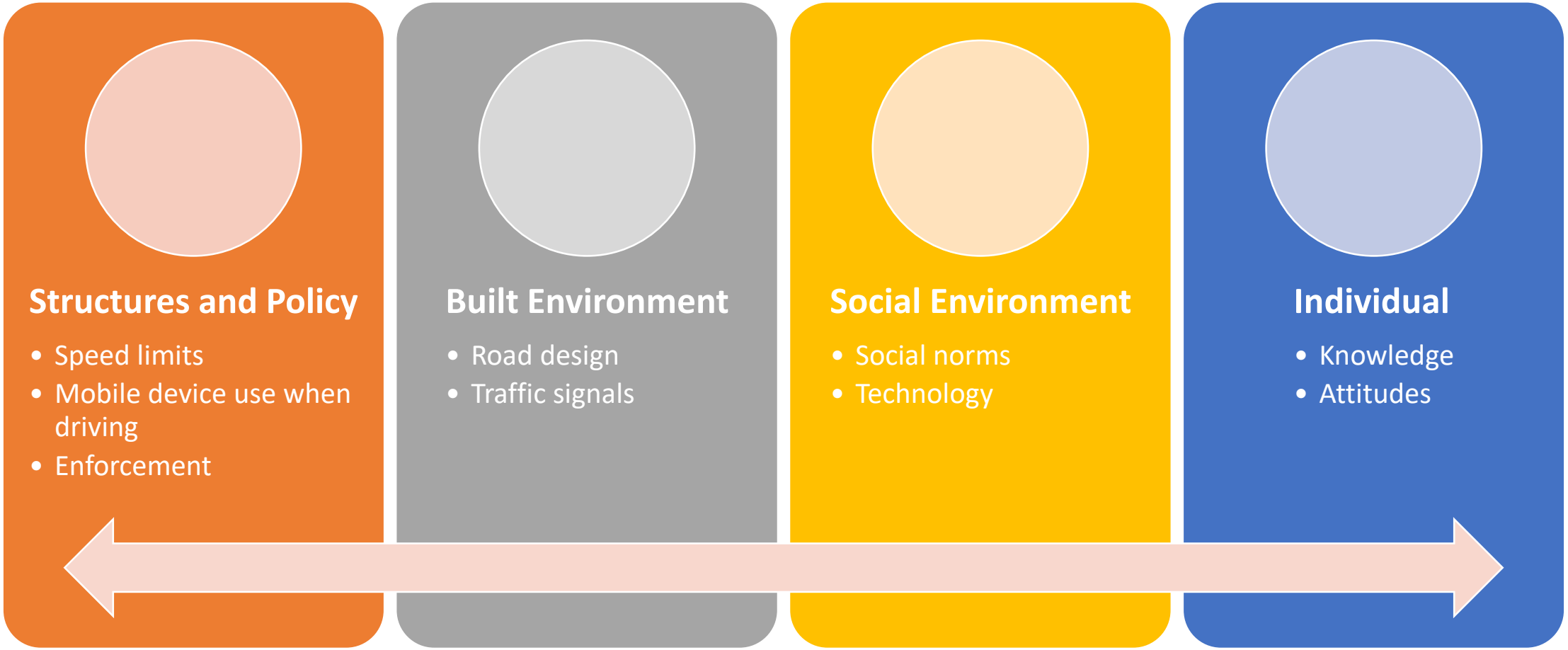
Background

- Traffic crashes are a leading cause of preventable injury death in New York City
- Many factors contribute to traffic crashes, including speed and distracted driving
- Interaction between behavior and environment has proven success in reducing motor vehicle deaths[1]

[1] Gielen and Green. The impact of policy, environmental, and education interventions: A synthesis of the evidence from two public health success stories. Health Education & Behavior 2015, 42: 20S-34S.

Application of social ecologic model to driving behaviors



Surveillance Questions

- Who drives in New York City?
  - Has the profile of drivers changed between 2015 and 2019?
- What is the prevalence of speeding?
  - Does prevalence of speeding differ by demographics?
  - Has speeding prevalence changed between 2015 and 2019?
- What is the prevalence of messaging while driving?
  - Does prevalence of messaging while driving differ by demographics?
  - Has prevalence of messaging while driving changed between 2015 and 2019?

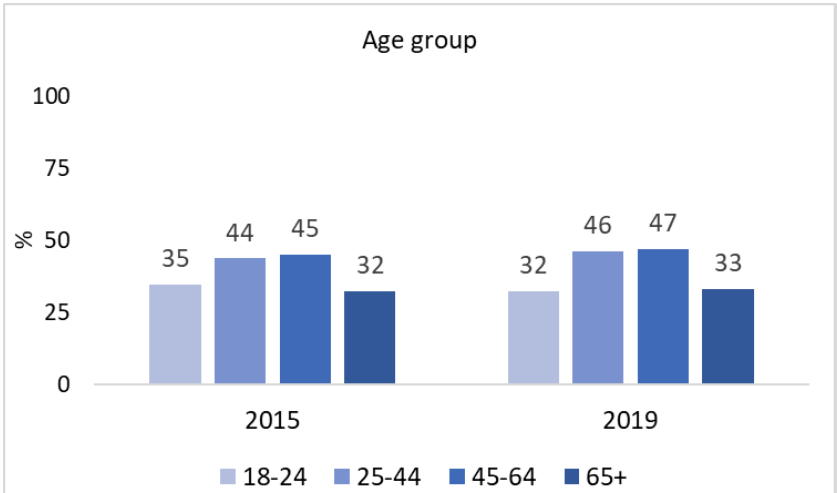
Methods

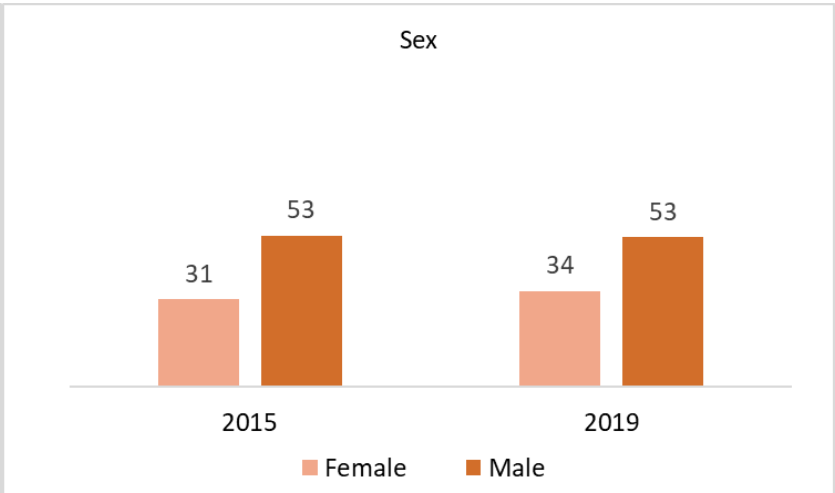
- **Data source**
  - NYC Community Health Survey, 2015 and 2019

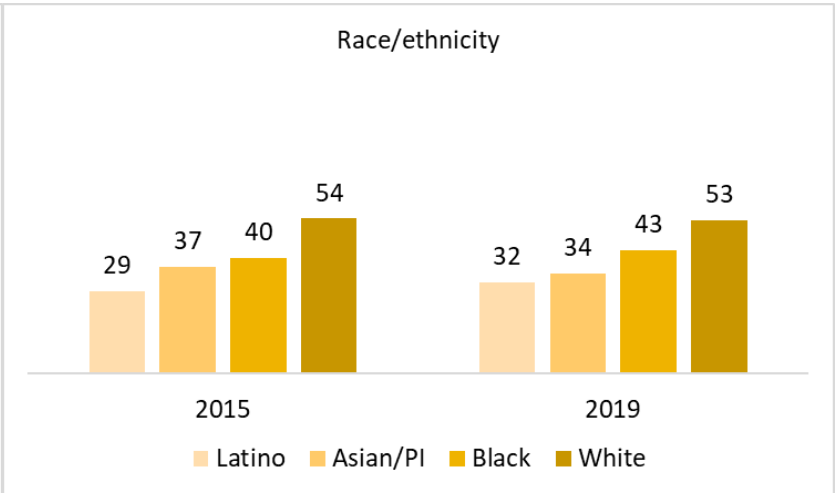
Construct	Survey Question	Response Options
Driving	In the past 30 days, on how many days did you drive a car or motor vehicle in New York City?	0 to 30
Speeding	(If drove): In the past 30 days, when you drove in New York City, how often did you drive 10 miles per hour or more over the posted speed limit?	Often, Sometimes, Rarely, Never
Messaging while driving	(If drove): In the past 30 days, when you drove in New York City, how often have you read or sent a text message or email while you were driving?	Often, Sometimes, Rarely, Never

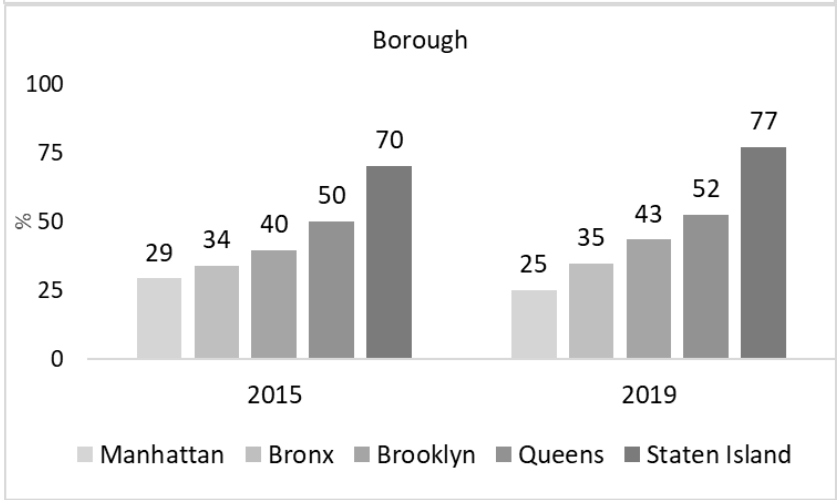
Who drives in NYC?

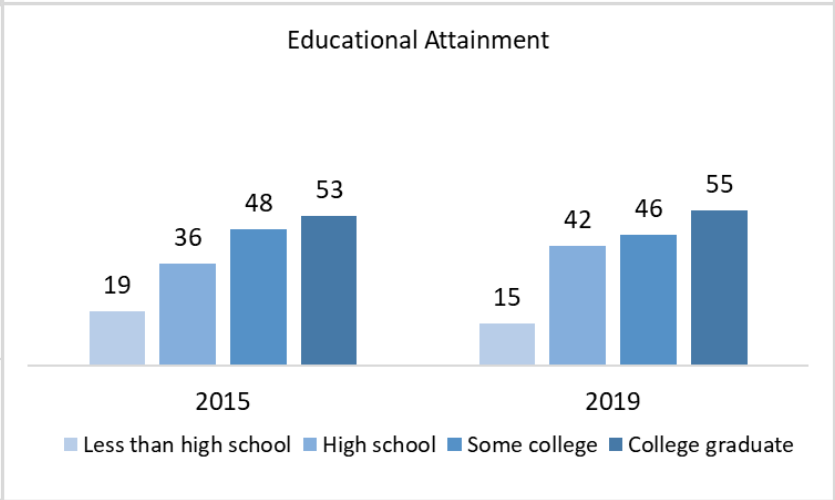
Driving prevalence was similar between 2015 and 2019: 41% of adults drove in NYC in 2015 and 43% drove in 2019

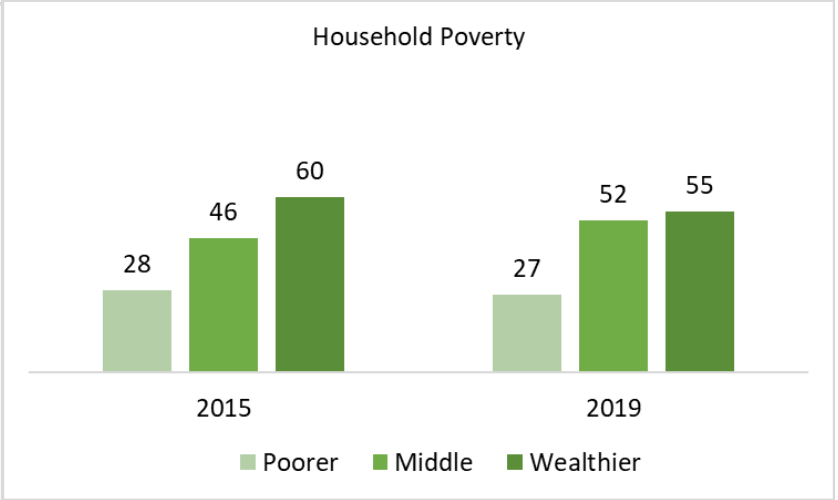








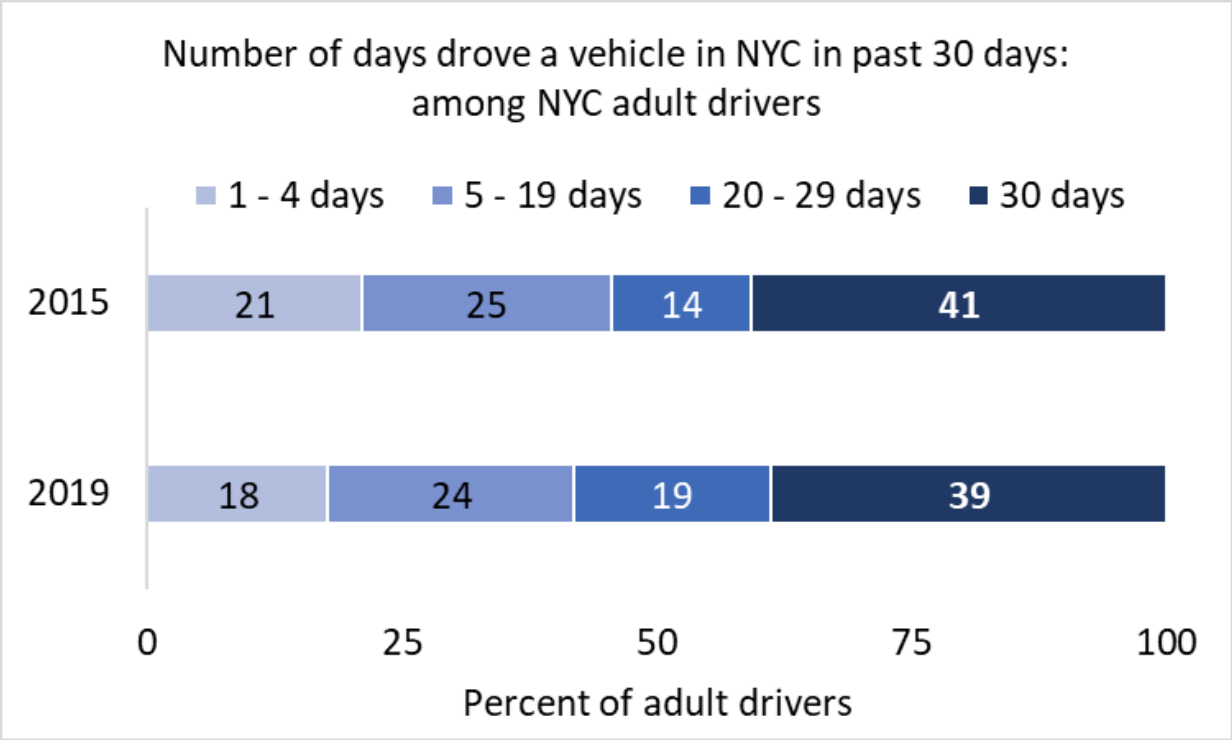


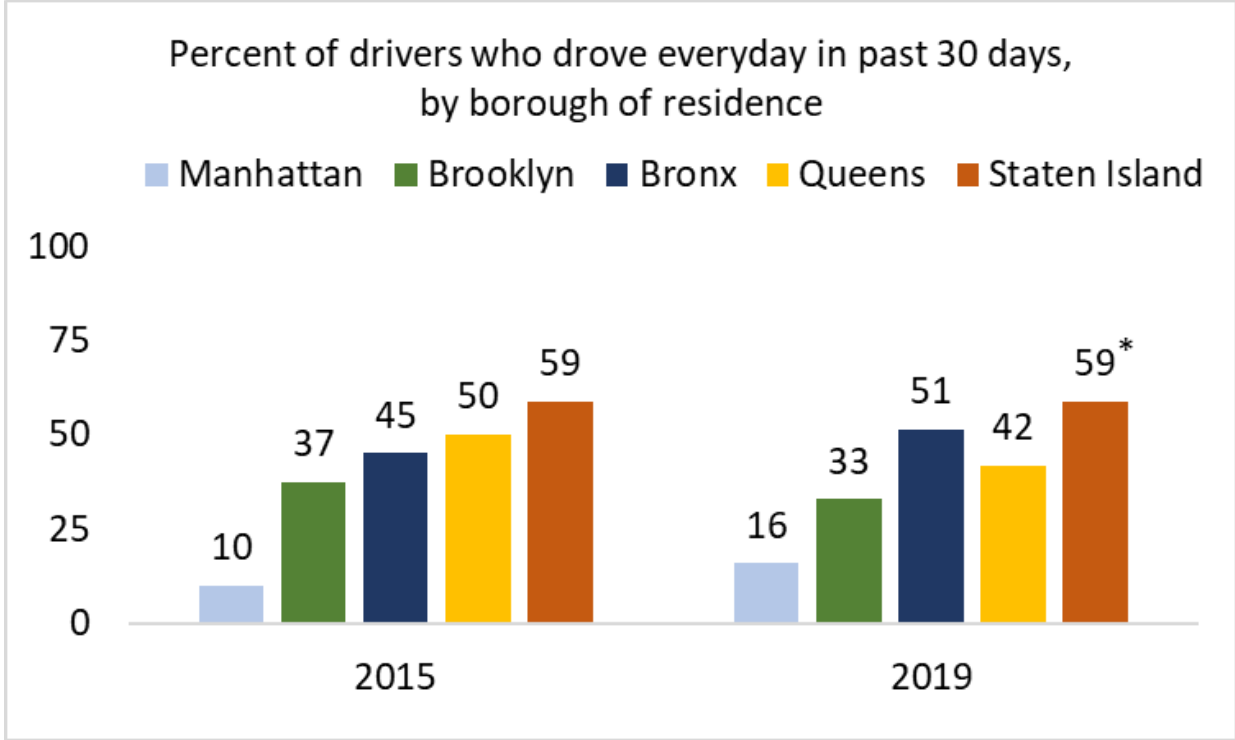


Source: NYC Community Health Survey 2015 & 2019
Data are not age-adjusted

Household poverty based on Federal Poverty Level:
Poorer, <200%FPL; Middle, 200% to <400% FPL; Wealthier, ≥400%FPL

Daily driving was similar in 2015 and 2019





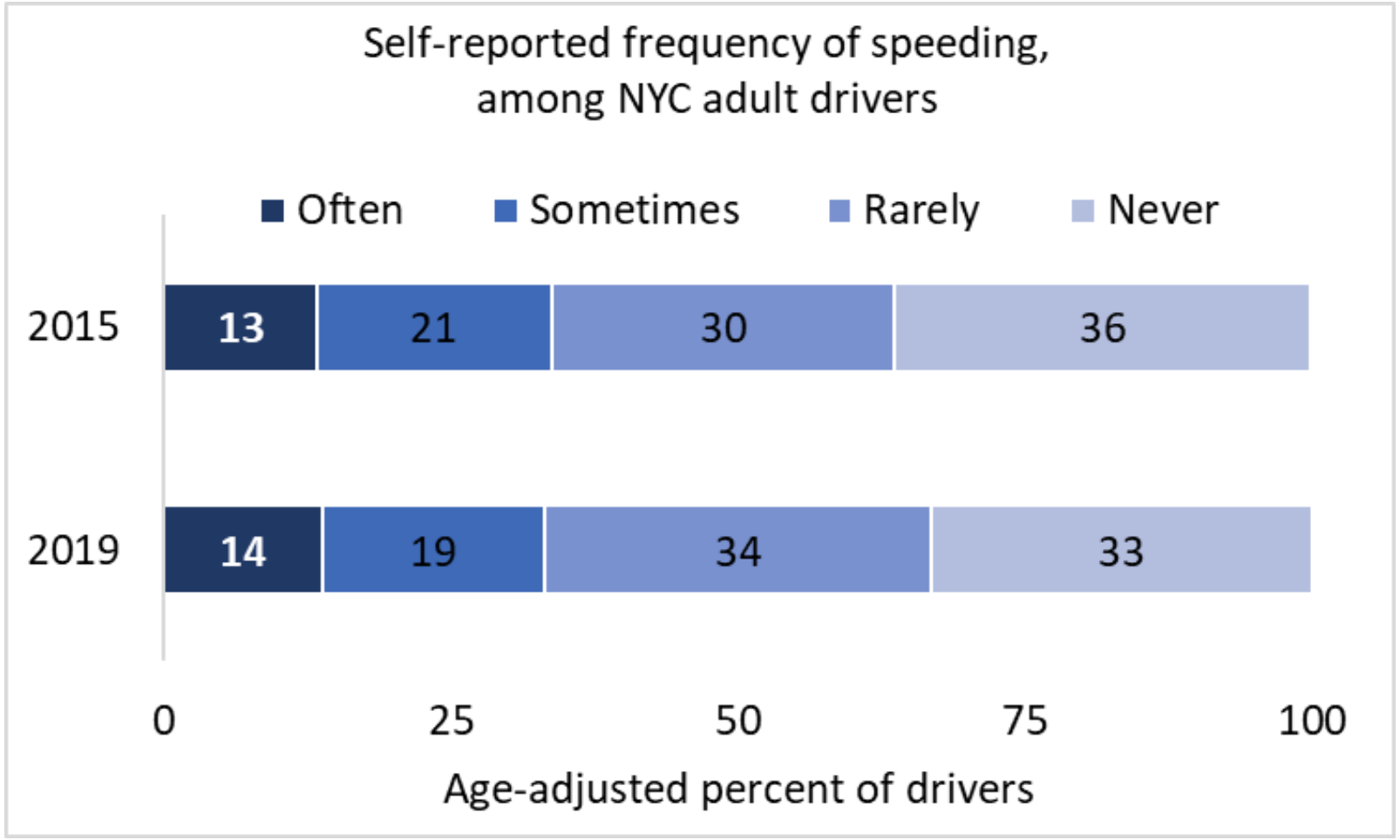
Source: NYC Community Health Survey 2015 & 2019
Data are not age-adjusted

**Interpret with caution due to small sample size.*

Self-reported speeding and messaging while driving

Self-reported speeding is common

- About 2 out of 3 drivers self-report speeding
- Prevalence of ever speeding was similar in 2015 and 2019
  - 64% in 2015
  - 67% in 2019

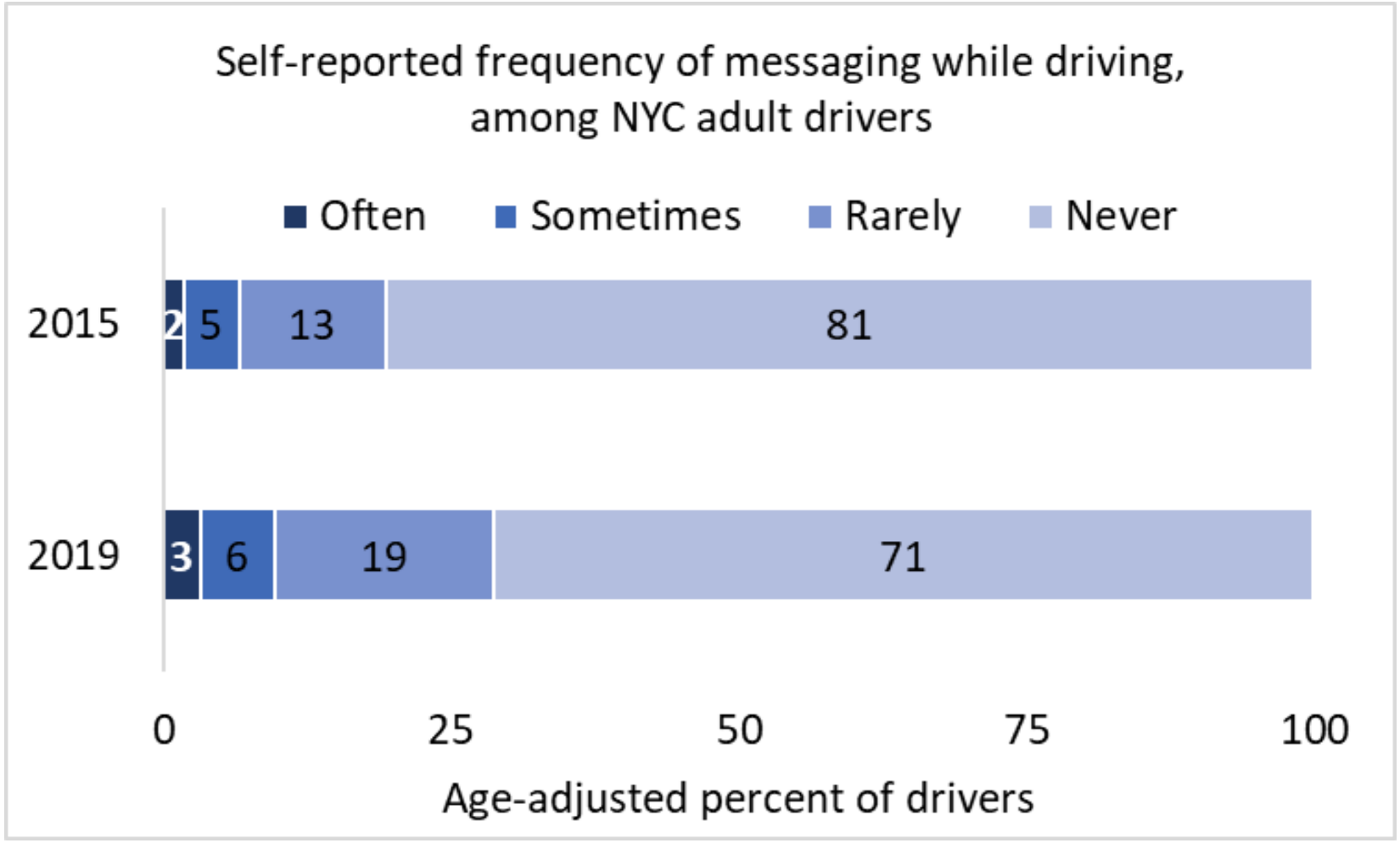


Source: NYC Community Health Survey 2015 & 2019
Data are age-adjusted to US 2000 Standard Population

Speeding defined as driving 10 miles per hour or more over the posted speed limit

Self-reported messaging while driving is increasing

- Among NYC adult drivers, prevalence of messaging while driving increased between 2015 and 2019
  - 19% in 2015
  - 29% in 2019

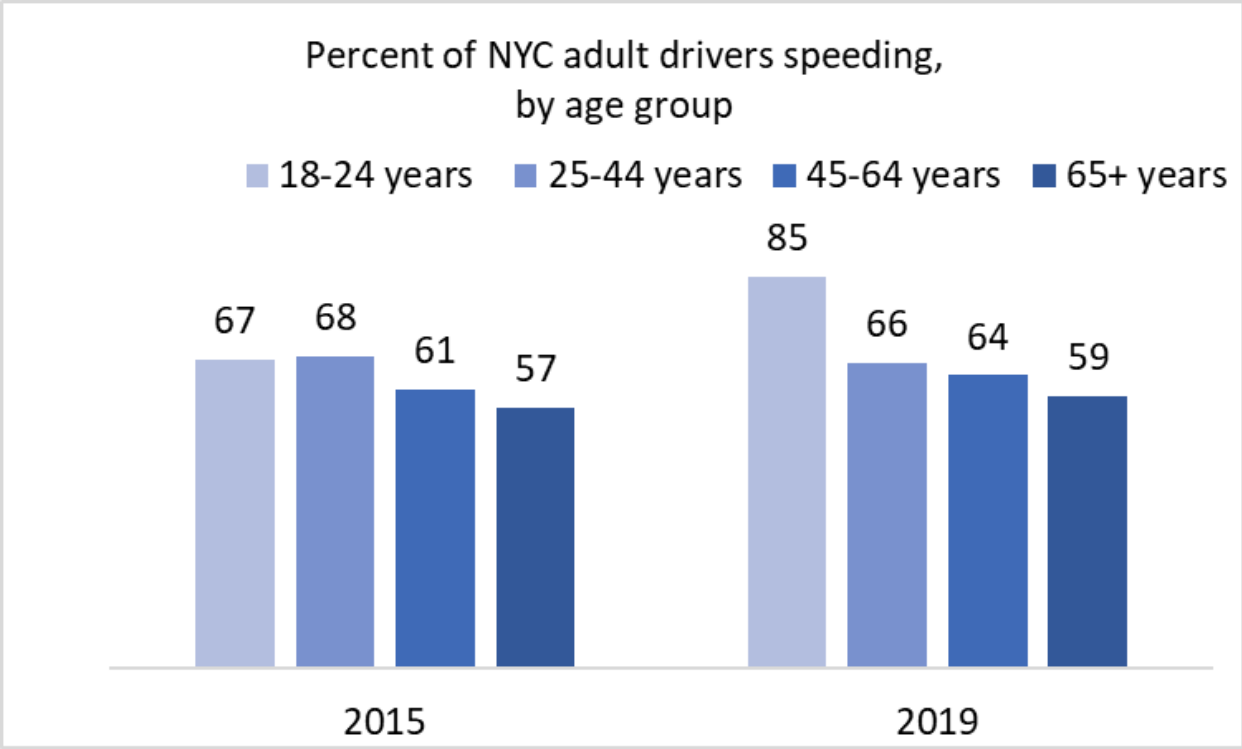


Source: NYC Community Health Survey 2015 & 2019
Data are age-adjusted to US 2000 Standard Population

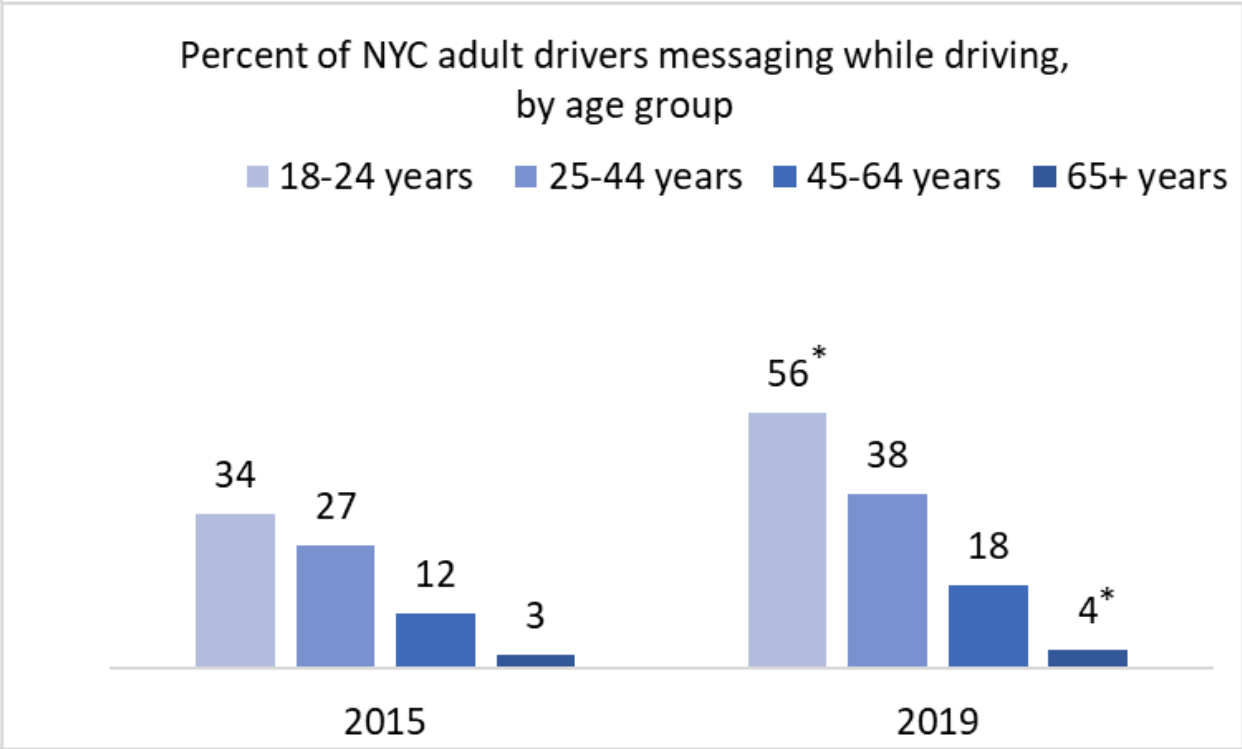
Messaging while driving defined as ever reading or sending a text or email message while driving

Speeding is common among all age groups. Messaging while driving is more common among younger drivers, ages 18-44.

- Prevalence of self-reported speeding increased among drivers ages 18-24 years old between 2015 and 2019



- Prevalence of self-reported messaging while driving increased among drivers ages 18-24, 25-44, and 45-64 between 2015 and 2019



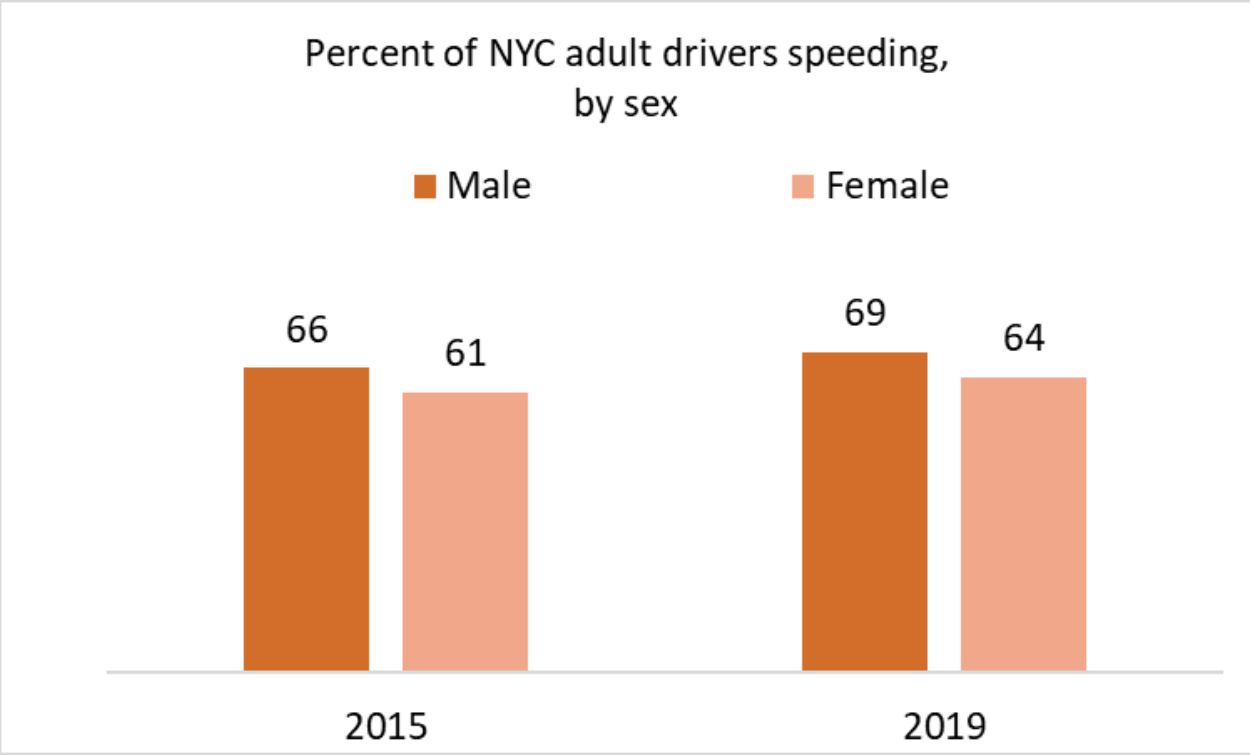
Source: NYC Community Health Survey 2015 & 2019
Age-specific percent of adult drivers

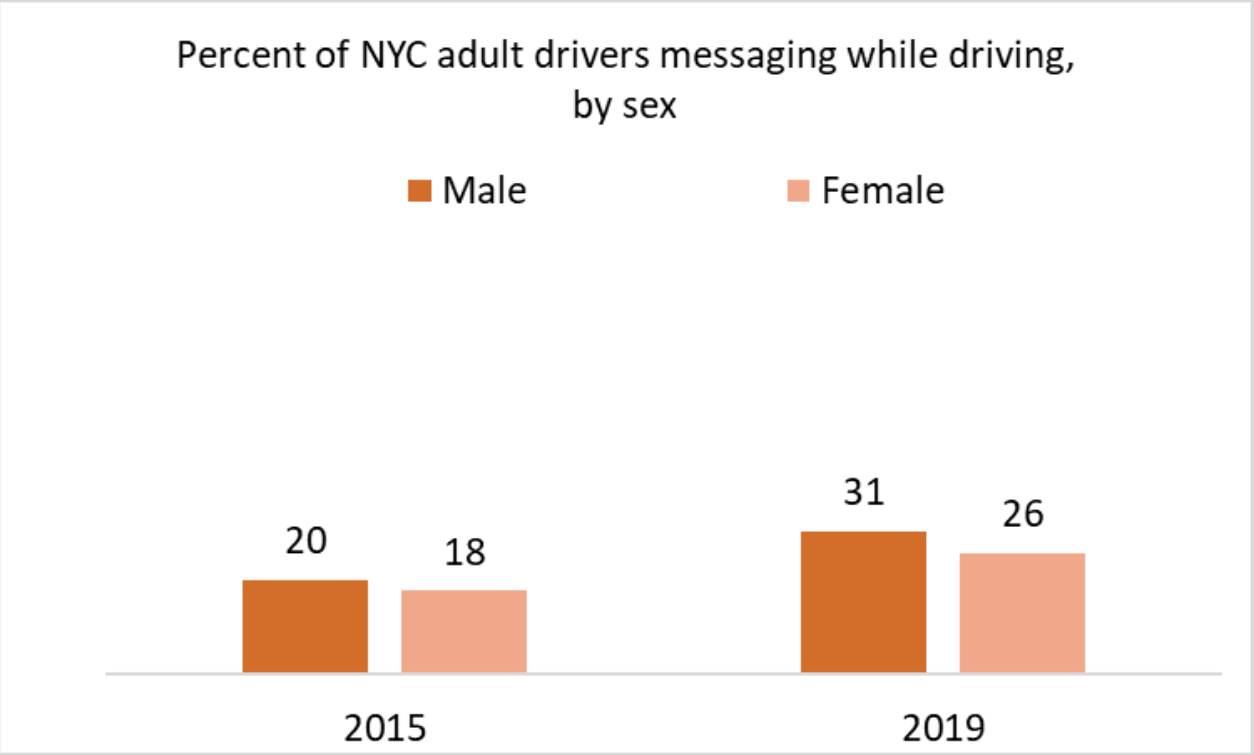
**Interpret with caution due to small sample size*

Speeding is common among men and women.
Messaging while driving has increased for men and women.

- In 2015, prevalence of self-reported speeding was higher for men than women, but in 2019 the difference is not statistically significant

- Prevalence of self-reported messaging while driving is similar for men and women, and has increased for both men and women between 2015 and 2019

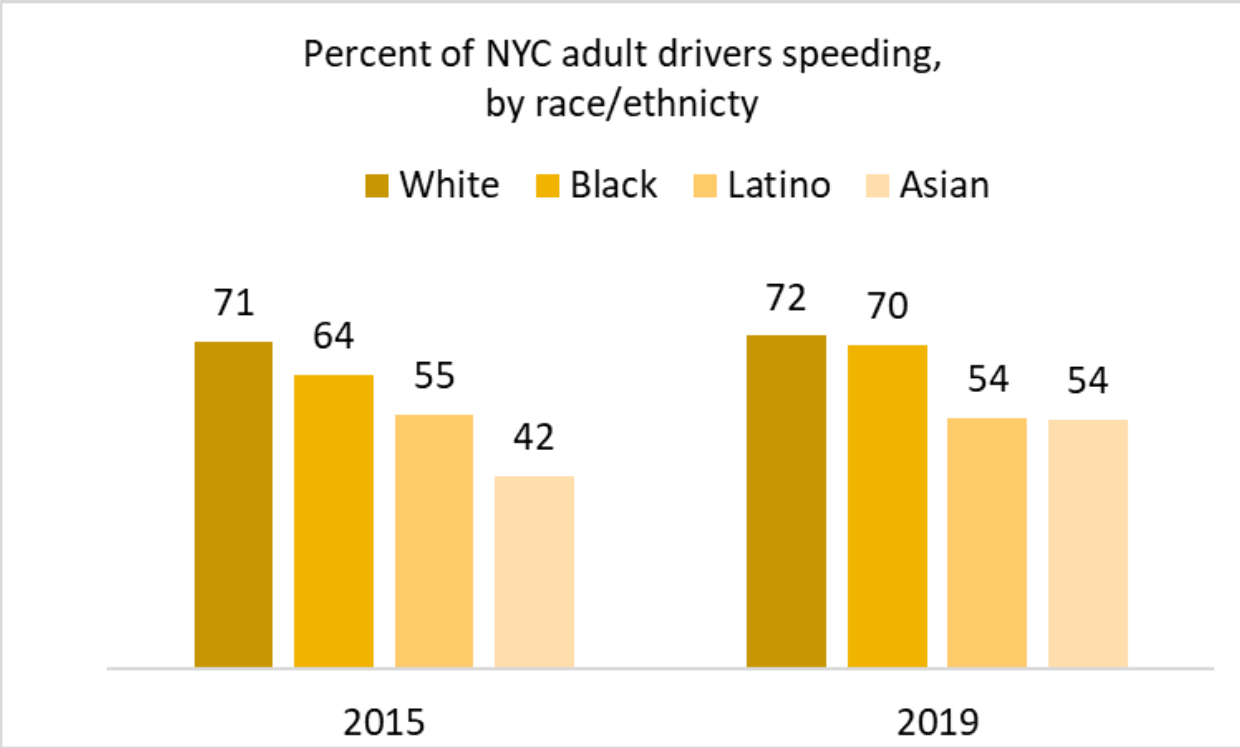


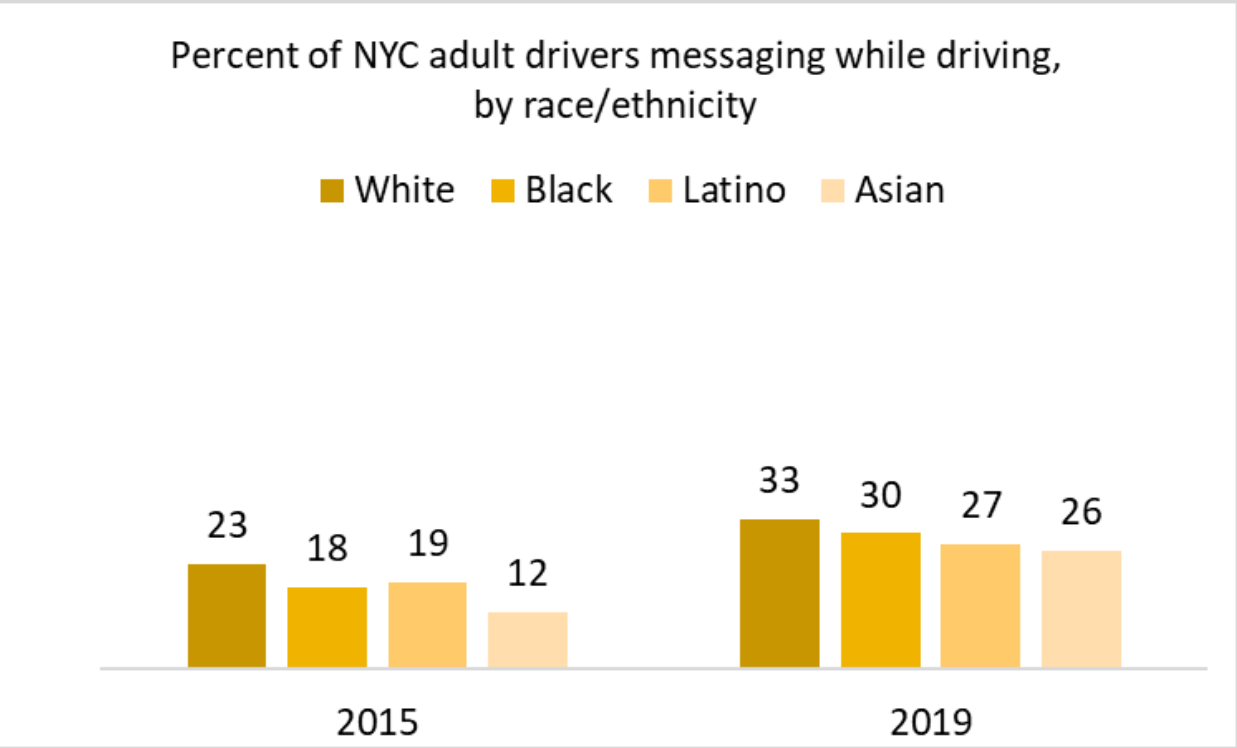


Source: NYC Community Health Survey 2015 & 2019
Data are age-adjusted to US 2000 Standard Population

Speeding is more common among White drivers than Latino and Asian drivers. Messaging while driving has increased among all race/ethnicity groups.

- Prevalence of self-reported speeding increased among Asian drivers between 2015 and 2019
- In 2019, prevalence of messaging while driving was similar across all race/ethnicity groups





Source: NYC Community Health Survey 2015 & 2019
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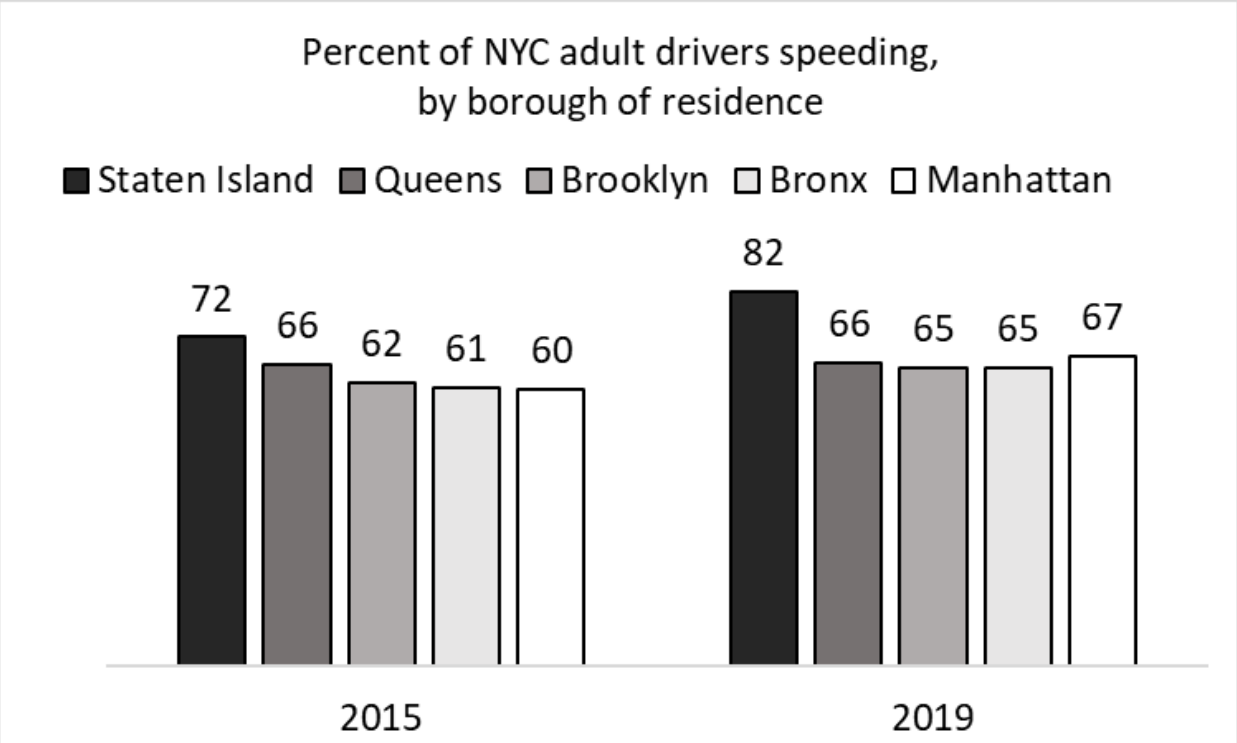
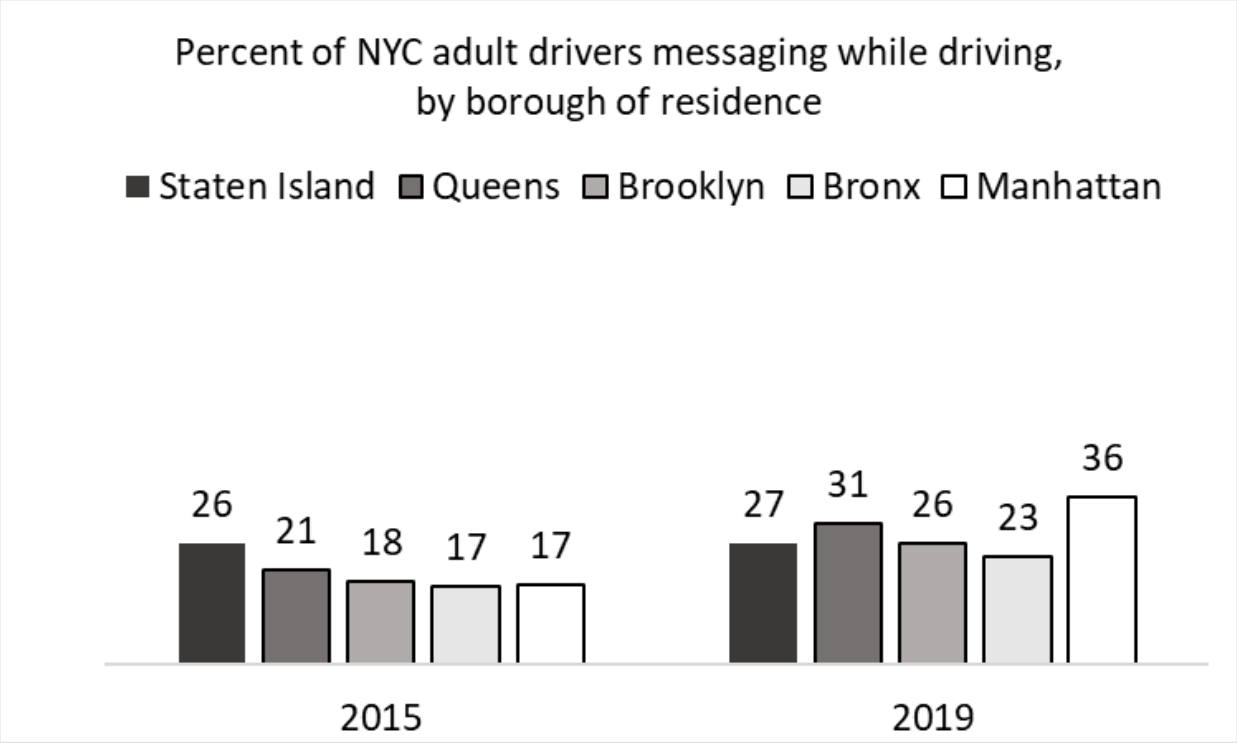
Speeding is more common among drivers living in Staten Island. Messaging while driving has increased for drivers living in Manhattan, Brooklyn and Queens.

- Prevalence of self-reported speeding increased among drivers living in Staten Island, but the difference was not statistically significant.
- In 2019, the prevalence of self-reported messaging while driving is more common among drivers living in Manhattan than in the Bronx.





Source: NYC Community Health Survey 2015 & 2019
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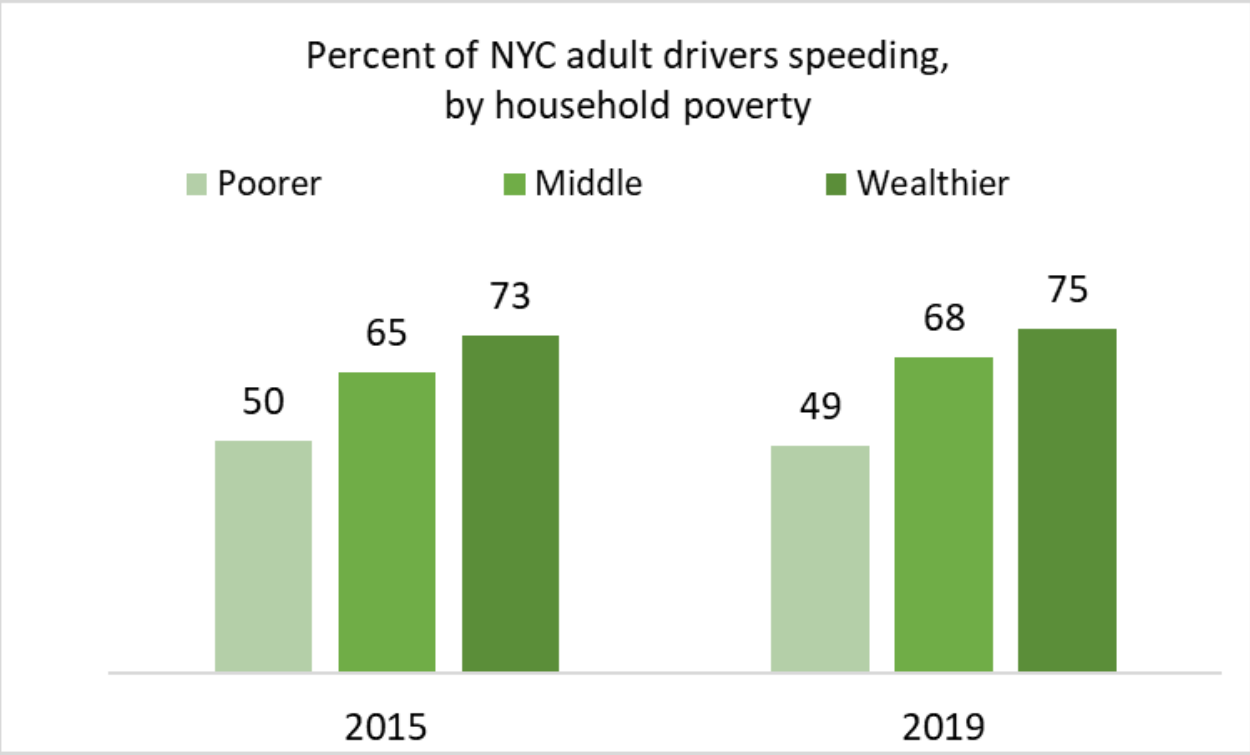
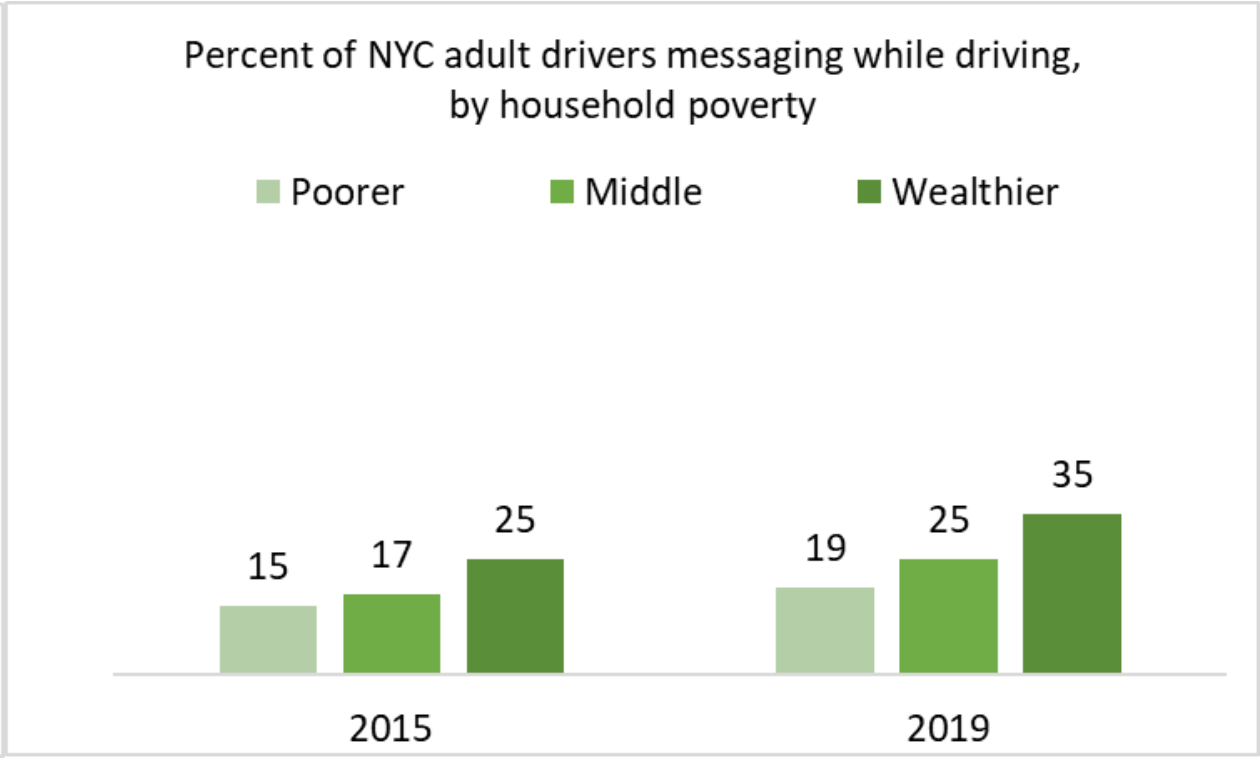
Speeding and messaging while driving is more common among drivers living in wealthier households.

- There was no change in prevalence of self-reported speeding by household poverty between 2015 and 2019; prevalence was about 1.5 times higher for drivers living in wealthier households than poorer households.
- Prevalence of self-reported messaging while driving increased for drivers living in middle and wealthier households between 2015 and 2019





Source: NYC Community Health Survey 2015 & 2019
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Household poverty based on Federal Poverty Level:
Poorer, <200%FPL; Middle, 200% to <400% FPL; Wealthier, ≥400%FPL

Strengths and Limitations

- STRENGTHS
  - Population-based data on local driving behaviors, including demographic and geographic characteristics
  - Novel use of public health surveillance dataset helps monitor driving behaviors over time

- LIMITATIONS
  - Potential for social desirability bias in self-reported data
  - Did not collect information on road type, road condition, or road use
  - Did not collect information on vehicle technology/ hands-free messaging
  - Data limited to adults 18 years or older

Public Health Impact

- Key findings:
  - Speeding is still common among New York City adults
  - Increase in messaging while driving seen across almost every group
  - Younger adults and wealthier drivers are more likely to self-report speeding and self-report messaging while driving

- Understanding behaviors behind the wheel can impact road safety for all