Political Ideology and the Language of Certainty in Climate Communication

Timothy M. Gann¹,², Drew H. Abney¹, & Teenie Matlock¹,²

¹Cognitive and Information Sciences, University of California, Merced, ²Center for Climate Communication

Introduction

Communicating information about future events and outcomes is challenging when there is much uncertainty. This is evident in everyday discourse about climate change, including language in the popular media. What words are used to connote different degrees of certainty in varied news sources? Different political ideologies vary when it comes to how they discuss issues around climate change. In this project, we analyzed how progressive and conservative news sources express certainty when talking about climate change.

Corpus

- We created a corpus of 20,117 climate articles from 23 different news websites.
- All the articles we collected had been published between January 1, 2008 and December 31, 2012. All contained the phrase *global warming* or the phrase *climate change* in the body of the text.
- For each article, we tokenized words and removed all misspellings and punctuation marks. Additionally, we did tallies for *will* and *would* in every article.
- *Will* typically conveys certainty about the likelihood of an event, whereas, *would* typically contains more uncertainty.

Political Ideology Ratings

- Using Amazon Turk, we quantified perceptions of political ideologies (i.e., how conservative or progressive) in our news sources (e.g., *National Review*, *Mother Jones*).
- A total of 206 English-speaking participants who were familiar with each publication provided an ideological rating for the publication.
- The rating system was a 1-to-7 likert-style scale, where “1” corresponded to “very conservative” and “7” corresponded to “very progressive”.

Analysis & Results

- To quantify predicted word count of *will* and *would*, we used zero-inflated Poisson (ZIP) regression models.
- To control for articles with different lengths, word count was used as a covariate.
- The predicted occurrence of *will* increased with progressive ideology ratings (*b* = 0.03, pseudo $R^2$ change = .004, 95% CI = [0.02, 0.04], *p* <.001).
- The predicted occurrence of *would* increased with conservative ideology ratings (*b* = -0.04, pseudo $R^2$ change = .004, 95% CI = [-0.05, -0.03], *p* <.001).

Conclusions

- Our results suggest that climate change is discussed differently across news sources with varying political ideologies.
- Progressive news sources appear to have a greater proportion of certainty language, i.e., phrases with *will*, and conservative news sources appear to have a greater proportion of uncertainty language, i.e., phrases with *would*.
- These results have clear consequences for the public consumption of information about climate change. In particular, people who read progressive media are exposed to a greater amount of certain language about climate change and people who read conservative media are exposed to a greater amount of uncertain language about climate change.