Using Artificial Intelligence to Track Gender Bias in the 2020 Democratic Primaries in the United States

Using artificial intelligence, Marvelous AI, a data analytics firm, reviewed the Twitter and news coverage of the Democratic primary for the 2020 Presidential elections in the United States, measuring the volume of conversation each candidate received between December 2018 and April 2019, along with the political bias and credibility of the Twitter users participating in the conversation, and the major themes in the coverage of each candidate.

They found that the volume of tweets was comparable across candidates and gender lines, peaking at around forty to fifty thousand per day.

**Top 6: Campaign Launch Coverage**

![Bar chart showing number of tweets per day for candidates: Harris, Warren, Klobuchar, Sanders, Buttigieg, Biden.]

The nature of the coverage, however, revealed significant differences and systematic patterns along gender lines, with female candidates receiving more attacks from right-wing and fake-news accounts than male politicians. MarvelousAI uses link-sharing behavior of Twitter users to place them on a two-dimensional graph: political bias on the X-axis (lower values = left-leaning, higher values = right-leaning) and credibility on the Y-axis (lower values = fake / conspiracy, higher values = credible). The chart below shows the average political bias and credibility of the users discussing each candidate, based on what kinds of news outlets they propagate. Overall, it’s possible to notice that while the candidates that are considered more popular and likely to win the nomination get more right-wing/fake coverage, there is an added penalty for female candidates which seems to be much bigger than the penalty for popularity.

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101 Marvelous AI is an early-stage technology startup, building natural language processing tools that enable researchers and communications professionals to track narratives in political discourse. The above mentioned analysis was commissioned for this study. More on this topic can be found at: https://marvelous.ai/2019/02/28/gender-and-race-in-the-2020-primaries-ne-the-playing-field-isnt-level/.

102 The definitions of political bias and credibility of news websites used for this study are in line with the findings from Media Bias Fact Check, a journalist-run rating service which provides the most comprehensive media bias resource on the Internet.

Penalty for Running while Female

In addition, the social media narratives about female candidates are more negative and mostly concerned with their character, as opposed to their policies with almost no change in major storylines when excluding right-wing users and while such narrative aren’t exclusive to women (e.g. Joe Biden), they seem to be the norm for female candidates and the exception for male ones.

Top narratives persist across political spectrum

- [character] Kamala Harris is not Authentically American, progressive, or black
- [character] Elizabeth Warren lied about her ethnic heritage
- [character] Amy Klobuchar is mean to her staff
- [electability] Bernie Sanders is the “real” front-runner
- [electability] Pete Buttigieg is running a good campaign
- [electability] Joe Biden is creepy to women and has a lot of baggage

According to Olya Gurevich, Chief Scientist and Co-founder at Marvelous AI, 104

Even in the week surrounding their campaign launch, typically an opportunity for a candidate to dominate the news cycle and often their best shot at defining themselves to the public, the top social media narratives, both from trolls and mainstream users, were negative and concerned with their character, leaving less discourse space for positive or policy-related discussions of female candidates. It’s quite disheartening.

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104 Olya Gurevich, personal interview, April 30, 2019.