

# Demographic Influences on Attitudes toward Bats and Other Pollinators

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## INTRODUCTION

Pollinators are essential for supporting plant reproduction and other ecosystem services provided by pollination. One pollinator in particular, bats, are often perceived negatively by humans despite their ecological importance. Bats acquired a poor reputation partially due to their role in zoonotic disease transmission, which came to light in the early days of the COVID-19 pandemic as speculation emerged that bats could have been a source of the virus. Heightened negative attention can diminish awareness of the threat's bats face, like habitat loss and urbanization. This research focuses on how residents in metro Phoenix view bats relative to other pollinators such as bees, hummingbirds, and butterflies.

## RESEARCH QUESTION

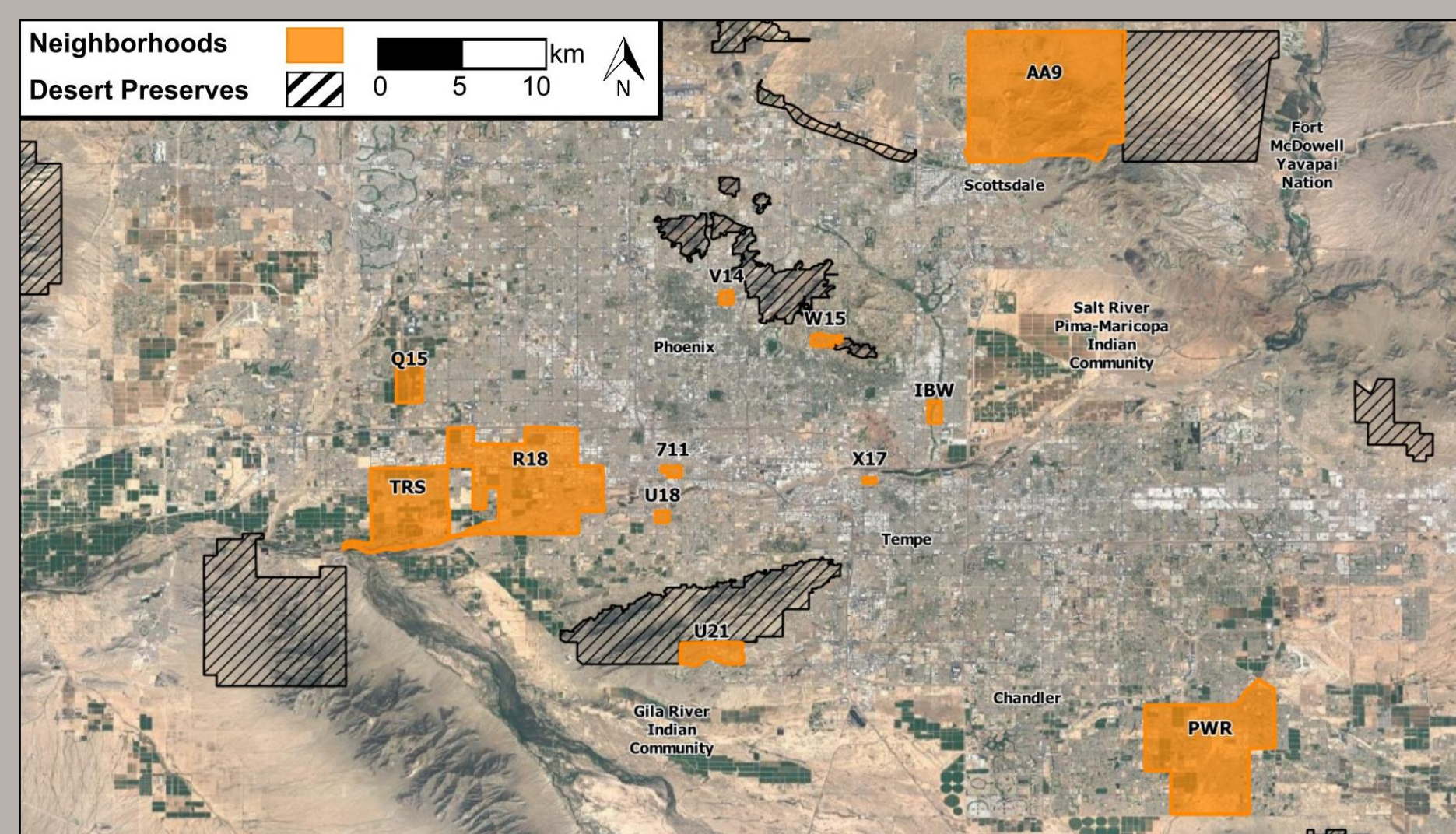
How do residents' attitudes towards bats and other pollinators vary in metro Phoenix, Arizona, and what are possible implications for conservation management?

## METHODS

### Surveyed Neighborhoods

12 neighborhoods in the Phoenix Area Social Survey (PASS).

- Response rate = 35.6%
- N = 509



### PASS Survey Question

Residents were asked to what extent they **dislike** or **like** the following 4 pollinators using a 5-point rating scale:



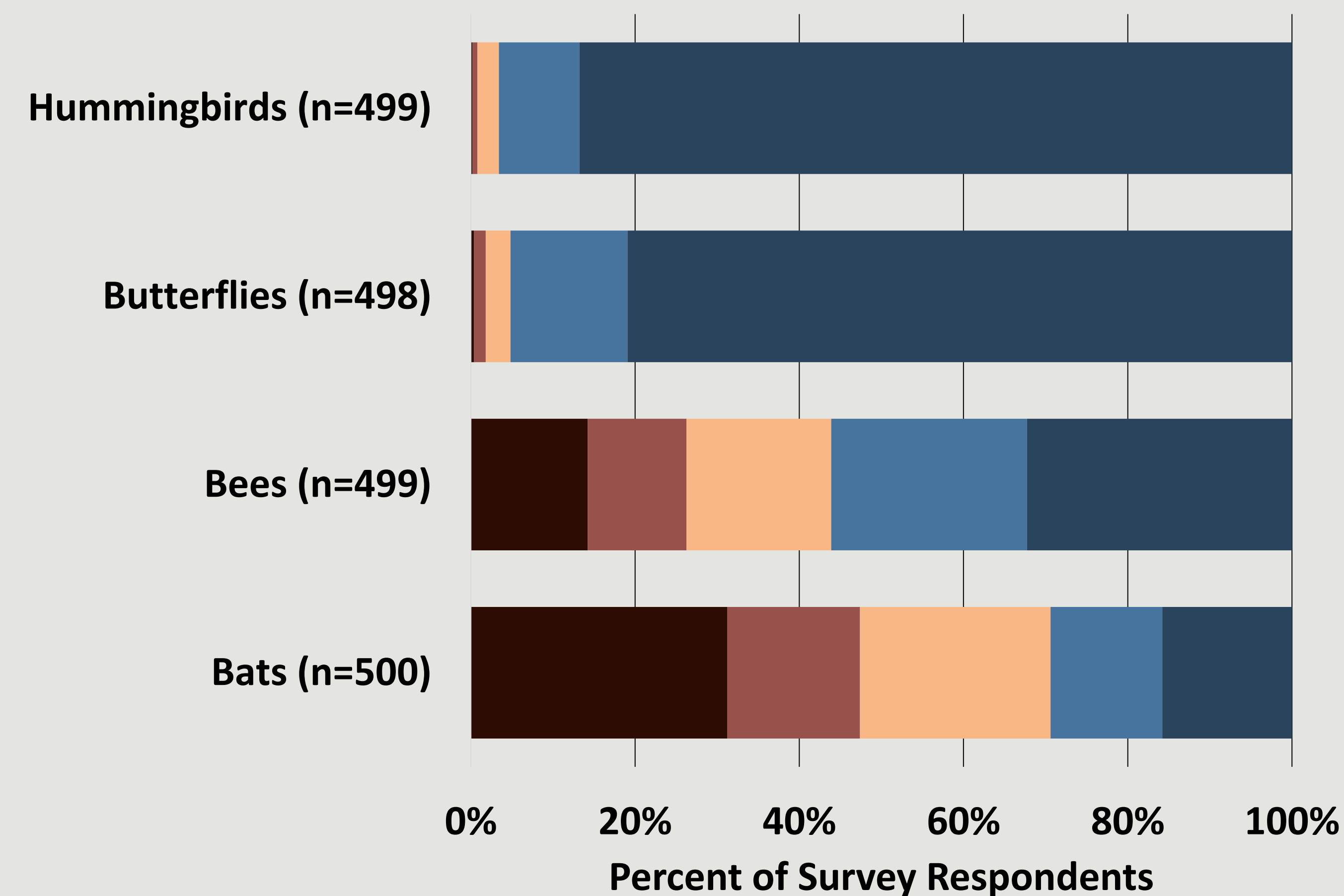
- 1 Dislike a lot
- 2 Dislike somewhat
- 3 Neither
- 4 Like somewhat
- 5 Like a lot

### Objectives

- Evaluate the frequency of responses for all pollinators to show the variation in attitudes.
- Compare Hispanic and non-Hispanic communities' average attitude towards all pollinators.
- Identify factors that explain the dis/like of pollinators.

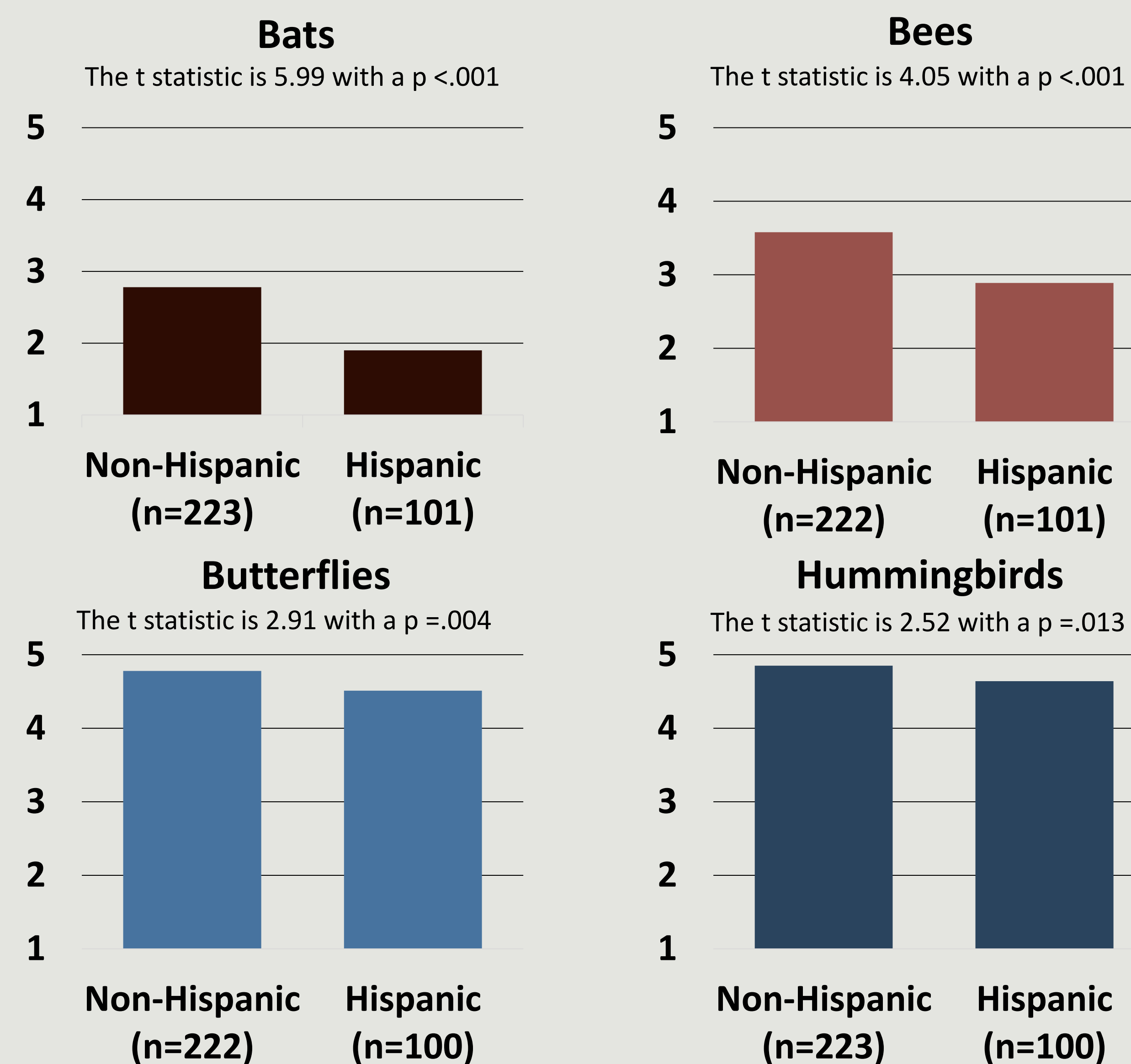
## RESULTS

Figure 1. Attitudes towards Pollinators in 2021



- Respondents negative views of bats and bees like hummingbirds and butterflies but their views of bees and bats were more varied.
- ~90% of resident like hummingbirds and butterflies
- ~55% of residents like bees and only ~30% liked bats

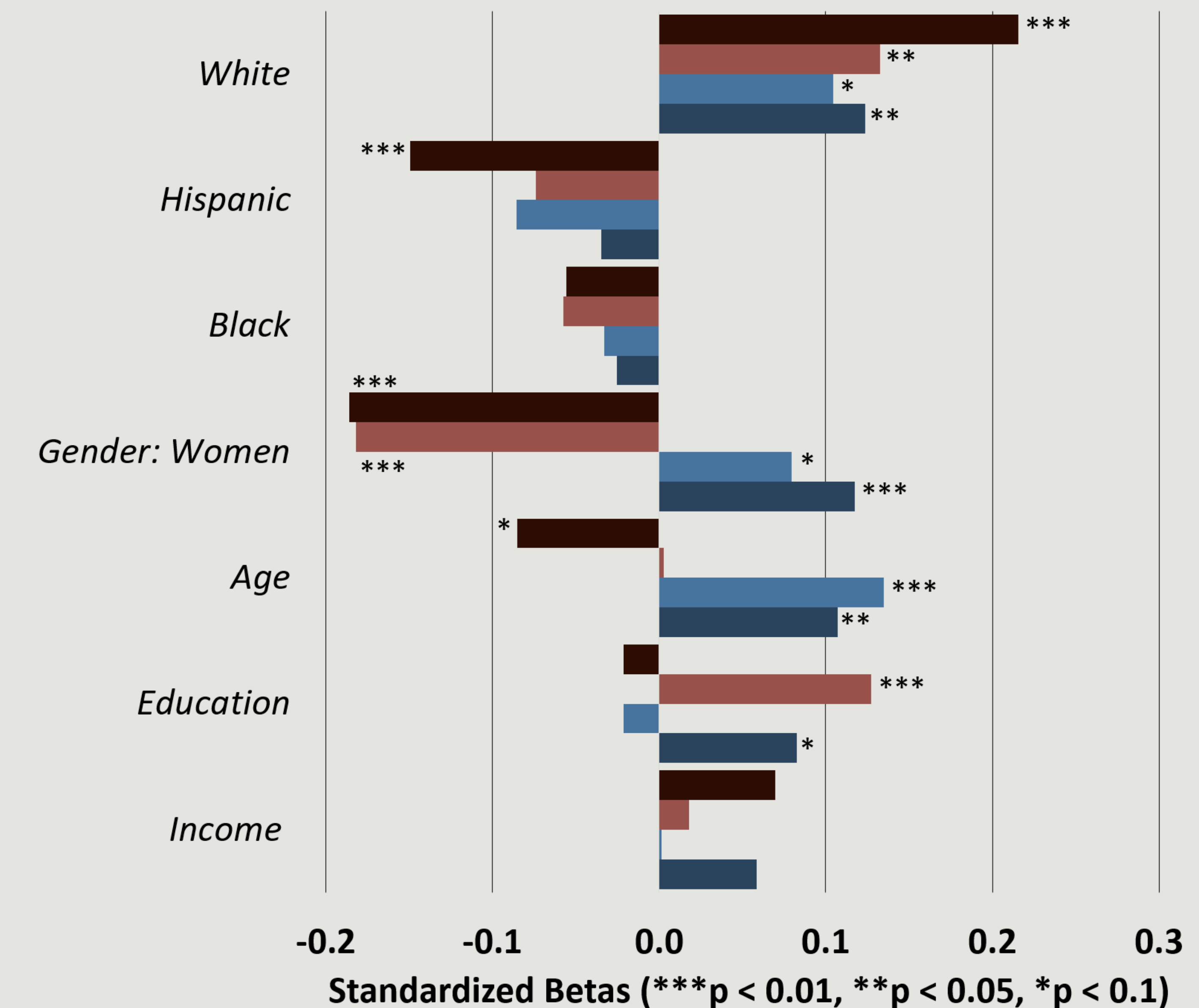
Figure 2. Mean Attitudes by Non/Hispanic Ethnicity



We thank the Central Arizona-Phoenix Long-Term Ecological Research program (CAP LTER) community and the National Science Foundation for their continued support in this project.

## RESULTS (CONTINUED)

Figure 3. Standardized Beta values for regression models



- Hispanic residents and women disliked bats more than others.
- White residents also significantly liked bats more than others.



- Women significantly disliked bees compared to men.
- Higher education and white residents liked bees more than others.



- White residents liked butterflies more than others.
- Older people also significantly liked butterflies more than younger people.



- White people, women, and older residents significantly liked hummingbirds more than others.

## CONCLUSION

- Metro Phoenix residents held the strongest dislike of bats overall.
- Hispanic residents disliked pollinators, especially bats more than others, whereas White residents liked all pollinators more than others.
- Gender was also significant; women liked hummingbirds more than men, but men liked bat and bees more so than women.
- Age and education also affected attitudes toward particular pollinators.

### Implications for Conservation

- Understanding how attitudes towards certain pollinators can incorporate public views into conservation management strategies by:
  - Protecting bat habitats while managing negative interactions with people.
  - Educating people on the benefits of bats and how to coexist with them.

