
Nativity and Racial/Ethnic Inequalities in Smoke-free Policy, in Support for Smoke- free Policy, and in State Patterns of Tobacco Use

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June 9, 2009

TUS-CPS Data Users Workshop

Acknowledgements

- My collaborators at Harvard School of Public Health
 - Dolores Acevedo-Garcia
 - Ichiro Kawachi
 - SV Subramanian
- Funding from American Legacy Foundation, Association of Schools of Public Health, and Robert Wood Johnson Foundation Health & Society Scholars program

Agenda

- Why I use TUS-CPS for inequality analyses
- Illustrate the use of the TUS-CPS to examine tobacco control inequality research questions with 4 examples from my own work
 - Nativity (immigrant) and racial/ethnic differences in smoking patterns, and related to tobacco-control related policy

Why use the TUS-CPS
for nativity inequality
analyses?

Why use the TUS-CPS for nativity inequality analyses?

- TUS-CPS has better information on immigration related variables and tobacco use than any other survey
- TUS-CPS is a large representative survey
- TUS-CPS also has good information on demographic and socioeconomic control variables

Immigration variables in the CPS (since 1994)

- Country of origin of the sample person
- Country of origin of his/her mother and father
- Citizenship status
- Year of entry into the United States
- Interview language

Example 1: What are the patterns of daily smoking, by immigrant generation & assimilation?

Acevedo Garcia, Pan, Jun, Osypuk, Emmons (2005). "The Effect of Immigrant Generation on Smoking". *Social Science and Medicine*, 61(6): 1223-1242. 7

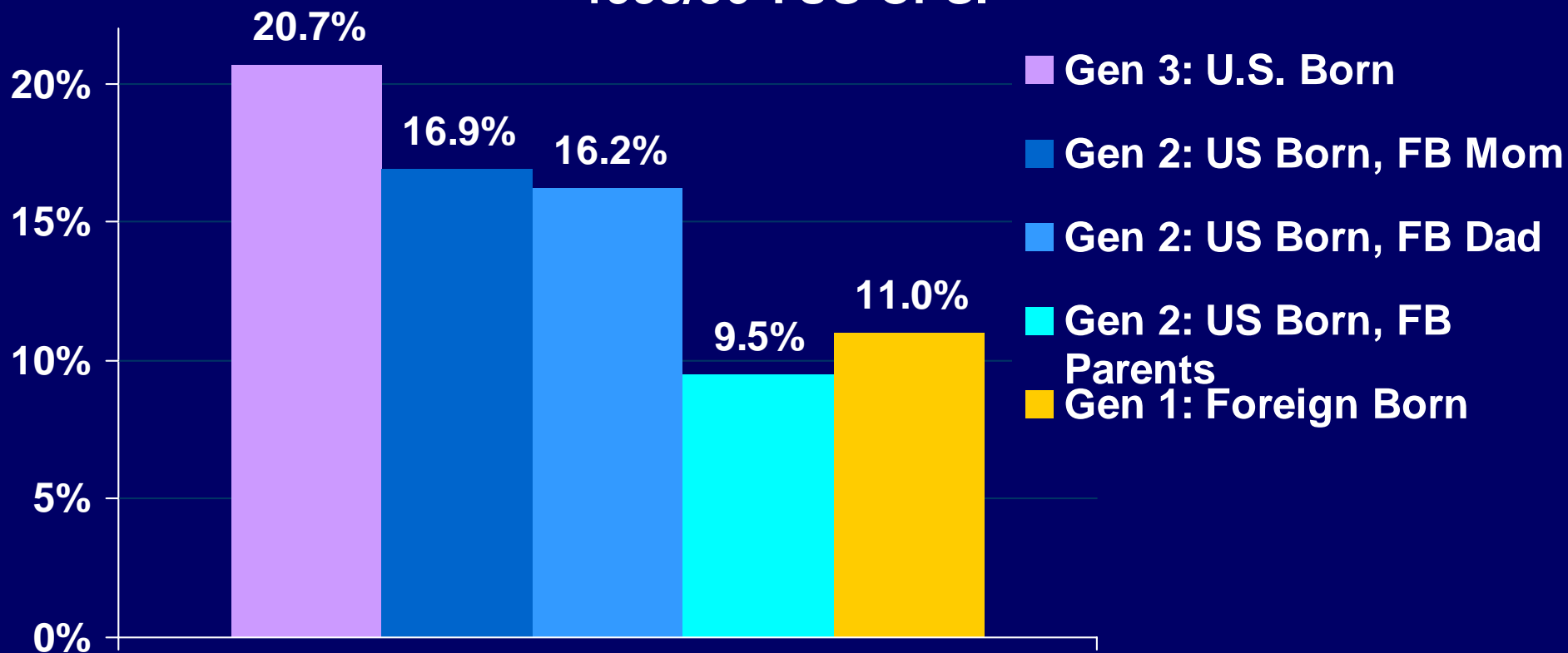
Significance: Smoking patterns by nativity

- Demographic Imperative
- Epidemiologic Paradox

Acevedo Garcia, Pan, Jun, Osypuk, Emmons (2005). “The Effect of Immigrant Generation on Smoking”. *Social Science and Medicine*, 61(6): 1223-1242.

Immigrants are less likely to smoke than US-born, with protective effect in 2nd generation.

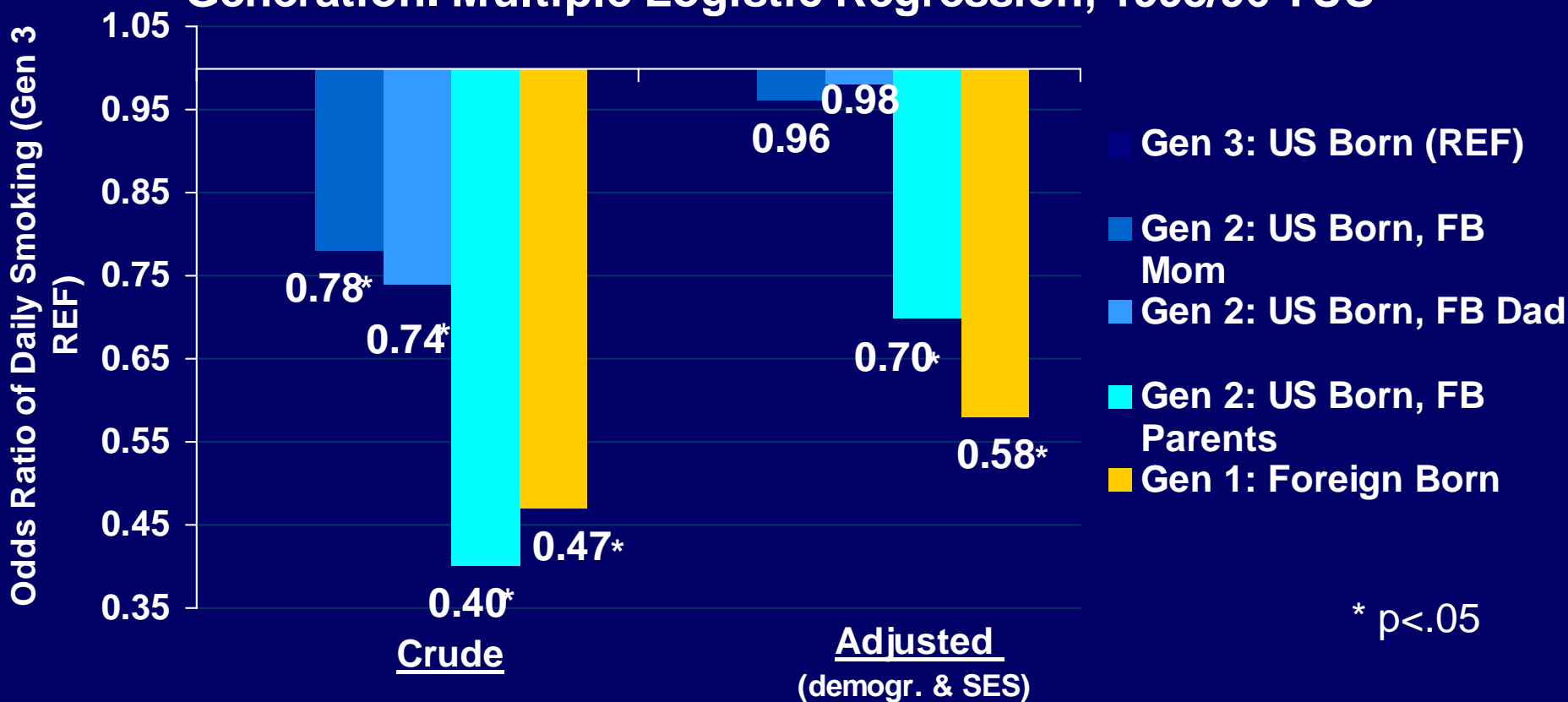
Daily Smoking Prevalence by Immigrant Generation, 1995/96 TUS-CPS.



Acevedo Garcia, Pan, Jun, Osypuk, Emmons (2005). "The Effect of Immigrant Generation on Smoking". *Social Science and Medicine*, 61(6): 1223-1242.

Patterns persist after adjustment;
 generational gradient in smoking, foreign
 born is protective for smoking

**Relative Odds of Daily Smoking by Immigrant
 Generation. Multiple Logistic Regression, 1995/96 TUS**



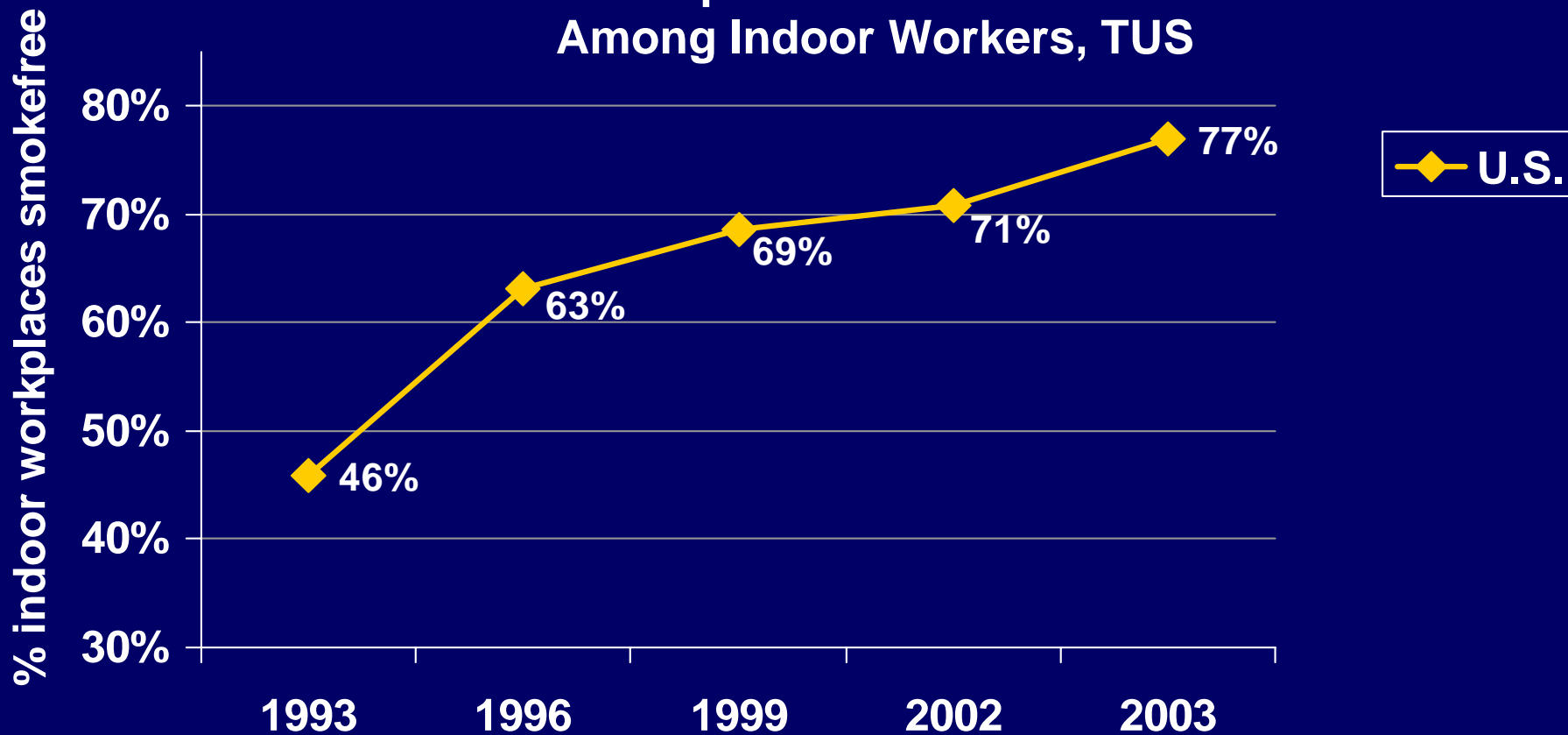
Acevedo Garcia, Pan, Jun, Osypuk, Emmons (2005). "The Effect of Immigrant
 Generation on Smoking". *Social Science and Medicine*, 61(6): 1223-1243

Example 2: Is Workplace Smoking Policy Equally Prevalent and Equally Effective for Immigrants?

Osypuk, Subramanian, Kawachi, and Acevedo-Garcia. (In Press, 2009).
“Is Workplace Smoking Policy Equally Prevalent and Equally Effective for Immigrants?” *Journal of Epidemiology & Community Health*.

The proportion of indoor workers in smokefree workplaces has increased substantially

Smoke-free Workplace Prevalence: U.S. 1993-2003
Among Indoor Workers, TUS



Source: NCI 2006, TUS-CPS

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Significance: What do we know about smoking bans & smoking ban coverage?

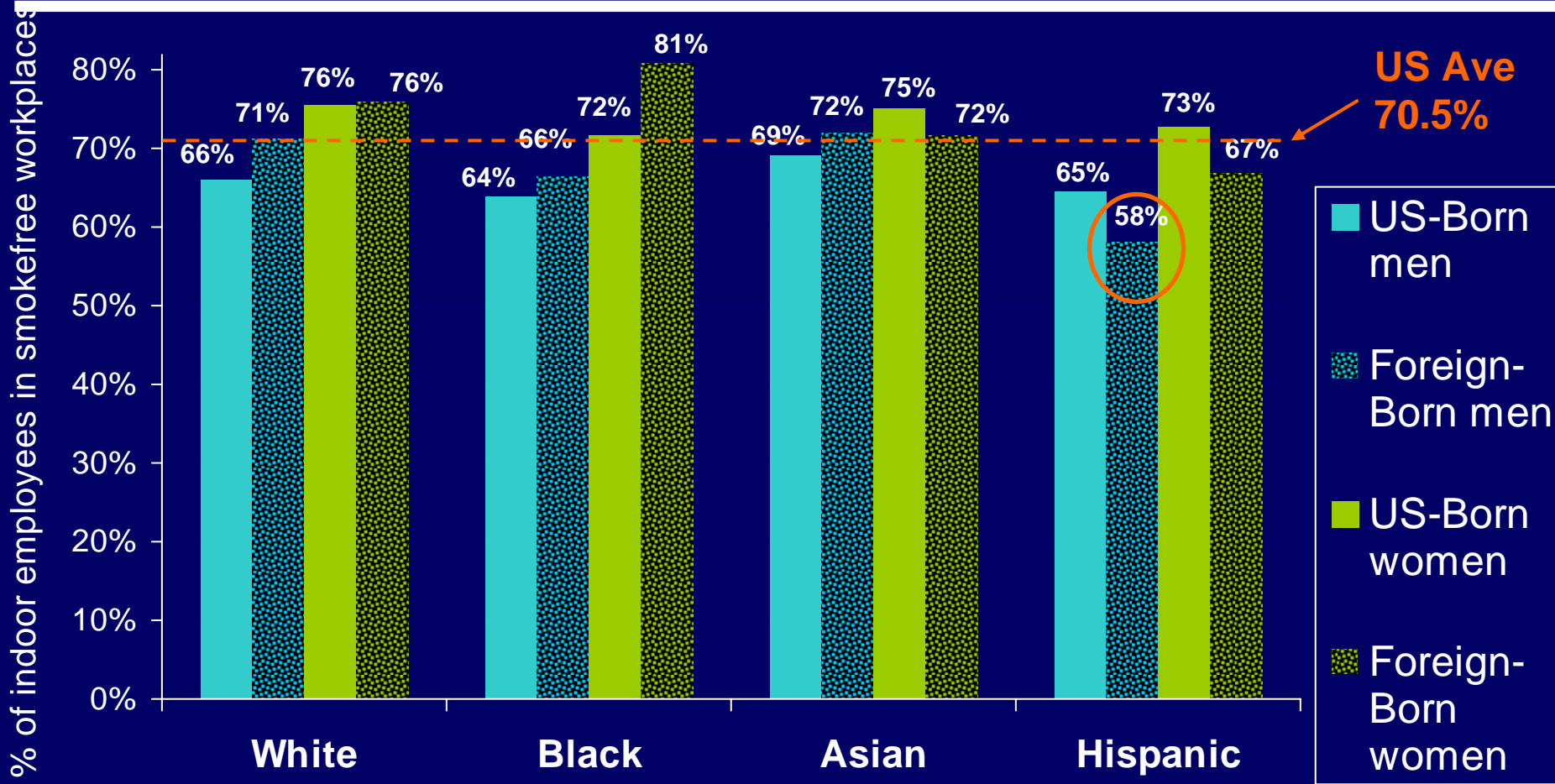
- Smoking bans prevent ETS exposure, and reduce smoking among smokers
- Tobacco use regulations do not protect everyone equally.
- Uneven coverage due to voluntary passage, tobacco control patchwork at multiple levels

Significance: Why examine inequalities among immigrants?

- Demographic imperative
- Immigrant status (nativity) is often conflated with race/ethnicity
- Immigrants disproportionately in low-wage and low-skilled jobs
- Immigrants less likely to enjoy workplace benefits

Are immigrants equally covered by workplace smokefree policies?

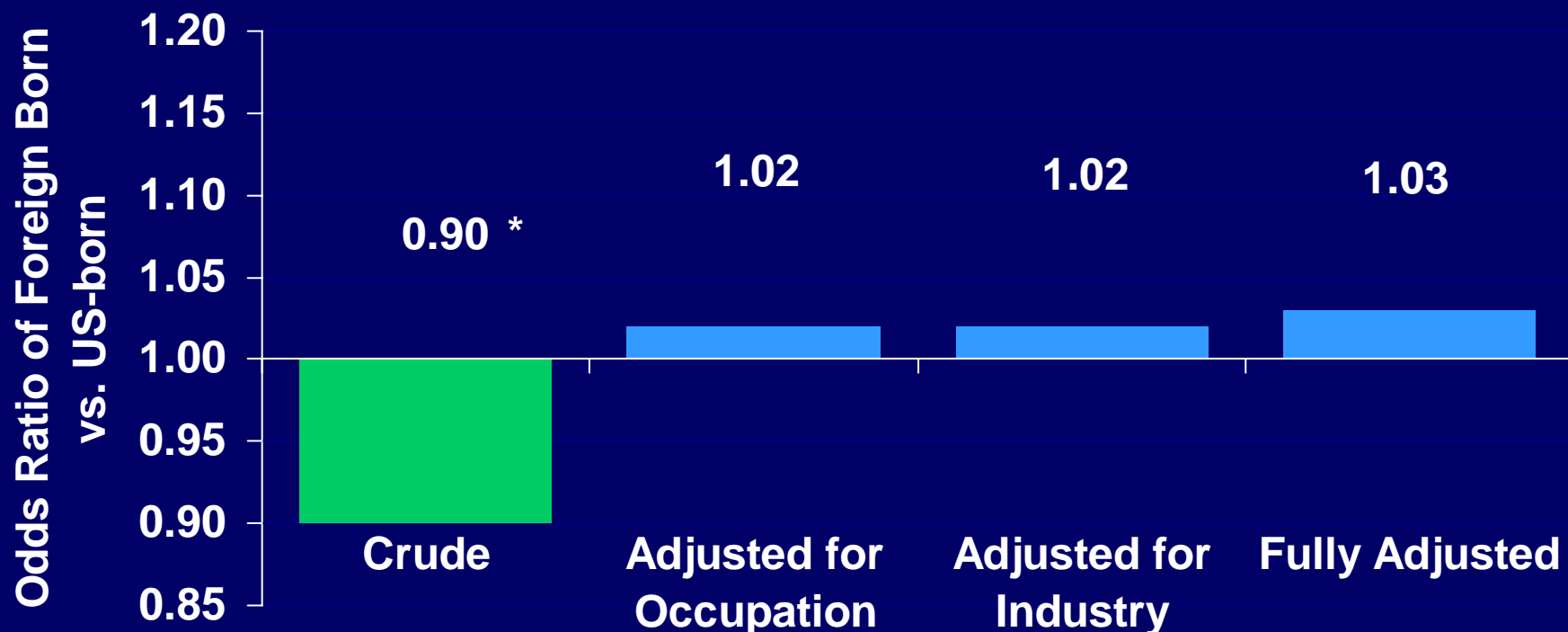
Immigrants are less likely to be covered by a workplace smokefree policy, Hispanic men particularly so. (2001/02)



Osypuk, Subramanian, Kawachi, and Acevedo-Garcia. (In Press, 2009).
 "Is Workplace Smoking Policy Equally Prevalent and Equally Effective for Immigrants?" *Journal of Epidemiology & Community Health*.

Although immigrants less likely to be in smokefree workplaces, disparity accounted for by occupation & industry

Multiple Logistic Regression, Odds of Working in Smokefree Workplace, Foreign Born vs. US-Born (01/02 TUS)



Osypuk, Subramanian, Kawachi, and Acevedo-Garcia. (In Press, 2009).
“Is Workplace Smoking Policy Equally Prevalent and Equally Effective for
Immigrants?” *Journal of Epidemiology & Community Health*.

* $p < .05$

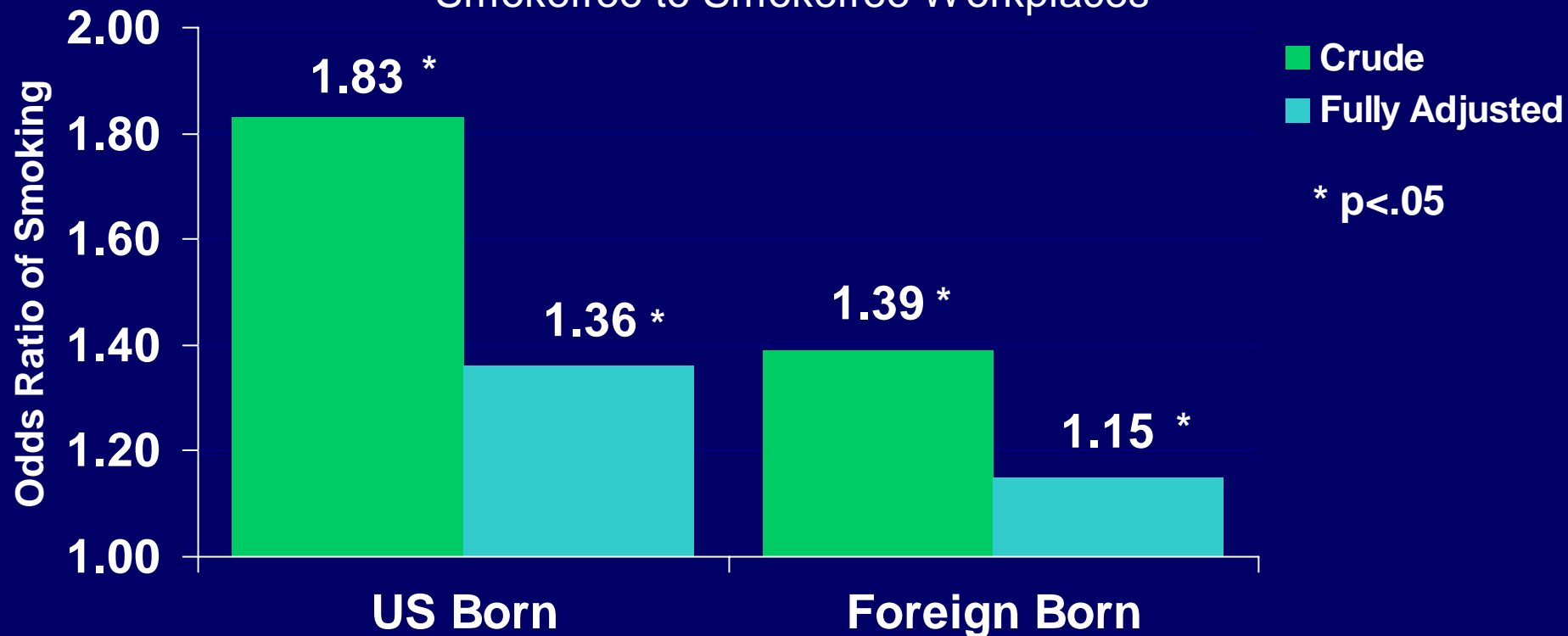
Conclusions & Implications

- Industry and occupation are important mediators for why immigrants (or other groups) have lower coverage by a smokefree policy
- Policies often exempt jobs with higher concentrations of minorities
- A voluntary policy regime will be less effective for covering certain minority groups because occupational segregation will induce systematic disparities.

Do workplace smoking bans have equal associations with smoking among immigrants and the US-born?

The effect of non-smokefree workplaces with current smoking is weaker for immigrants

Multiple Logistic Regression, Odds of Smoking, Comparing Non-Smokefree to Smokefree Workplaces



Osypuk, Subramanian, Kawachi, and Acevedo-Garcia. (In Press, 2009).
“Is Workplace Smoking Policy Equally Prevalent and Equally Effective for
Immigrants?” *Journal of Epidemiology & Community Health*.

Conclusion

- Immigrants exhibited weaker associations between workplace smokefree policy & smoking
- Why?
 - Differential industries accounted for 16% of the weaker policy effects among immigrants
 - Workplace smoking policies may be more effective for those with higher smoking prevalence/consumption
 - Other causes may be more important for smoking among immigrants

Example 3:
Who doesn't support
tobacco control policy?

Significance: Support for Smoking Bans

- The population's opinions about where smoking should be allowed are a general indicator of support for tobacco control policy
- Public opinion
 - one catalyst for enacting tobacco control policy
 - e.g. state ballot initiatives/referenda
- Knowledge of support by demographic group may aid advocates to identify voter constituencies for coalition building in election strategies

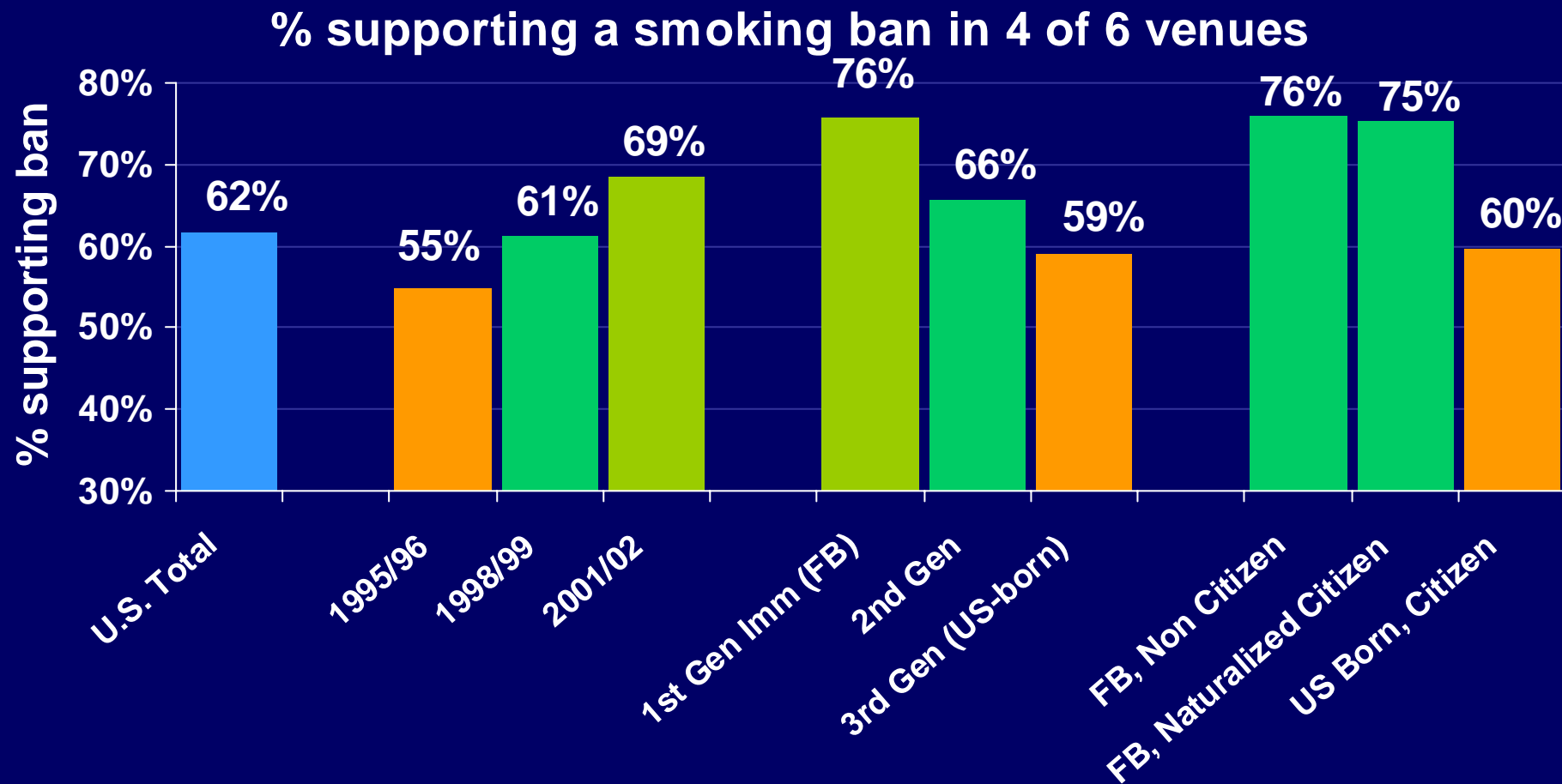
Variables: Support for Smoking Bans

- Outcome: summary measure of support for total smoking bans in 6 venues
 - Individual questions asked whether smoking should be allowed in “all areas, some areas, or not allowed at all” in
 - (1) restaurants, (4) bars and cocktail lounges,
 - (2) hospitals, (5) indoor sports venues,
 - (3) indoor work areas, (6) indoor shopping malls.
 - Support for smoking ban based on answering that smoking should “not be allowed at all” for each venue
 - Summary measure of support created by summing # of venues out of 6 where a person supports a ban, & dichotomizing.
 - Strong support = support for banning smoking in 4 of 6 venues (based on Gilpin et al. 2004).

Variables

- Main independent variable: Immigrant generation
 - 1st generation (foreign born);
 - 2nd generation (US-born of foreign-born parents);
 - 3rd generation (US-born of US-born parents)

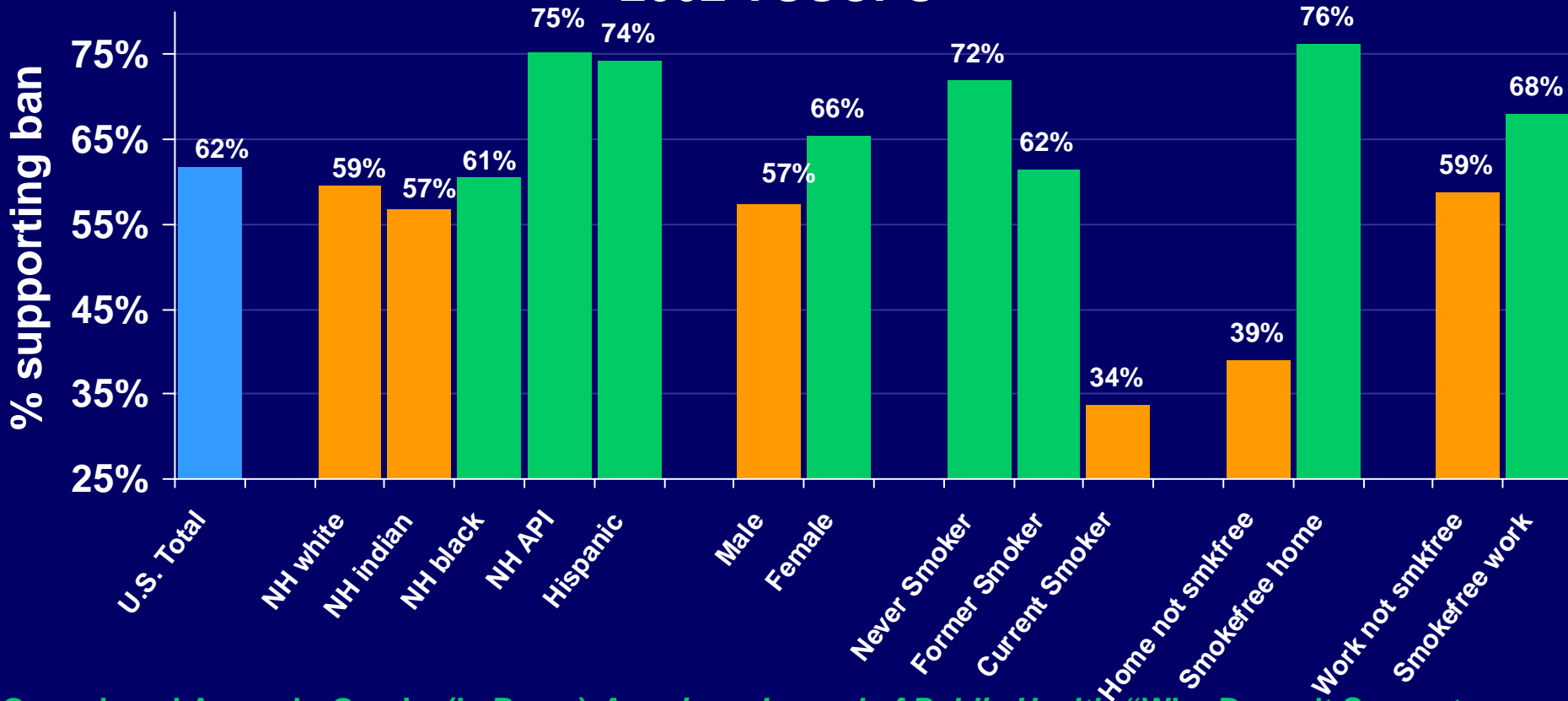
Who is less likely to support smoking bans? (95-02 TUS)



Osypuk and Acevedo-Garcia. (In Press) *American Journal of Public Health*. "Who Doesn't Support Smokefree Policies? A Nationwide Analysis of Immigrants, Native Born, and Other Demographic Groups 1995-2002".

Who is less likely to support smoking bans? (95-02 TUS)

% supporting a smoking ban in 4 of 6 venues, 1995-2002 TUSCPS



Osypuk and Acevedo-Garcia. (In Press) *American Journal of Public Health*. "Who Doesn't Support Smokefree Policies? A Nationwide Analysis of Immigrants, Native Born, and Other Demographic Groups 1995-2002".

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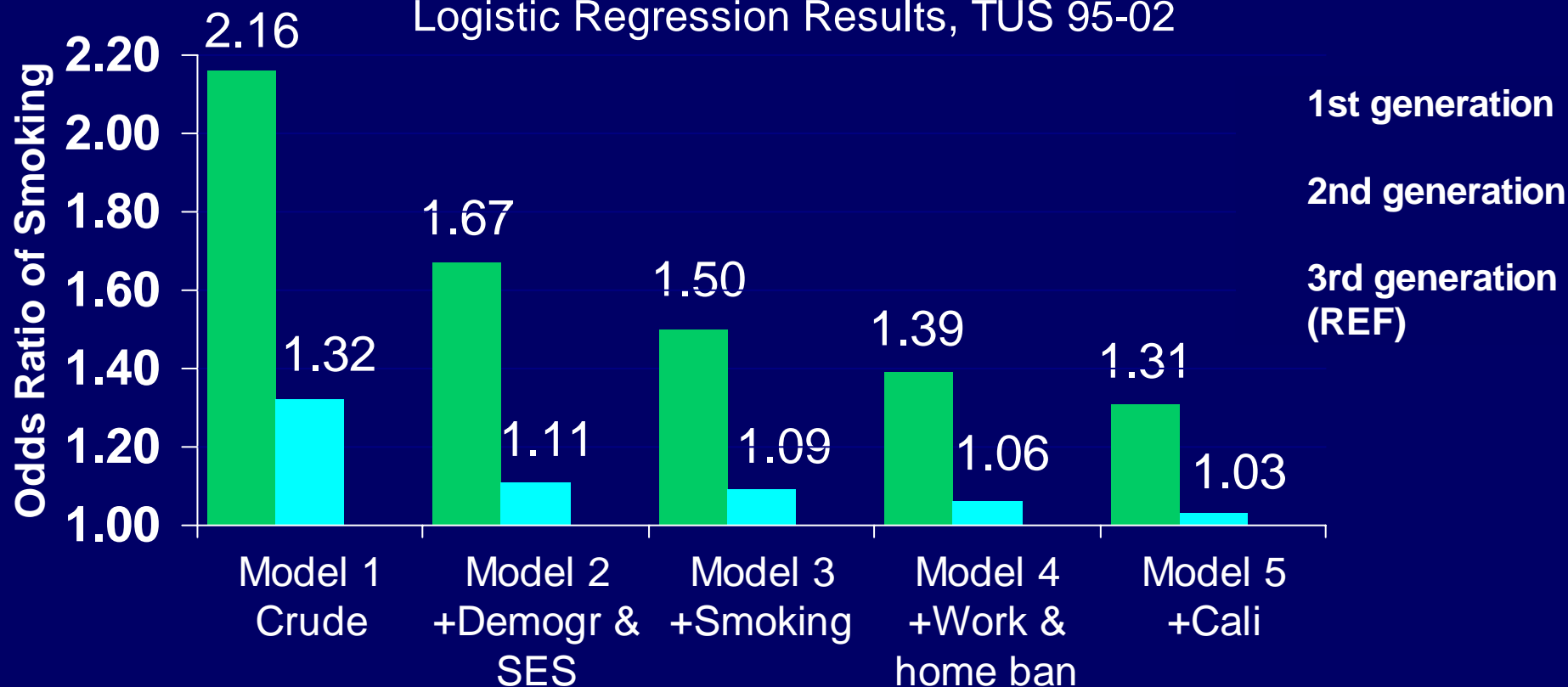
Support for smoking bans increased for all groups w/time; 3rd generation/US born least likely to support & foreign born most likely

Support for smoking bans by generation across time



What accounts for stronger smoking ban support among 1st & 2nd generation immigrants vs. 3rd generation?

Odds of Support for Smoking Ban in 4 of 6 Venues, Multiple Logistic Regression Results, TUS 95-02



Example 4:
Are state patterns of
smoking different for
different racial/ethnic
groups?

Significance: Why look at state-specific patterns of smoking?

- Descriptive analysis
 - Surveillance
 - Prioritizing resources for programs and policy
 - Implicates state level causal explanations
 - Influential states may drive national prevalence
 - Etiologic hypothesis generation

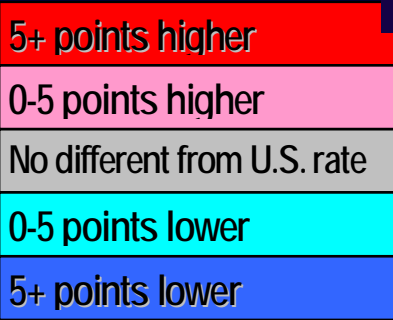
Analysis: Multilevel Modeling

- 2-level multiple logistic regression predicting current smoking
 - Predicted smoking prevalence from state-level residuals, from multilevel multiple logistic regression models controlling for covariates
 - Markov Chain Monte Carlo estimation
 - To adjust for complex survey design
- Mapped state predicted probability of smoking for each race/gender group
 - Relative adjusted (regression-based) estimates significantly higher or lower than the national prevalence

Adjusted State Smoking Prevalence Relative to U.S. Group Average (95/96 TUS)

Women

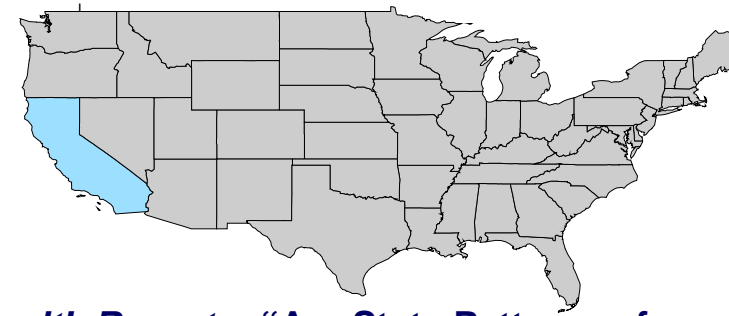
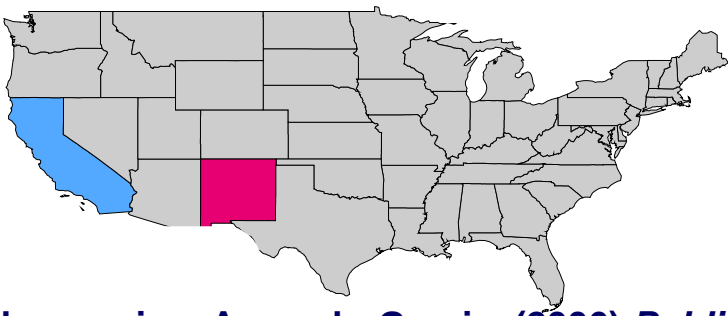
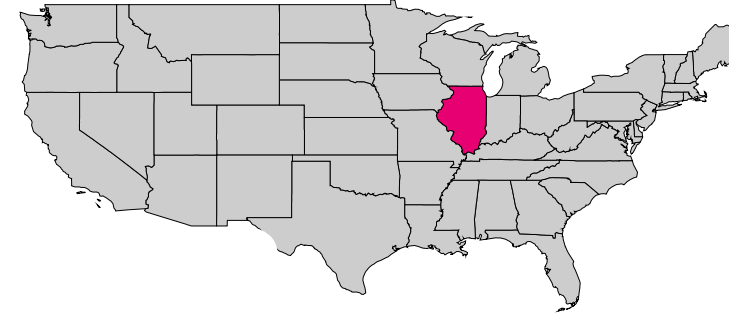
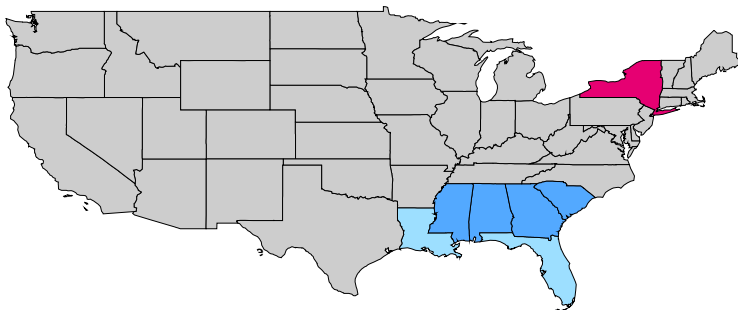
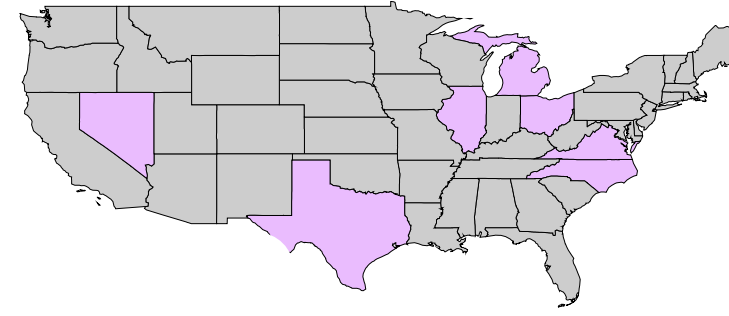
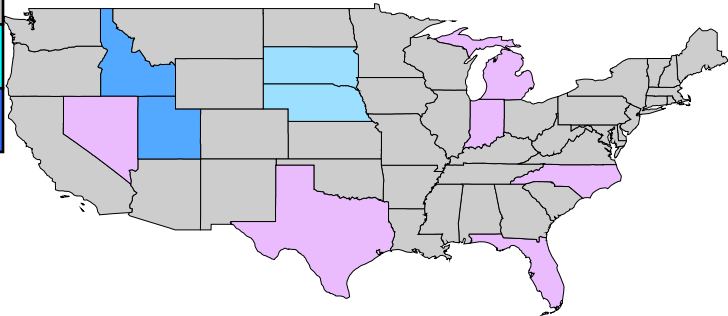
Men



White

Black

Hispanic



Osypuk, Kawachi, Subramanian, Acevedo-Garcia. (2006) *Public Health Reports*, "Are State Patterns of Smoking Different for Different Racial/Ethnic Groups? An Application of Multilevel Analysis." 121(5):563-577

Conclusions

- A race-specific pattern of smoking among the 50 states
- State tobacco variables (taxation and agriculture) did not account for remaining state smoking variance.
- Descriptive regression-based mapping may be valuable for place-patterned tobacco use surveillance

Osypuk, Kawachi, Subramanian, Acevedo-Garcia. (2006) *Public Health Reports*, "Are State Patterns of Smoking Different for Different Racial/Ethnic Groups? An Application of Multilevel Analysis." 121(5):563-577

Citations

Osypuk and Acevedo-Garcia. (In Press) “Who Doesn’t Support Smokefree Policies? A Nationwide Analysis of Immigrants, Native Born, and Other Demographic Groups 1995-2002”. *American Journal of Public Health*.

Osypuk, Subramanian, Kawachi, and Acevedo-Garcia. (In Press, 2009). “Is Workplace Smoking Policy Equally Prevalent and Equally Effective for Immigrants?” *Journal of Epidemiology & Community Health*. Published online first 8 April 2009.doi: 10.1136/jech.2008.079475.

Osypuk, Kawachi, Subramanian, Acevedo-Garcia. (2006) “Are State Patterns of Smoking Different for Different Racial/Ethnic Groups? An Application of Multilevel Analysis.” *Public Health Reports*, 121(5): 563-577.

Acevedo Garcia, Pan, Jun, Osypuk, Emmons (2005). “The Effect of Immigrant Generation on Smoking”. *Social Science and Medicine*, 61(6): 1223-1242.

Thank you!