

Cigarette Smoking and the Hispanic Paradox: the Role of Socioeconomic Status

Andrew Fenelon, University of Pennsylvania



•Background

Individuals of Hispanic origin in the United States enjoy lower mortality and higher life expectancy on average than non-Hispanic whites, despite lower socioeconomic status.¹ The so-called Hispanic Paradox long failed to generate a convincing explanation. Recent evidence suggests, however, that smoking may be key.²

Hispanics and non-Hispanic whites also differ in the relationship between socioeconomic status (SES) and both mortality and smoking; the gradients are much weaker among Hispanics.

•Objectives

- 1) Estimate the contribution of smoking to the adult life expectancy advantage of Mexican Americans and other Hispanics.
- 2) Identify differences in the size of the advantage and contribution of smoking by education

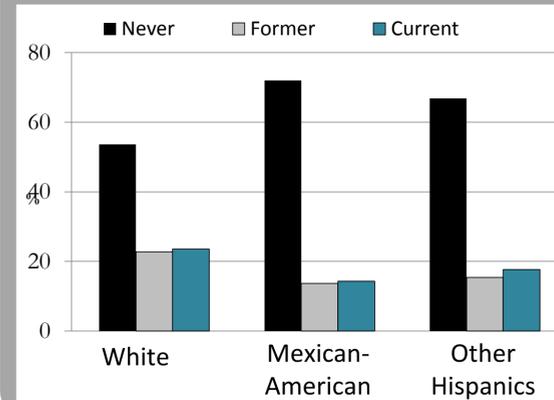
•Data and Methods

Data are from the National Health Interview Survey (NHIS) between 1987 and 2004. The sample contains 281,567 individuals aged 35 or higher and 57,467 deaths. Group-specific death rates are predicted using hazard regression.

Smoking-attributable mortality (A) is estimated by comparing observed death rates (${}_nM_x$) to rates among those who have never smoked (${}_nM_x^*$)

$$A = \frac{{}_nM_x - {}_nM_x^*}{{}_nM_x}$$

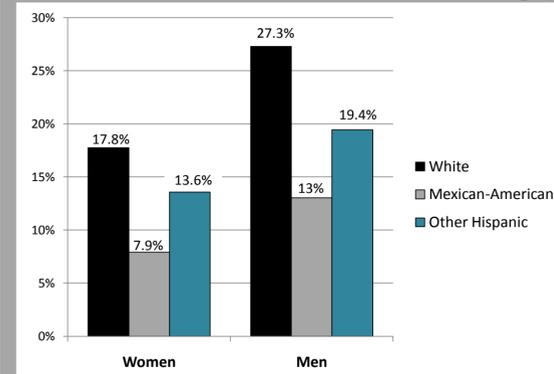
Current Smoking status 1987 – 2004 (women)



• Mexican-Americans are less likely to be current smokers and more likely to have never smoked than non-Hispanic whites.

• The smoking prevalence of other Hispanics is between that of Mexican-Americans and whites.

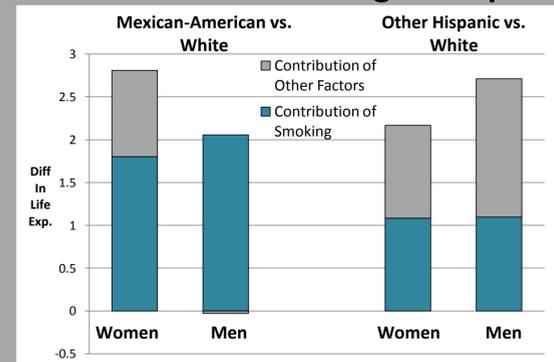
Percent of deaths due to smoking (ages 35+)



• Non-Hispanic whites have the highest mortality related to smoking and Mexican-Americans the lowest.

• The relative ordering of groups is the same for men and women

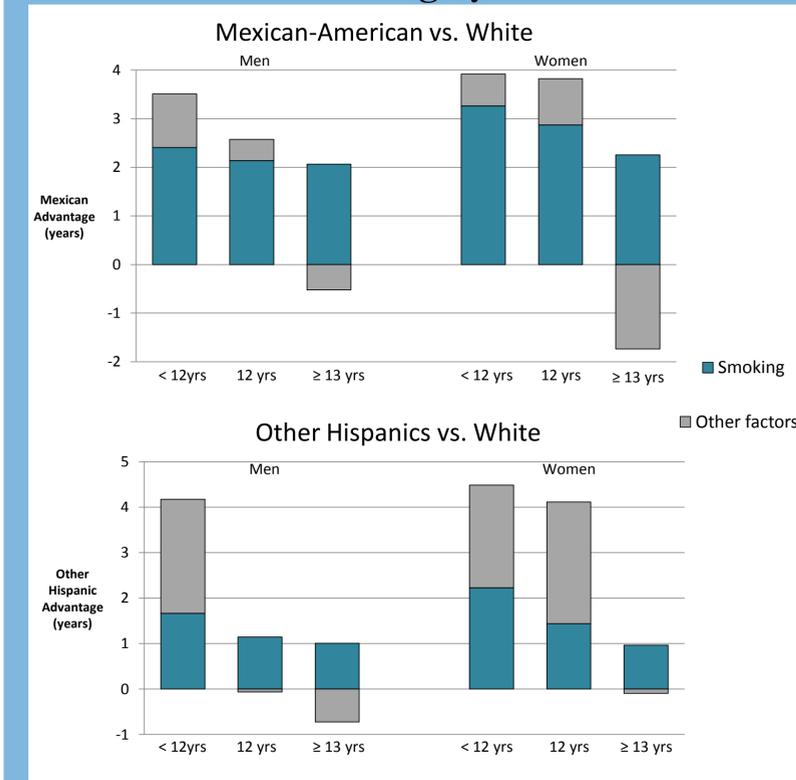
Contribution of smoking to Hispanic Advantage



• Smoking explains 64% of the advantage for Mexican-American women and all of the advantage for men

• The advantage would be cut by half for other Hispanic women and 40% for men

Contribution of Smoking by Years of Education



- The life expectancy advantage of Mexican-Americans over whites is larger at lower levels of education. It is more than 4.5 years for those with fewer than 12 years and less than 2 years for those with at least 13 years of education.
- Smoking is typically responsible for greater life expectancy differences at lower levels of education.
- For those with fewer than 12 years, it explains 3.8 years difference among women (86% of the total) and 3.7 years among men (72%).
- In the absence of smoking, the Hispanic advantage would be eliminated (and reversed) for those with more than 13 years.

- The life expectancy advantage of other Hispanics over whites is also larger at lower levels of education.
- Smoking again seems to be somewhat more important at lower levels of education.
- Overall, smoking is a less important factor explaining the advantage of other Hispanics.

•Conclusions

- 1) Smoking-related mortality is a major factor explaining the excess mortality of whites compared to Mexican-Americans and all other Hispanics
- 2) The Hispanic life expectancy advantage and contribution of smoking are generally larger at lower levels of education
- 3) Education differences may reflect assimilation patterns: as immigrants remain in the US longer, their smoking behavior becomes more similar to that of whites and they experience increases in education.

Acknowledgements
I am grateful to Laura Blue, Douglas Ewbank, Irma Elo, and Sam Preston for helpful advice. This research was supported by NIH grant F31-AG-039188-01

References
1. Palloni, A., and E. Arias (2004) Paradox Lost: Explaining the Hispanic Adult Mortality Advantage. *Demography*. 41(3) 385-415.
2. Blue, L. and A. Fenelon (2011) Explaining low mortality among US immigrants relative to native-born Americans: the role of smoking. *International Journal of Epidemiology*. doi: 10.1093/ije/dyr011. 2011.