Algorithm or Agency?
User Choice in Social Media Engagement

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Background and Research Questions

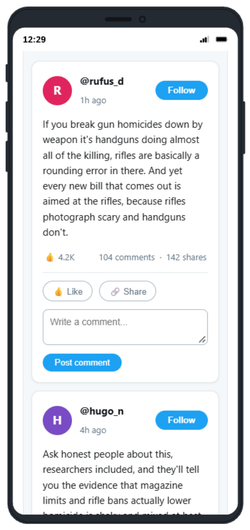
- Social media engagement is driven by moral-emotional appeals and outgroup animosity, which algorithms may amplify
- Exposure to opposing-stance content is limited by individual choice more than algorithms
- Field experiments manipulating feeds find limited impact on polarization

RQ1: What are the relative impacts of implicit (algorithmic) preferences and explicit (user-based) choices on media content seen and engaged with?

RQ2: How do such shifts impact engagement, polarization, and openness to opposing views?

We preregistered two experiments (N=804) targeting algorithmic amplification (Study 1) and self-selection (Study 2) as separate channels to polarization on gun control policies.

Simulated Social Media Platform

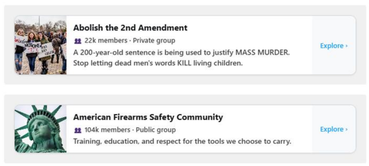


Study 1 Algorithm

Posts allocated by a weighted engagement algorithm (comment = 4, share = 3, follow = 2, like = 1)

Study 2 Agency

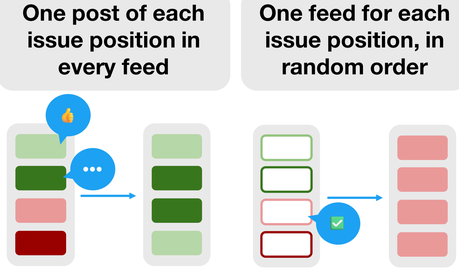
Participants select a feed from cards communicating each group's stance and extremity



Design and Outcomes

Participants engaged with 4 mock social media feeds of 4 posts each. Each post took one of four positions on stricter gun control, varying *stance* (**support** vs. **opposition**) and *extremity* (**moderate** vs. **extreme**)

	Study 1 Algorithm n = 400	**Study 2** Agency n = 404
Treatment	Engagement in earlier feeds determines position of posts in later feeds	Participant selects the issue position of entire feed
Control	One post of each issue position in every feed	One feed for each issue position, in random order



Outcome Measures:

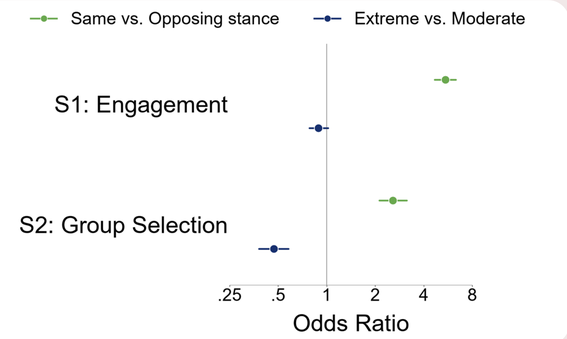
- **Engagement:** likes, comments, shares, follows
- **Stance on 3 gun control items** (0: strongly disagree — 100: strongly agree) at baseline (S_0) and after each feed (S_t)
- **Openness toward opposing views** 3 measures (0–100) at baseline and after viewing all feeds

Polarization (P) was measured as movement away from baseline toward extremity

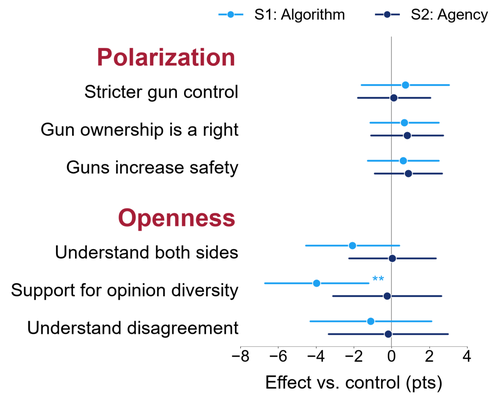
$$P = (S_t - S_0) \times \text{sign}(S_0 - 50)$$

Findings

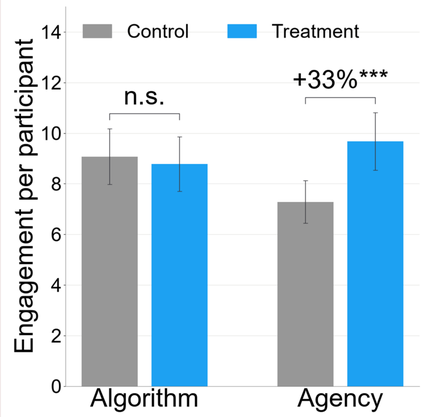
1. Participants preferentially interacted with same-stance content but not extremes



2. Neither treatment polarized views, but support for opinion diversity fell under the algorithm



3. Agency increased engagement by 33%; the algorithm did not



1) Odds ratios from mixed logistic (S1) and conditional logit (S2) models. 2) Effects at feed 4 vs. control: OLS on P (stance), ANCOVA (support for opinion diversity). 3) Mean actions per participant. *All error bars are 95% CIs.*

Bottom line: Both algorithmically-curated and user-selected feeds leaned towards same-stance content. Neither treatment increased polarization, but given agency, users preferentially selected moderate feeds, engaged more with posts, and did not lose openness to opposing views.

Poster

Bakshy et al., 2015; Brady et al., 2017; Guess et al., 2023; Nyhan et al., 2023; Rathje et al., 2021. **AsPredicted#296444**