Social Media & Misinformation

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False

WTOE 5 NEWS
YOUR LOCAL NEWS NOW

Pope Francis Shocks World, Endorses Donald Trump for President, Releases Statement

TOPICS: Pope Francis Endorses Donald Trump

photo by Jeffrey Bruno / CC BY-SA 2.0 / cropped & photo by Gage Skidmore / CC BY-SA 3.0 / cropped
True
Aggregate
Individual
Current Discussion

- Agg
- Indiv

True

False
Likely Reality

- Agg
- Indiv

True
False
Outline

1. Context
2. 2016 US Election
3. Post-2016
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Context

Sources: Allcott & Gentzkow 2017; Boxell et al. 2017
Conspiracy theories

- 2010: Barack Obama was born in another country
- 2007: US government actively planned or assisted some aspects of the 9/11 attacks
- 2007: US government knew the 9/11 attacks were coming but consciously let them proceed
- 2003: Bush administration purposely misled the public about evidence that Iraq had banned weapons
- 2007: US government actively planned or assisted some aspects of the 9/11 attacks
- 2003: Lyndon Johnson was involved in the assassination of John Kennedy in 1963
- 1999: The crash of TWA Flight 800 over Long Island was an accidental strike by a US Navy missile
- 1995: US government deliberately set the Waco fire in which the Branch Davidians died
- 1995: US government bombed the government building in Oklahoma City to blame extremist groups
- 1995: Vincent Foster, the former aide to President Bill Clinton, was murdered
- 1995: FBI deliberately set the Waco fire in which the Branch Davidians died
- 1994: The Nazi extermination of millions of Jews did not take place
- 1991: President Franklin Roosevelt knew Japanese plans to bomb Pearl Harbor but did nothing
- 1975: The assassination of Martin Luther King was the act of part of a large conspiracy
- 1991: President Franklin Roosevelt knew Japanese plans to bomb Pearl Harbor but did nothing
- 1990: The Nazi extermination of millions of Jews did not take place
Text Messages Used to Incite Violence in Kenya

February 20, 2008 · 6:00 AM ET
Heard on Morning Edition

Kenya is reflecting on a month of violence following a disputed presidential election in December. One feature of the bloody crisis has especially shocked many ordinary Kenyans is how the cell phone became a deadly tool of violence.
Social Media Use by Age

Panel A: Internet access
Panel B: Campaign information online
Panel C: Social media use

Proportion that use social media

Notes: Panel A shows the weighted proportion of respondents who have internet access by age group. Panel B shows the proportion of respondents that saw campaign information online by age group. Panel C shows the estimated proportion of the adult American population that uses social media by age group according to the Pew Research Center (2005; 2008; 2011; 2012). See section 2.1 for details on each variable.
Polarization by Age

Fig. 3. Trends in Internet and social media use by age group. Each plot shows trends in Internet or social media use by age group.

We define an overall index of polarization by averaging all eight polarization measures. This index ranges from 0 to 100, where higher values indicate more polarization. Our agent-based simulations (using the SimAnt simulation software) showed similar patterns in polarization across different age groups, with slight variations in the magnitude of polarization over time. The simulations were conducted using data from the Pew Research Center and the American National Election Studies (ANES) to capture how respondents feel about the political spectrum and how these feelings have changed over time.
Polarization by Predicted Internet Use

![Graph showing polarization by predicted Internet use.](image-url)

The graph illustrates the polarization index broken out by quartile of predicted Internet use within each survey year, age group, gender, race, education, and whether an individual voted straight-ticket. The top quartile includes values greater than the 75th percentile, while the bottom quartile includes values at or below the 25th percentile. The middle 50% is split into the middle quartile, from the 25th percentile to the 75th percentile. The top and bottom 25% are outliers. A pattern is observed where polarizationTrack the top quartile and bottom quartile of predicted Internet use across the survey years, with the top quartile showing higher polarization levels compared to the bottom quartile. This trend is consistent across different age groups, genders, races, and education levels. Additionally, the graph shows that those who voted straight-ticket have lower polarization levels compared to those who did not. Overall, the data suggests a strong correlation between Internet use and polarization levels, with those who use the Internet more frequently exhibiting higher levels of polarization.
Republican Voting by Predicted Internet Use

Proportion Voting for Republican Candidate

- Bottom Quartile
- Top Quartile

Notes: Plot shows trends in the weighted proportion of voting respondents that voted for the Republican presidential candidate, separately for groups that are more and less active online. We measure online activity using predicted internet use, actual internet use, and whether or not the respondent observed campaign news online. See main text for details on variable construction.
Fake News in 2016

Source: Allcott & Gentzkow 2017
Supply of Misinformation

• Types of sites
  o Purely fake news sites, e.g. DenverGuardian.com
  o Non-obvious satire sites, e.g. WTOE5News.com
  o Mix of true and false articles, e.g. EndingTheFed.com

• Examples of producers
  o Teenagers in Veles, Macedonia: more than 100 sites
  o US company Disinfomedia: several sites, 20+ employees
  o Paul Horner: ran National Report for years before election
  o 24-year old Romanian: endingthefed.com

• Motivations
  o Advertising revenues
  o Ideology
Fake news database

• All false election-related stories from Snopes & Politifact
• 21 major fake news stories compiled by Buzzfeed
• Total: 156 stories
Post-election survey

- Week of Nov 28, 2016
- 1208 respondents
- Weight for national representativeness

- Demographics
- Political affiliation / ideology and 2016 vote
- Media consumption
- Recall of 15 election headlines
  - “Do you recall seeing this reported or discussed prior to the election?”
  - “At the time of the election, would your best guess have been that this statement was true?”
Headlines

• 3 randomly selected headlines from each of 5 categories

• **Big true**: Most recent major election stories listed by The Guardian
  
  o e.g., “At the 9/11 memorial ceremony, Hillary Clinton stumbled and had to be helped into a van.”

• **Small true**: Most recent stories on Snopes & Politifact judged unambiguously true
  
  o e.g., “Under Donald Trump’s tax plan, it is projected that 51% of single parents would see their taxes go up.”

• **Big fake**: Fake news stories frequently discussed in mainstream media
  
  o e.g., “Pope Francis endorsed Donald Trump.”
Headlines (Cont’d)

• **Small fake**: Most recent stories on Snopes & Politifact judged unambiguously false
  - e.g., “At a rally a few days before the election, President Obama screamed at a protester who supported Donald Trump.”

• **Placebo**: Stories we invented (Pro-Clinton & Pro-Clinton versions of each)
  - e.g., “Leaked documents reveal that the Clinton campaign planned a scheme to offer to drive Republican voters to the polls but then take them to the wrong place.”
  - e.g., “Clinton Foundation staff were found guilty of diverting funds to buy alcohol for expensive parties in the Caribbean.”
Recall and belief of fake news in our survey

Percent of US adult population

Big True: Recalled seeing and believed
Small True: Recalled seeing
Fake: Recalled seeing
Placebo: Recalled seeing
Exposure

• 3 methods
  o Based on total count of shares
  o Based on Comscore traffic data
  o Based on our survey

⇒ ~1-3 views per voter
Could fake news have affected the election outcome?

\[ \text{Impact on vote share} = \text{Exposure rate} \times \text{Persuasion rate} \]

- Exposure rate: 1-3 fake articles per potential voter
- Persuasion rate: consider TV ads (Spenkuch & Toniatti 2016) as a benchmark
- Fake story would need to be on the order of $10 \times$ more persuasive than TV ad to change outcome in pivotal states
Less than you think: Prevalence and predictors of fake news dissemination on Facebook

Andrew Guess\(^1\)*, Jonathan Nagler\(^2\), Joshua Tucker\(^2\)

So-called “fake news” has renewed concerns about the prevalence and effects of misinformation in political campaigns. Given the potential for widespread dissemination of this material, we examine the individual-level characteristics associated with sharing false articles during the 2016 U.S. presidential campaign. To do so, we uniquely link an original survey with respondents’ sharing activity as recorded in Facebook profile data. First and foremost, we find that sharing this content was a relatively rare activity. Conservatives were more likely to share articles from fake news domains, which in 2016 were largely pro-Trump in orientation, than liberals or moderates. We also find a strong age effect, which persists after controlling for partisanship and ideology: On average, users over 65 shared nearly seven times as many articles from fake news domains as the youngest age group.
Selective Exposure to Misinformation:
Evidence from the consumption of fake news during the
2016 U.S. presidential campaign

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January 9, 2018

Abstract
Though some warnings about online “echo chambers” have been hyperbolic, tendencies toward selective exposure to politically congenial content are likely to extend to misinformation and to be exacerbated by social media platforms. We test this prediction using data on the factually dubious articles known as “fake news.” Using unique data combining survey responses with individual-level web traffic histories, we estimate that approximately 1 in 4 Americans visited a fake news website from October 7-November 14, 2016. Trump supporters visited the most fake news websites, which were overwhelmingly pro-Trump. However, fake news consumption was heavily concentrated among a small group — almost 6 in 10 visits to fake news websites came from the 10% of people with the most conservative online information diets. We also find that Facebook was a key vector of exposure to fake news and that fact-checks of fake news almost never reached its consumers.
Fake news on Twitter during the 2016 U.S. presidential election

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The spread of fake news on social media became a public concern in the United States after the 2016 presidential election. We examined exposure to and sharing of fake news by registered voters on Twitter and found that engagement with fake news sources was extremely concentrated. Only 1\% of individuals accounted for 80\% of fake news source exposures, and 0.1\% accounted for nearly 80\% of fake news sources shared. Individuals most likely to engage with fake news sources were conservative leaning, older, and highly engaged with political news. A cluster of fake news sources shared overlapping audiences on the extreme right, but for people across the political spectrum, most political news exposure still came from mainstream media outlets.
3

Post-2016

Sources: Allcott et al. 2019a, Allcott et al. 2019b
Facebook

Fake News Sites

Number of sites: 569

Facebook engagements (million)
Fake News Sites

Number of sites: 569

Twitter shares (million)

- 2015
- 2016
- 2017
- 2018
Ratio

![Graphs showing engagement ratios across different categories of sites: Major News Sites, Small News Sites, Business and Culture Sites, and Fake News Sites.](image)

- **Major News Sites**: Number of sites: 38
- **Small News Sites**: Number of sites: 78
- **Business and Culture Sites**: Number of sites: 54
- **Fake News Sites**: Number of sites: 569
Random Experiment

- Follow politics
- Follow Trump
- News minutes
- News knowledge
- Fake news knowledge
- News knowledge index