



What do you purchase online and who you are:

Empirical evidence from the 2018 California Survey of Emerging Transportation Trends

Niloufar Yousefi (nyousefi@ucdavis.edu)

Kailai Wang (kwang43@central.uh.edu), Giovanni Circella (gcircella@ucdavis.edu)

Institute of Transportation Studies, University of California, Davis

Research Question

Research Goal:

Analyzing the relationships among personal characteristics, spatial attributes, travel behavior, and frequency of online shopping for different types of merchandise.

Research Questions:

- What is the effect of spatial attitudes on e-shopping?
- What is the potential impact of e-shopping on travel behavior, and types of merchandise which online shoppers buy the most, regarding their socio-demographic characteristics?



Methods and Data

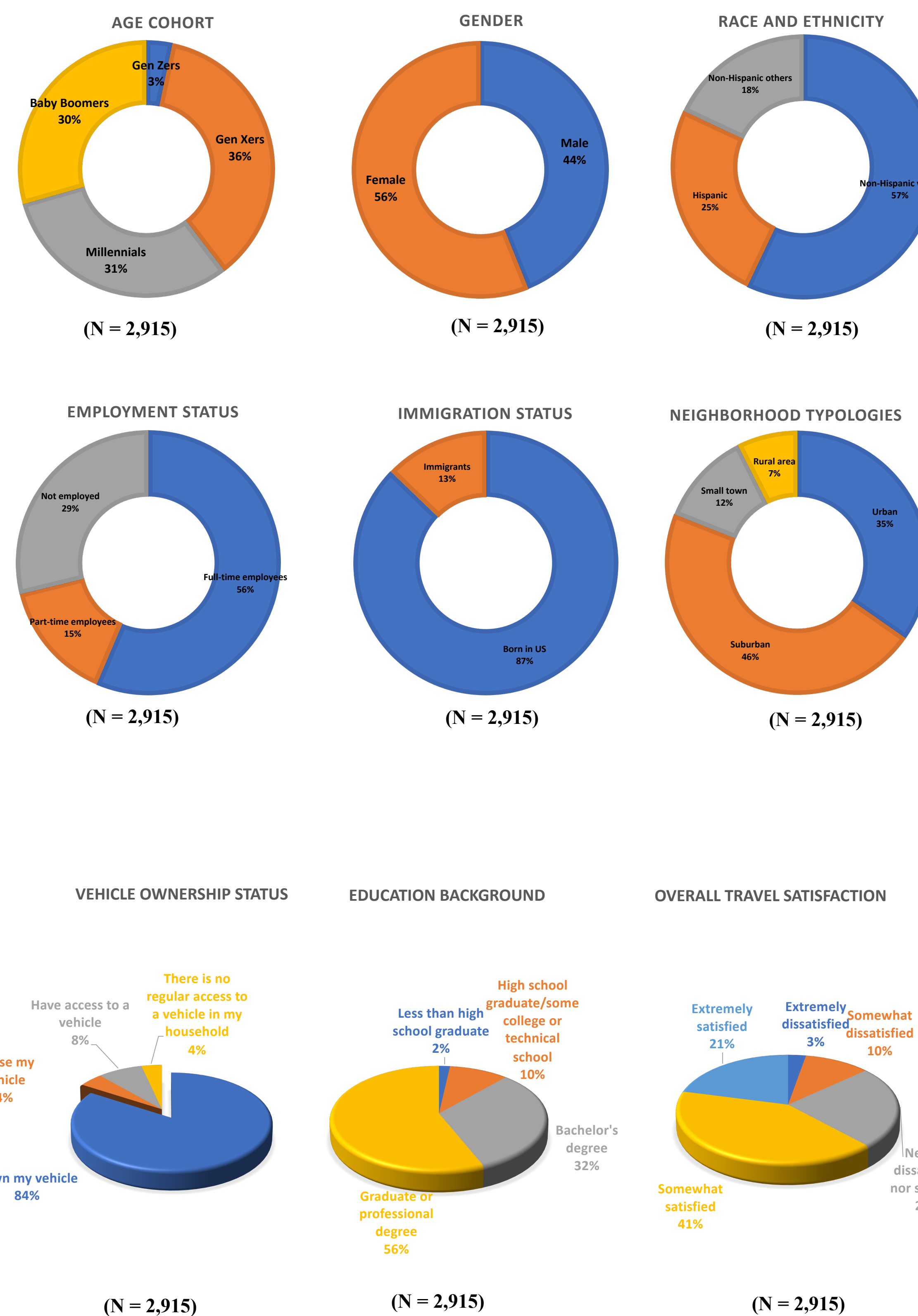
Survey Data:

We analyze a research dataset collected in 2018 as part of the California Panel Study of Emerging Transportation Trends (based on 2,915 valid cases).

Methods:

This study adopts a multivariate ordered probit approach to jointly estimate the factors that influence online shopping frequency by different types of merchandise.

Sample Composition

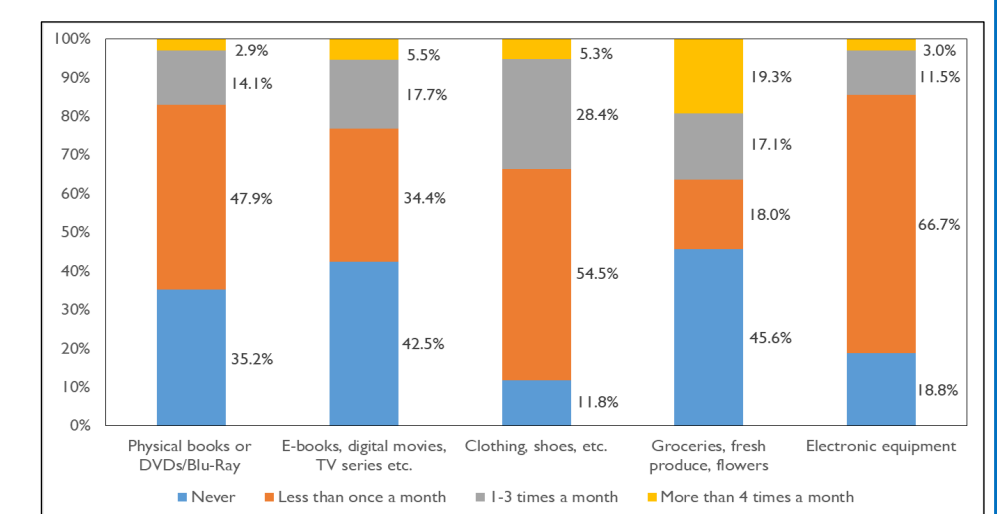


Findings and Conclusions

- Spatial attributes of the residential location can significantly influence the frequency of purchasing some types of merchandise online only. People living in rural areas are more likely to buy e-books, digital movies, and TV series online as compared to their urban counterparts.
- Sociodemographic characteristics also influence people's online purchasing behaviors significantly:
 - Gen Xers, Baby Boomers are less likely to buy physical books or DVDs/Blu-Ray, groceries, fresh produce, and flowers online.
 - Men are more likely to buy clothing, shoes, groceries, fresh produce, and flowers online than women.
 - Hispanics show less interest in engaging in online shopping for physical books or DVDs/Blu-Ray, e-books, digital movies, and TV series, in relative to their white counterparts.
 - Education background has a significant positive effect on buying physical books or DVDs/Blu-Ray, e-books, digital movies, TV series, and electronic equipment online.
 - In general, employment status makes people less likely to be involved online purchasing.
- Less car-centric people are found to show more interest in online shopping than their counterparts who drive more often (Multimodal people are more likely to buy five types of merchandise online).
- Smartphone owners are more likely to buy e-books, digital movies, TV series, clothing, shoes, etc., and electronic equipment online.

The descriptive data shows that:

- Nearly half of our responses (42.5%) have not purchased e-books, digital movies, and TV series from the internet.
- Similarly, 45.6% of respondents reported having never bought groceries, fresh produce, or flowers online.
- The percentages for clothing and shoes, and electronic equipment are 11.8% and 18.8%, respectively.
- The data also suggest that people are more likely to purchase clothing, shoes, groceries, fresh produce, and flowers online as compared to the other three types of commodities.



Frequency of online shopping by five types of merchandise (N = 2,915)

Next Steps:

In future extensions of this study, we plan to use longitudinal survey data to explore the causal relationships between our explanatory variables of interest and e-shopping behaviors.