Evidence-responsiveness in a decade of Reddit discourse about hot-button topics

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1.1. Evidence-Responsiveness

• Focus on policy consequences → evidence-responsive
  → reduces attitude extremity in lab (Fernbach et al., 2013)
• Focus on non-negotiable values → evidence-unresponsive
  → leads to intractable debates (Baron & Spranca, 1997)
• Evidence-responsive discourse aids consensus-building

1.2. Reddit and Emerging Consensus

• Emerging consensus about same-sex marriage (SSM) and marijuana legalization since 2006 in the US, coinciding with Reddit’s popularity (redditinc.com)

2. Hypothesis

More evidence-responsive and less evidence-unresponsive discourse about same-sex marriage and marijuana legalization on Reddit coincides with greater societal support over time

3. Methods

• Posts identified using regular expressions (~600,000 posts for SSM, ~2,000,000 for marijuana)
• Latent Dirichlet Allocation used to extract themes of relevant Reddit discourse using 50 (SSM) and 75 topics (marijuana legalization)
• Topic contribution: Percentage of words from a time period (2008-2019) generated by a topic
• Marijuana: Trained assistants (n = 6) rated 800 posts with the greatest contribution from various topics as evidence-responsive or unresponsive
• SSM: rated 800 posts with the most up/down-votes as consequentialist or protected-values-based
• Categorized topics (evidence-responsive, unresponsive or neither) based on contribution predicting participant ratings in a linear regression (Avg. classification accuracy based on only topic info: 64%)
• Focus of individual topics identified using words and post samples uniquely associated with them

4. Results

4.1. Same-Sex Marriage

**Discussion**

- consequence-based topics contributed less to discourse overall before majority support for SSM in the US, increasing in influence after.
- Mostly due to discussions of the politics of SSM, and framing it as a policy issue
- Contribution of protected-values-based topics increasing before majority support, declining after.
- Focused on religious arguments and freedom of opinions/beliefs

**Same-sex marriage:**
- From 2006 to 2012: Discourse increasingly about evidence-unresponsive values
- Starting in 2012: With majority support among Americans, evidence-responsive discourse growingly replaced protected values as the focus
- The Supreme Court ruling did not affect these patterns

4.2. Marijuana Legalization

**Discussion**

- Evidence-responsive discourse dominated overall. Decreased before 2015, stabilized after.
- Evidence-unresponsive discourse mostly stable before 2015, slightly decreasing after.

**Marijuana legalization:**
- Evidence-responsive topics dominated discourse but decreased over time.
- Evidence-unresponsive arguments were weaker but overall constant contributors.

**Summary:**
- Evidence-responsiveness alone does not explain the attitude changes around these two topics in our dataset.