



THE UNIVERSITY
of NORTH CAROLINA
at CHAPEL HILL

Morality in 280 Characters: Investigating Moral Language Use in Tweets from the 116th U.S. Senate

Daniel Reich

The University of North Carolina at Chapel Hill – Department of Psychology and Neuroscience

Introduction:

Moral Foundations Theory (Haidt & Graham, 2007; Haidt & Joseph 2004) argues that there exist (at least) five moral foundations that appear universally across cultures. These foundations serve as a baseline, upon which cultures create their own unique set of values and beliefs. Further research has shown that there are key differences in the foundations endorsed by liberals and conservatives. (Graham, Haidt, & Nosek, 2009). Liberals tend to more heavily endorse the foundations of Harm/Care and Fairness/Reciprocity, compared to Conservatives who more often endorse Ingroup/Loyalty, Authority/Subversion, and Purity/Sanctity. The present study utilized dictionary-based text analysis in order to assess the differences between moral language used by Republican and Democrat U.S. Senators on Twitter. The goal of the study is to serve as a preliminary investigation into the types of moral language each party uses when tweeting about certain topics (e.g. immigration, COVID-19 vaccines, and abortion). Future studies would investigate whether appealing to different moral foundations when discussing certain political issues might promote open-mindedness or ideological change.

Methods:

Tweet IDs were obtained from Harvard Dataverse (Wrubel & Kerchner, 2020), and contained tweets from all 100 active U.S. Senators, collected between January 27th, 2019 and May 7th, 2020. Tweet IDs were then used to retrieve the complete tweets via Hydrator (Documenting the Now. (2020). Hydrator [Computer Software]). Moral Language use was analyzed using the Linguistic Inquiry and Word Count software (Pennebaker, Francis, & Booth, 2001). LIWC provides the percentages of words of a text corpus that matches those in a specified dictionary. I utilized the Moral Foundations Dictionary (MFD 2.0) (Frimer et al., 2019), which contains five sub dictionaries, each containing words relevant to a specific moral foundation. Comparisons between Republican moral language and Democrat moral language were analyzed in R Statistical Software (v4.1.2; R Core Team 2021). Differences in language use were measured using two-sample t-tests. Because Democrats use more moral language than Republicans, I analyzed the percentages of moral language use that appealed to certain moral foundations, as opposed to the total numbers of moral words.

Results:

My analyses showed that, consistent with previous research, Democratic Senators (4.19% of words) utilized more moral language than Republican Senators (3.24% of words) ($p < .00001$, $d = 0.21$). Furthermore, moral language use does appear to depend on the topic that is being discussed (Figures 1-4). Figures 1-4 show the average percentage of words that appeal to each moral foundation out of all moral words used. Significance was set at $p < .05$. Asterisks indicate a statistically significant difference. It is important to note that, due to the incredibly large sample size, most comparisons are significant, even when the differences are quite small.

Conclusions:

The goal of the present study was to investigate whether Democratic senators and Republican senators utilized different moral language in their tweets. I found that there are statistically significant differences between their moral language use, and that these differences vary across topics. Future research could analyze how moral language use changes from congress to congress and analyze the moral language of U.S. Representatives as well. These findings could prove useful for creating frameworks which utilize moral language to foster more open-minded discussion between opposing parties.

Figure 1., Overall Moral Language Use Among Senators

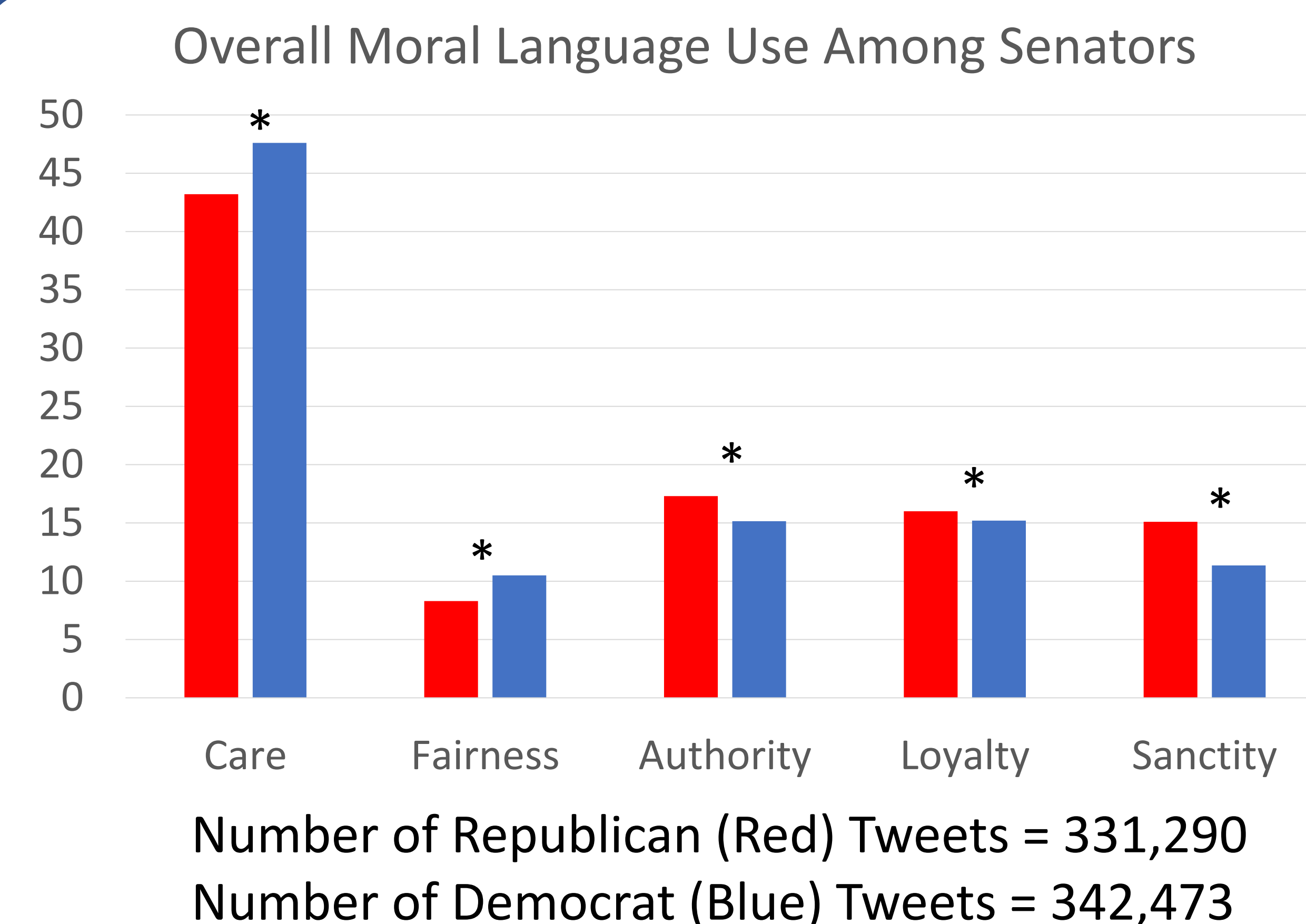


Figure 2., Moral Language in Tweets Containing the Word “Immigrant”/”Immigration”

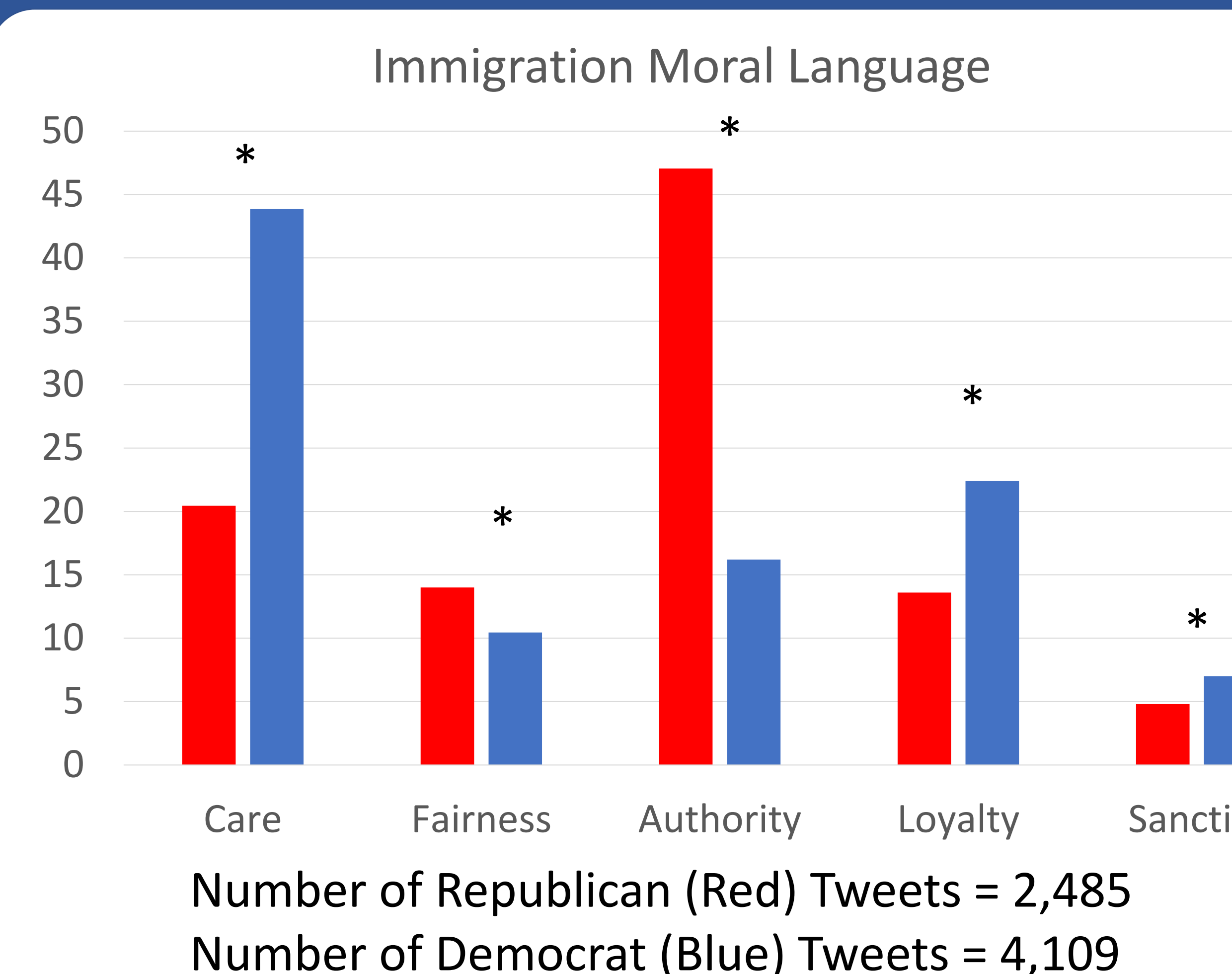


Figure 3., Moral Language in Tweets Containing the Word “Vaccine”

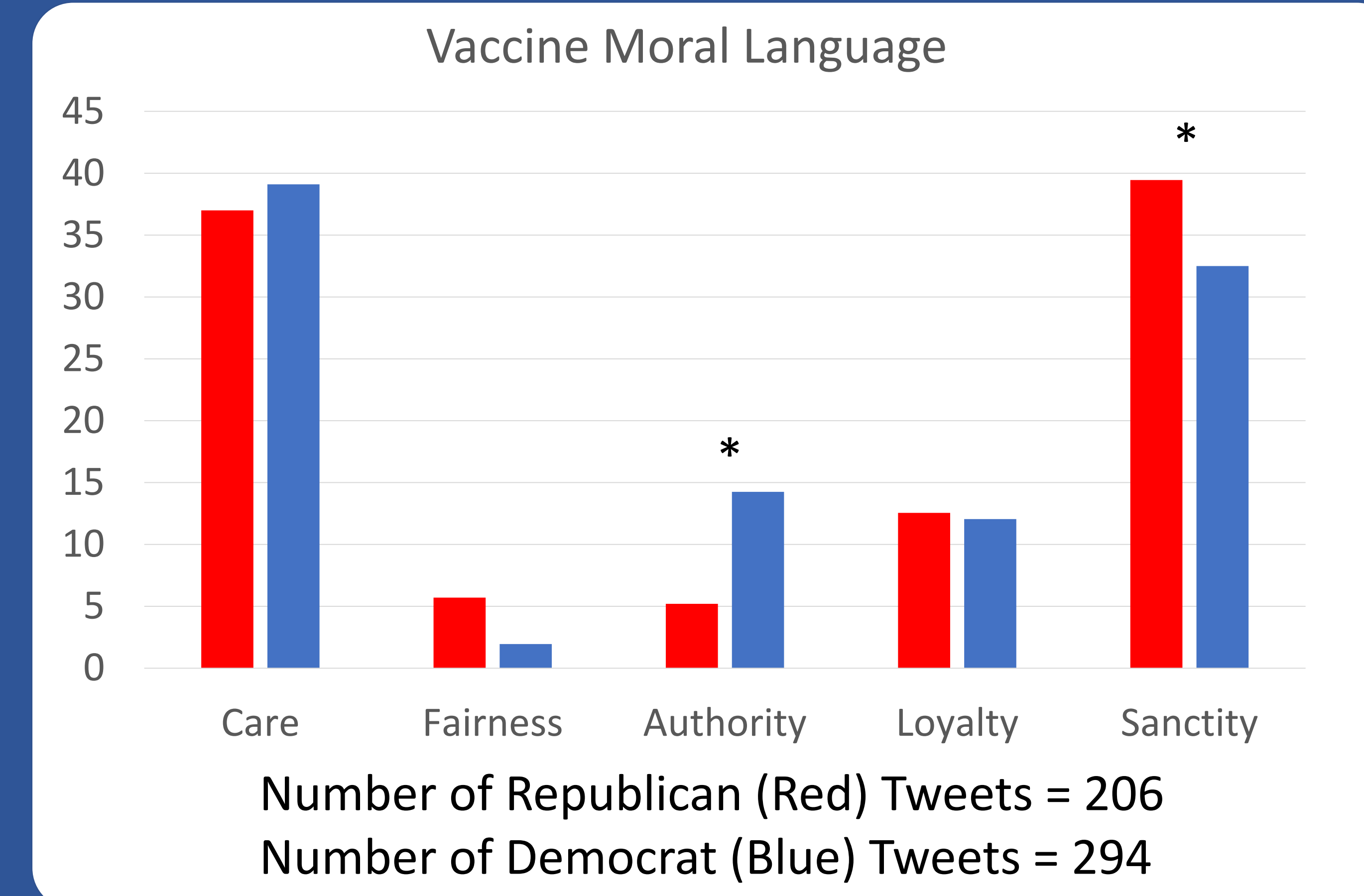
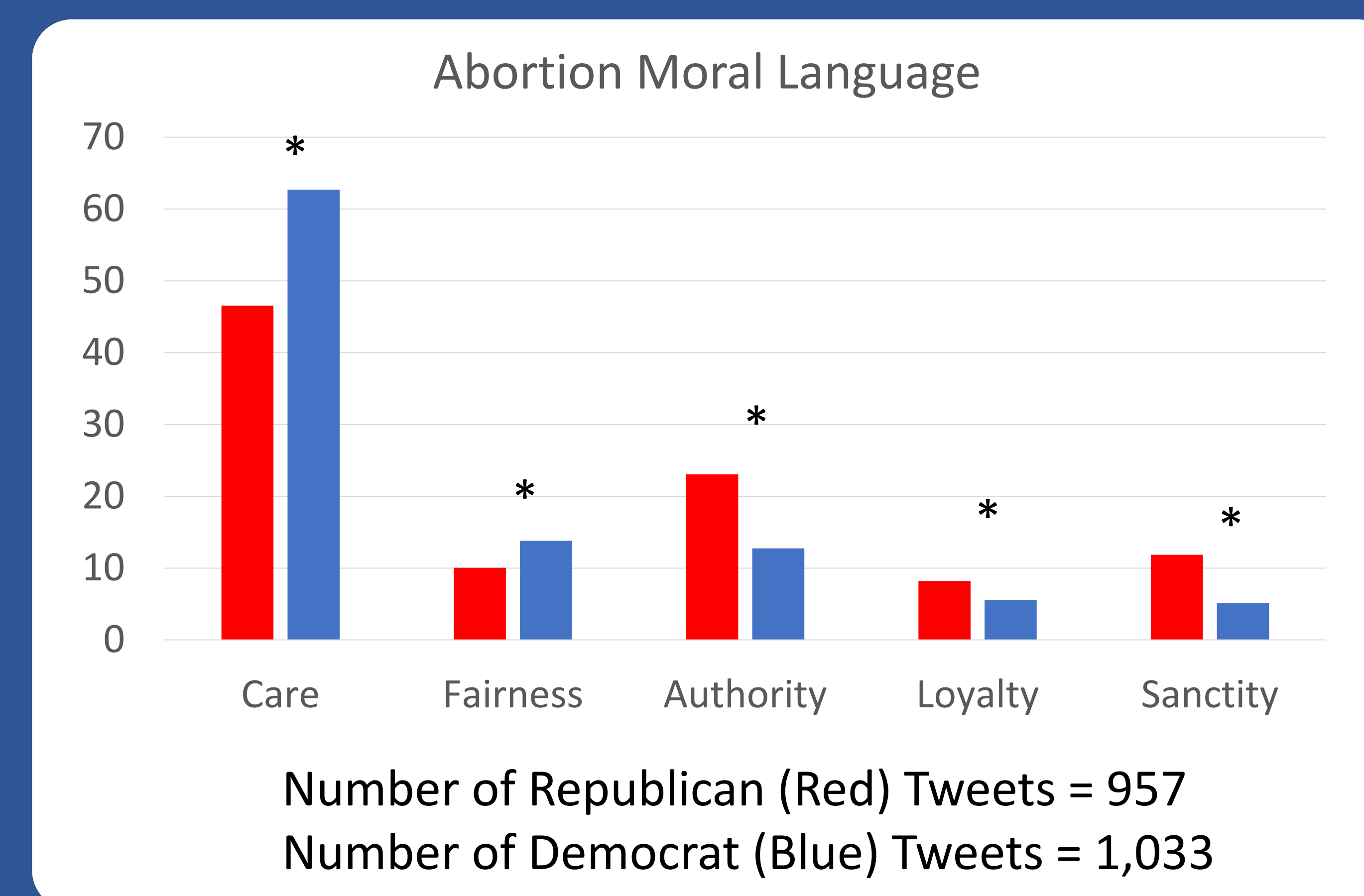


Figure 4., Moral Language in Tweets Containing the Word “Abortion”



Example Tweets:

“If Sessions wants to make border communities safer, he should ensure immigrants feel safe going to school, calling police & getting health care.” – Senator Tom Udall (D, NM).

“I am proud to fight with President Trump to secure the border and stop illegal immigration, deadly drugs, and human trafficking.” – Senator Bill Cassidy (R, LA).

dpreich@outlook.com
linkedin.com/in/dpreich/