1. Motivation

- Two fundamental evidence types [1]:
  - Generalized ("Legalization helps the economy")
  - Anecdotal ("My cousin was arrested & it ruined his life")
- Experiments: Anecdote more persuasive in health-related issues [2]

Support for legalization grew from 35% to 67% in 2008-2019. Did a surge in anecdotes play a role? Coincides with Reddit’s popularity. Is a surge reflected on Reddit?

2. Hypothesis

More anecdotal and less generalized discourse before legalization on Reddit

3. Methods

- Complete Reddit dataset (3,059,959 comments, ~300M words)
- Anecdotal: (1) events on (2) specific entities at (3) specific times [3]
- Neural nets of 425 news+Reddit docs classify (1)-(3) in all comments
- PCA on (1)-(3) classifies theme clusters as anecdotal/generalized (81% var. explained)
  - Themes: LDA (Blei et al., 2003; 50 topics) with agglomerative clustering
- Neural nets to ID argumentation and + attitude to legalization
- Three clusters made up 2/3 of the corpus (in order of contribution):
  - Anecdotal Experiences and attitudes: most anecdotal
  - Crime & Politics: 2nd most generalized
  - Types & Uses: Most generalized but non-argumentative; skip

4.1. Results

Key Point 1: Anecdotal Experiences and Attitudes especially prominent During Transition (2010-2015), Crimes and Politics in Decline

- 1st vert. line: Colorado legalizes recreational (legalization spur)
- 2nd vert. line: California legalizes (end of legalization spur)

4.2. Results

Key Point 2: Anecdotal Experiences and Attitudes Surged Ahead of Legalization in Pioneering States while Crimes & Politics Declined

- Figure: Colorado comments (n=47,368); location estimated with Bayesian model. Vertical line: legal. ballot initiative

4.3. Results

Key Point 3: Anecdotal Experiences and Attitudes As Common in Arguments Supporting Legalization as in Non-argumentative Discourse

- Figure: All comments inferred to contain persuasion attempts with positive attitude (n=742,714); Vert. lines like 4.1

4.4. Final Twist

- Surge in Anecdotal Experiences and Attitudes due to outlier topic character Judgments
  - E.g., “Users are not bad people.”
  - Highly moralized (moral measures not shown)
  - Highly generalized in linguistic features (about timeless traits of generic groups)
  - Clustered with anecdotes because of the words it uses (about what individuals and groups do)
  - Most common topic before legalization, rapidly declines after

5. Discussion

- Generalized/anecdotal language quantified with machine learning in Reddit legalization discourse
- Revealed discourse correlates of mass attitude change towards marijuana legalization
- Mixed evidence for Hypothesis in (2): A surge in character judgments at the expense of crime and politics discussions coincided with successful legalization
  - Like anecdotes in words, like general arguments in the points they made, and bound to moral values: Brought different types of evidence together in discourse
  - Useful for simplifying decision by moving focus away from the complicated consequences of policies (e.g., Crimes and Politics) to black-and-white judgments based on limited instances
- Limitations: Reddit demographic bias, no comparison with polarized issues

6. References


[Image 1]: ACL2020