

Breaking the Spiral of Silence

Yuen Ho and Yihong Huang

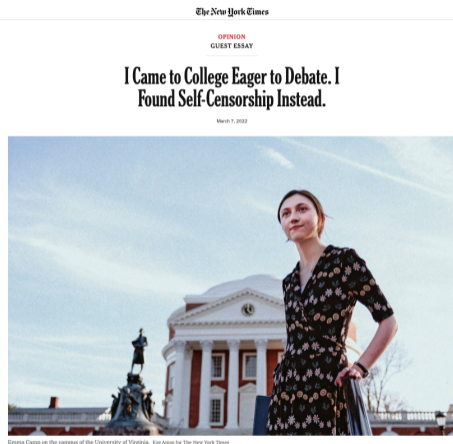
Xlab Mini Conference

April 29, 2024

Self-Censorship is Prevalent

- 62% of Americans say that they have political opinions that they are afraid to share (Ekins, 2020)
- These fears cross partisan lines (Democrats: 52%, Republicans: 77%)
- 80% of college students report self-censoring (College Pulse, 2021)

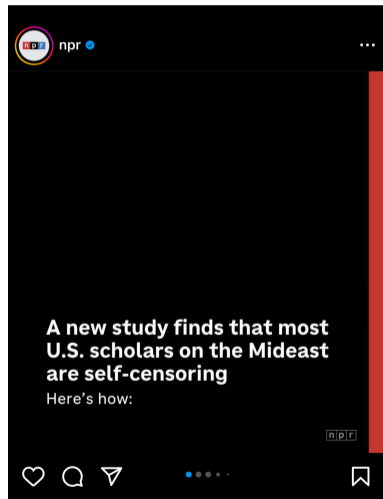
- Public opinions matter for decision-making.
⇒ With self-censorship, views of silent people are not represented in the decision-making process.



These are familiar ideas, particularly in times of cultural change



*“And so tonight—to you, the great
silent majority of my fellow
Americans—I ask for your support.”*



Spiral of Silence: Self-censorship and Attention to Silence

Social Norms



Self-Censorship

Example: Do you agree with affirmative action policies?

Individuals with socially inappropriate views tend to self-censor.

Expressed views skewed toward appropriate views.



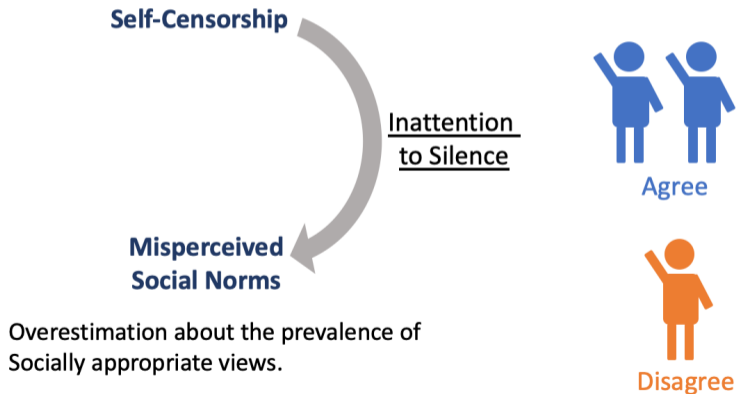
Agree



Disagree

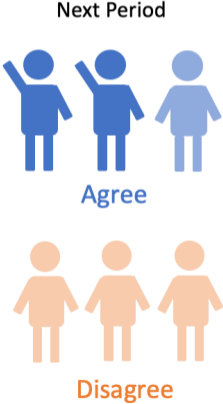
Spiral of Silence: Self-censorship and Attention to Silence

Example: Do you agree with affirmative action policies?



Spiral of Silence: Self-censorship and Attention to Silence

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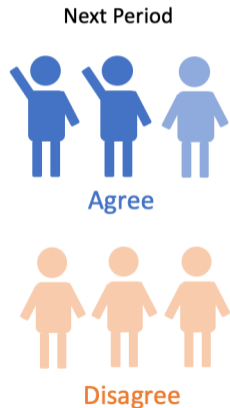
Depend on perceived dominance of socially appropriate views

Spiral of Silence: Self-censorship and Attention to Silence

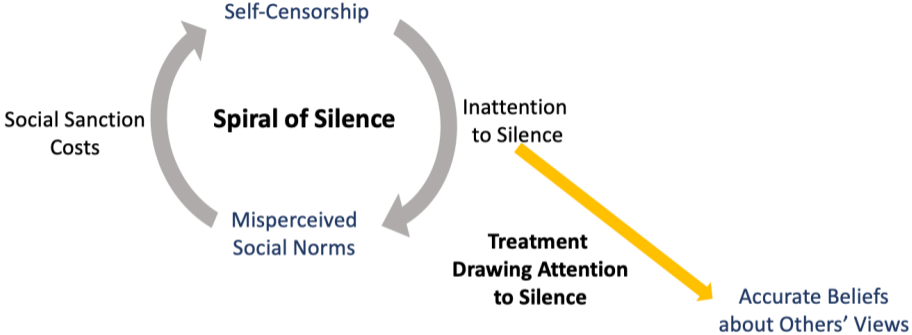
Example: Do you agree with affirmative action policies?



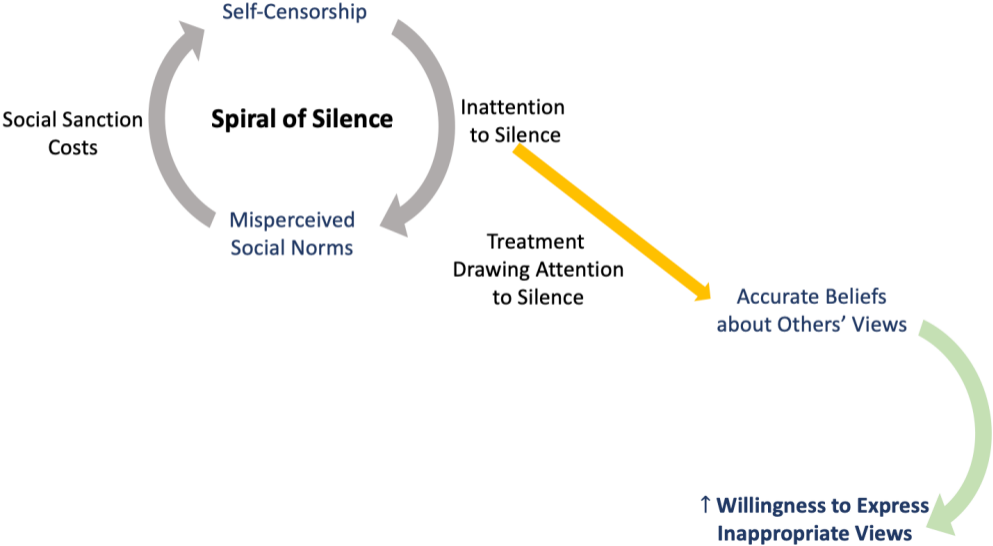
Equilibrium: Socially appropriate views are expressed and considered dominant



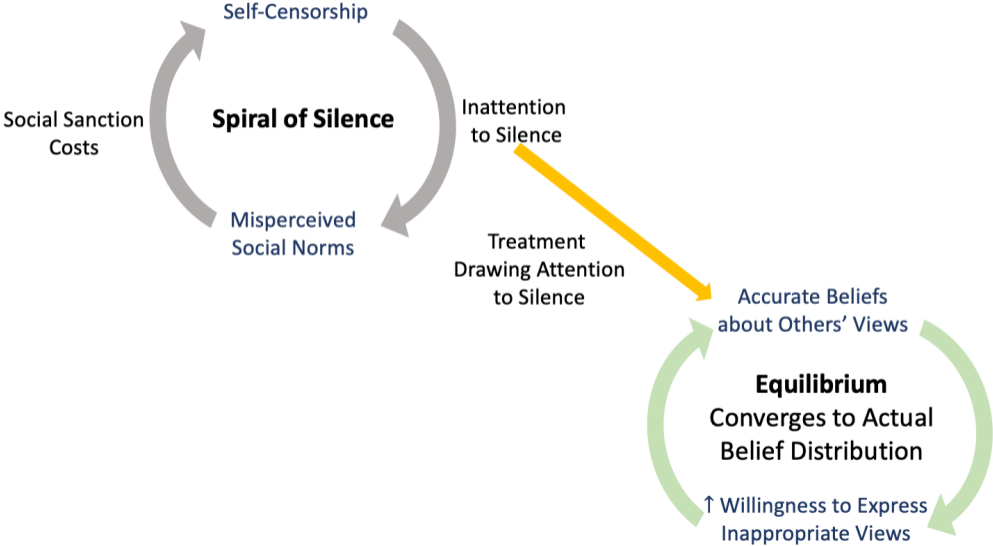
Spiral of Silence: Self-censorship and Attention to Silence



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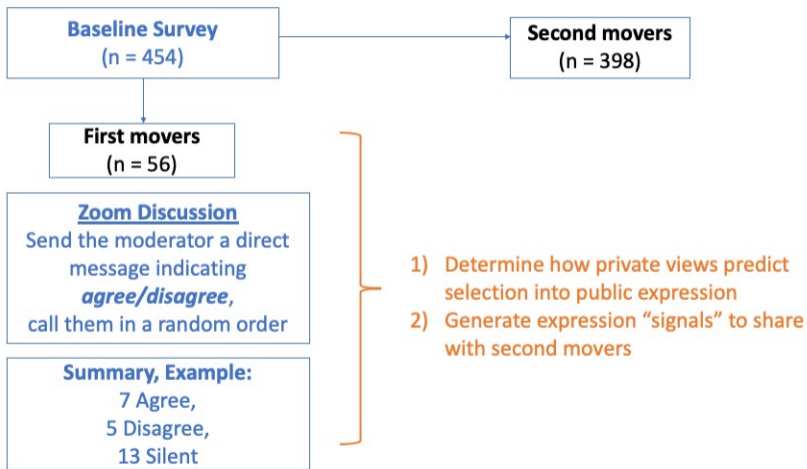


Select socially sensitive topics to study with Xlab experiment

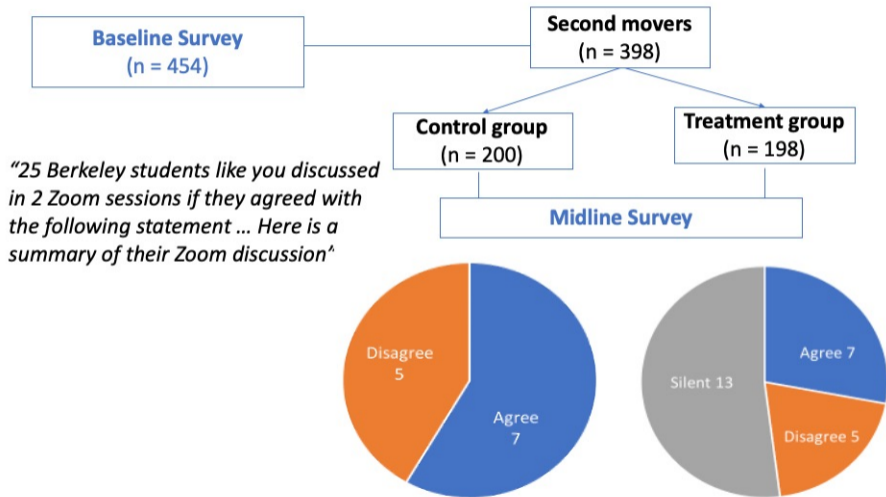
- ① **Renaming Schools:** *All public schools named after controversial historical figures, including former Presidents George Washington, Thomas Jefferson, and Abraham Lincoln, should be renamed.*
- ② **Affirmative Action:** *If Proposition 209 was repealed, universities in the UC system should adopt extensive affirmative action policies that explicitly take into account race in the admission process.*
- ③ **Death Penalty:** *The U.S. should abolish the death penalty.*
- ④ **Immunizations:** *Immunizations, such as for Covid and the flu, should be required on Berkeley's campus.*

In a separate survey: elicited socially appropriateness following Krupka and Weber (2013).
“**Agree**” is the socially appropriate view.

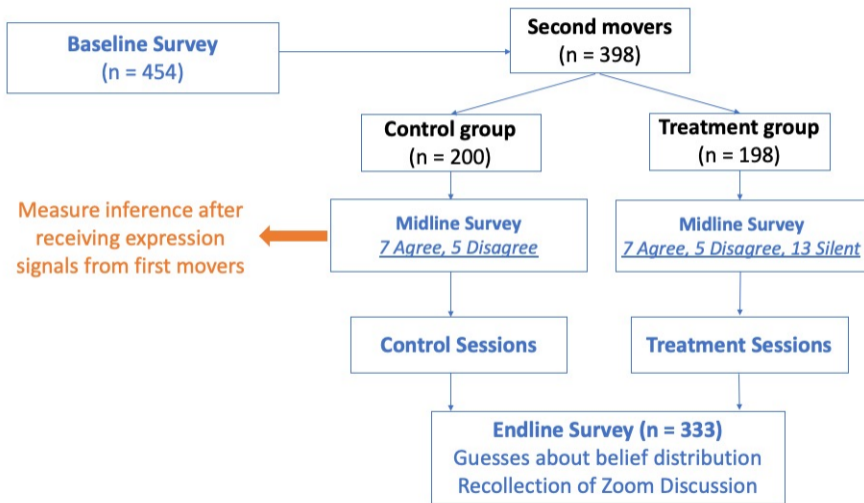
Experiment to Test the Spiral of Silence with Berkeley Xlab



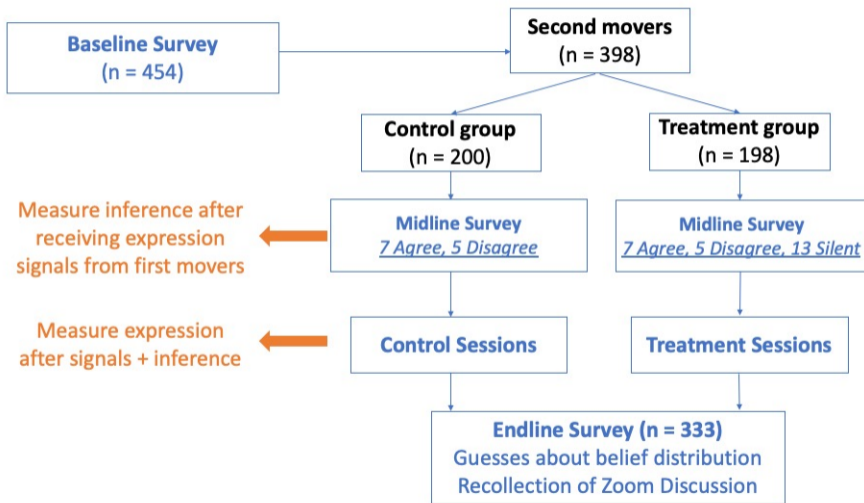
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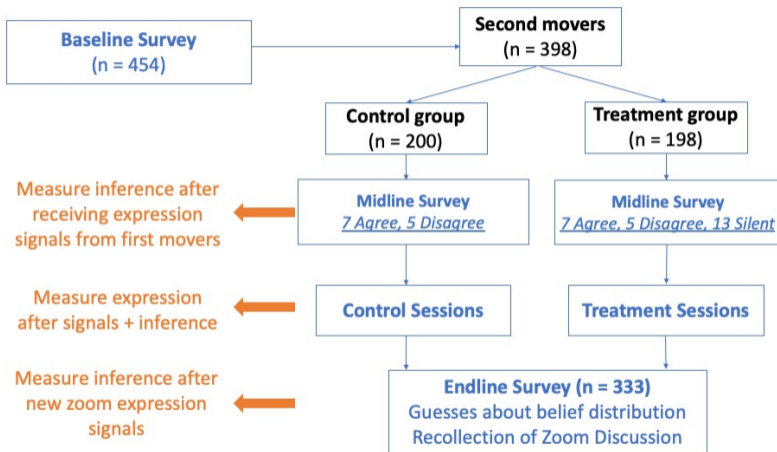
Experiment to Test the Spiral of Silence with Berkeley Xlab



Experiment to Test the Spiral of Silence with Berkeley Xlab



Experiment to Test the Spiral of Silence with Berkeley Xlab



Those with socially acceptable views are more likely to speak up

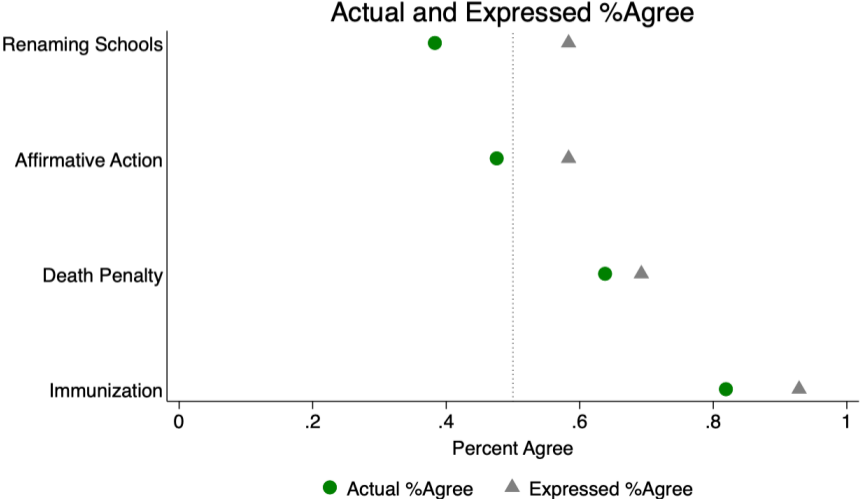
Table: Expression decisions for First Movers

| | (1) | (2) | (3) | (4) |
|------------------|---------------------|--------------------|---------------------|--------------------|
| | Express = 1 | Express = 1 | Express = 1 | Express = 1 |
| Panel A: OLS | | | | |
| Private Agree | 0.142** (0.0699) | 0.135* (0.0728) | 0.138* (0.0718) | 0.147* (0.0784) |
| Panel B: Logit | | | | |
| Private Agree | 0.147** (0.0706) | 0.140* (0.0724) | 0.144** (0.0707) | 0.133* (0.0756) |
| Topic FE | ✓ | ✓ | ✓ | ✓ |
| Baseline guesses | | ✓ | ✓ | ✓ |
| Session FE | | | ✓ | ✓ |
| Ind Controls | | | | ✓ |
| Mean | 0.470 | 0.470 | 0.470 | 0.470 |
| SD | 0.501 | 0.501 | 0.501 | 0.501 |
| IDs | 50 | 50 | 50 | 50 |
| Obs | 200 | 200 | 200 | 200 |

Standard errors clustered at individual level.

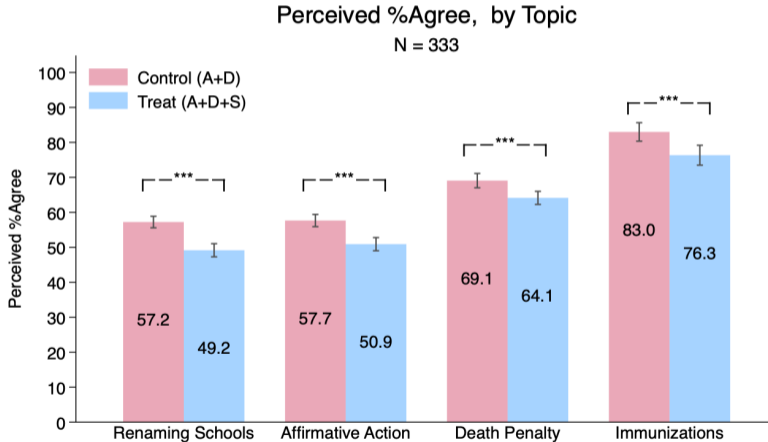
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Actual and Expressed %Agree



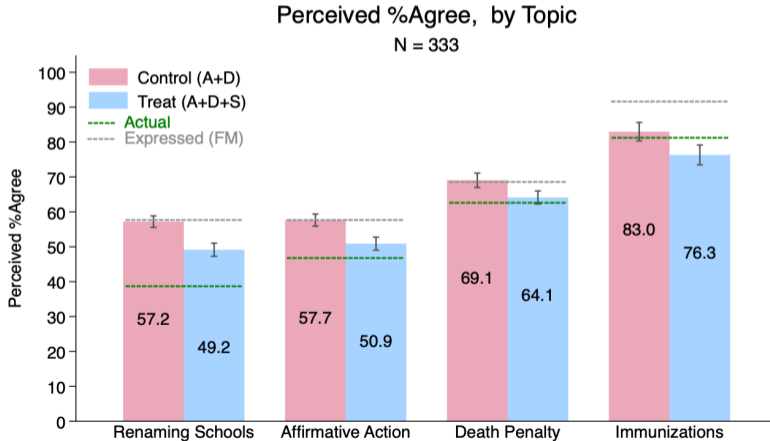
Beliefs at Midline

Treatment group believes socially acceptable view is less popular relative to control group

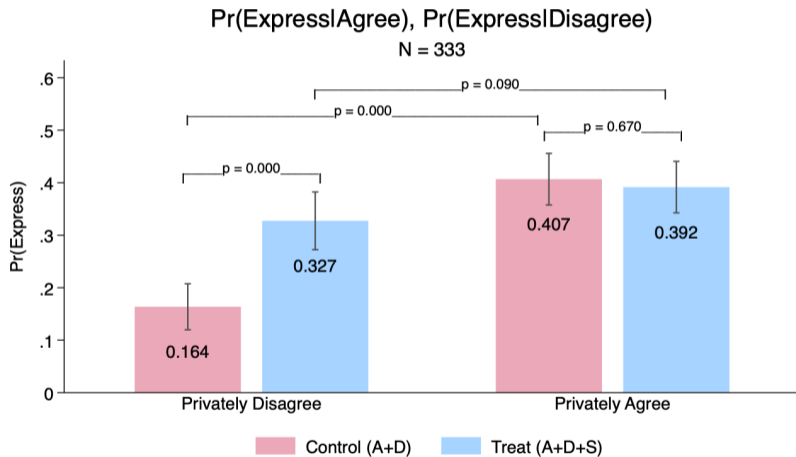


Beliefs at Midline

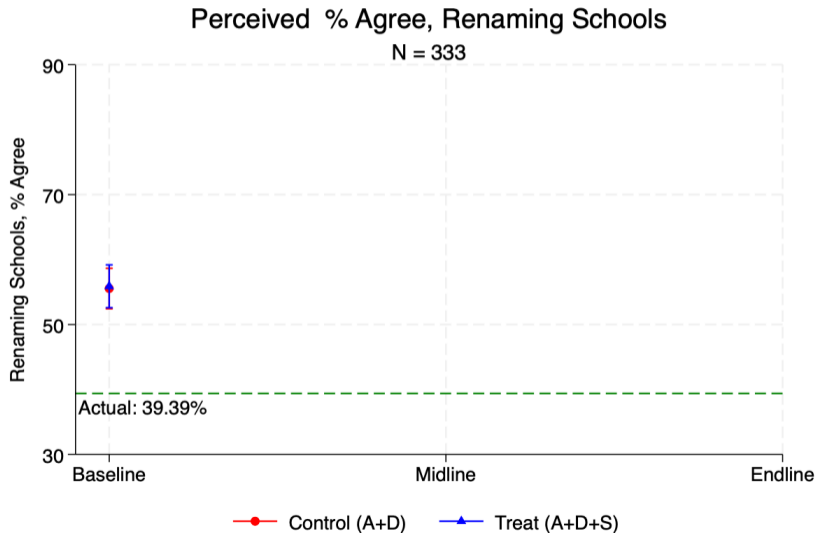
Control group's guesses are closer to publicly expressed views. Treatment group's guesses are closer to the actual belief distribution.



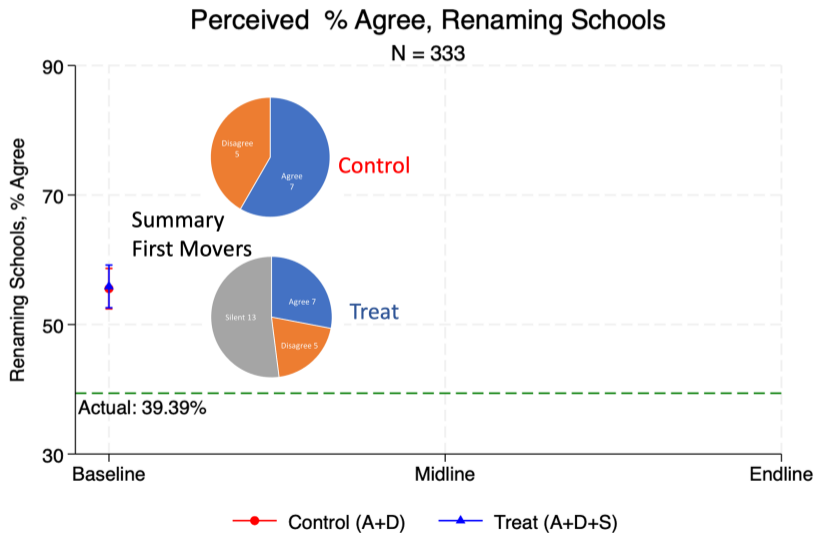
Expression



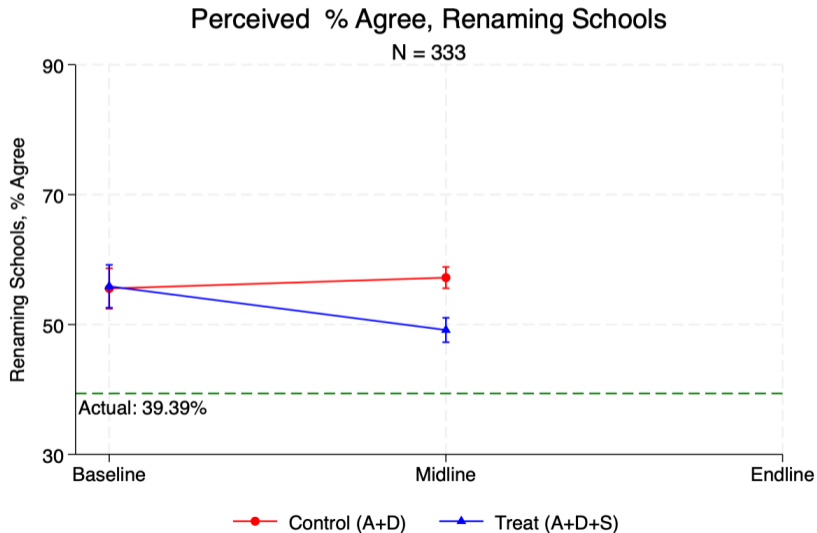
Dynamics: Renaming Schools



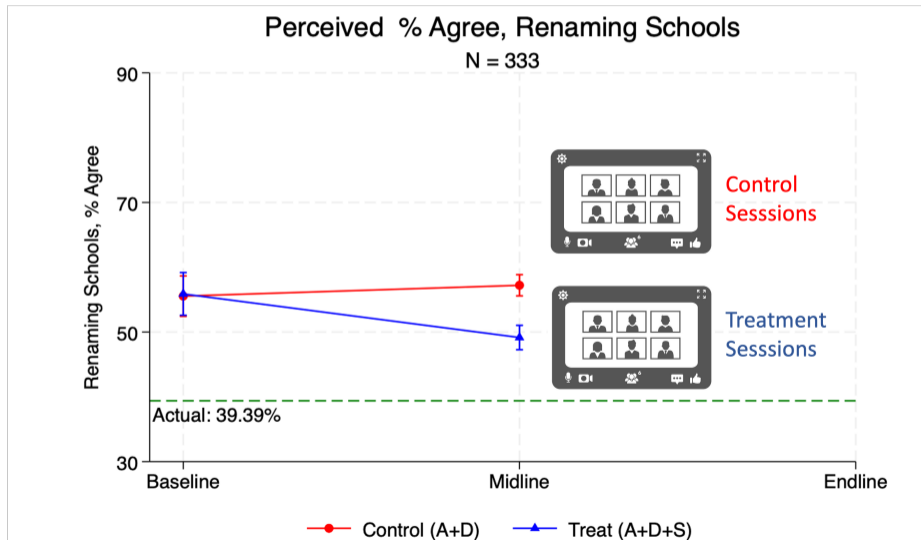
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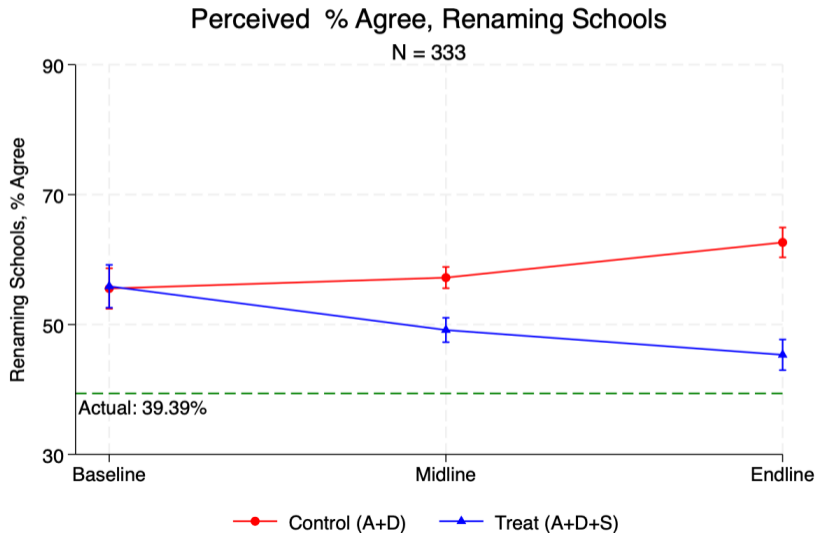
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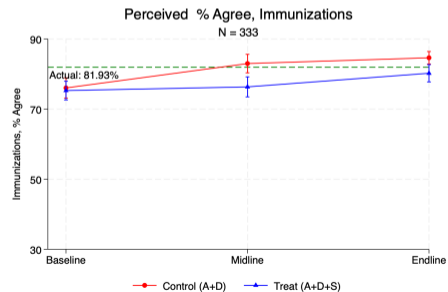
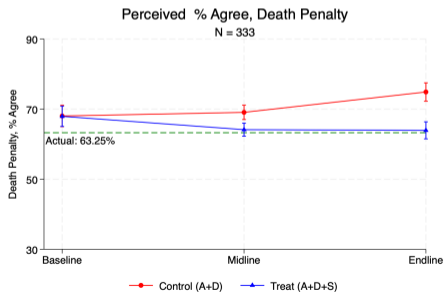
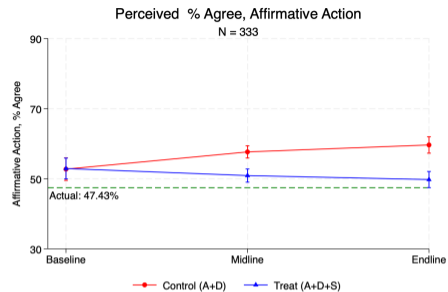
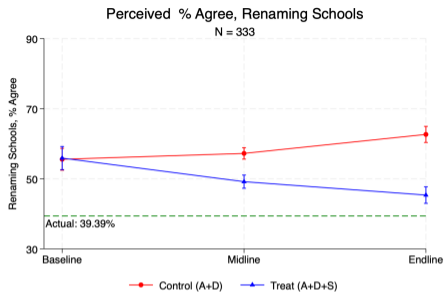


Dynamics: Renaming Schools



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Main Takeaways

- **The spiral of silence exists in practice.**
 - Individuals who hold socially inappropriate views self-censor.
 - In status quo, attention to silence is limited, students overestimate the prevalence of socially appropriate views.
 - Which reinforces self-censorship and exacerbates misperceptions.

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- **Drawing attention to silence breaks the spiral.**
 - \uparrow attention to silence \rightarrow \downarrow perceived popularity of socially appropriate views, \rightarrow
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 - The effects on inference and expression are self-reinforcing. Different levels of attention to silence produce divergent equilibrium norms.

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- **Policy implications: Social norms are hard to change, much easier to direct attention**
 - Display the number of views (not just likes or comments) on social media
 - Report the number of silent responses from opinion polls

Thank You!

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Descriptive Statistics

| | Whole Sample (N = 383) | First Movers (N = 50) | Control (N = 166) | Treatment (N = 167) | p Value 1st/2nd Movers | p Value Control/Treat |
|----------------------------------|----------------------------------|---------------------------------|-----------------------------|-------------------------------|----------------------------------|---------------------------------|
| Panel B: Private Beliefs | | | | | | |
| Renaming Schools | 0.39 (0.49) | 0.36 (0.48) | 0.41 (0.49) | 0.38 (0.49) | 0.65 | 0.65 |
| Affirmative Action | 0.46 (0.50) | 0.40 (0.49) | 0.45 (0.50) | 0.50 (0.50) | 0.33 | 0.35 |
| Death Penalty | 0.63 (0.48) | 0.60 (0.49) | 0.65 (0.48) | 0.61 (0.49) | 0.66 | 0.50 |
| Immunizations | 0.82 (0.38) | 0.84 (0.37) | 0.83 (0.38) | 0.81 (0.39) | 0.72 | 0.61 |
| DST | 0.67 (0.47) | 0.74 (0.44) | 0.70 (0.46) | 0.63 (0.48) | 0.28 | 0.18 |
| Panel C: Baseline Guesses | | | | | | |
| Renaming Schools | 55.60 (21.24) | 54.78 (22.40) | 55.55 (20.52) | 55.89 (21.70) | 0.77 | 0.88 |
| Affirmative Action | 52.55 (20.80) | 50.76 (23.95) | 52.73 (21.14) | 52.91 (19.52) | 0.51 | 0.94 |
| Death Penalty | 68.02 (19.48) | 68.30 (19.46) | 68.03 (20.09) | 67.93 (18.98) | 0.91 | 0.96 |
| Immunizations | 75.19 (18.36) | 72.02 (19.05) | 76.04 (18.93) | 75.29 (17.57) | 0.19 | 0.71 |
| DST | 63.78 (25.01) | 64.86 (25.75) | 64.19 (25.30) | 63.04 (24.61) | 0.74 | 0.68 |

Balance Table - Treatment Assignment

| | Whole Sample (N = 383) | First Movers (N = 50) | Control (N = 166) | Treatment (N = 167) | p Value 1st/2nd Movers | p Value Control/Treat |
|-----------------------|----------------------------------|---------------------------------|-----------------------------|-------------------------------|----------------------------------|---------------------------------|
| Panel A: Demographics | | | | | | |
| Female | 0.70 (0.46) | 0.72 (0.45) | 0.70 (0.46) | 0.69 (0.46) | 0.77 | 0.84 |
| Year | 3.23 (1.42) | 3.45 (1.18) | 3.26 (1.48) | 3.15 (1.42) | 0.27 | 0.49 |
| Asian | 0.54 (0.50) | 0.50 (0.51) | 0.54 (0.50) | 0.56 (0.50) | 0.51 | 0.79 |
| White | 0.21 (0.41) | 0.20 (0.40) | 0.23 (0.43) | 0.19 (0.39) | 0.83 | 0.34 |
| Ideology | 3.01 (1.76) | 2.96 (1.71) | 3.07 (1.92) | 2.97 (1.61) | 0.82 | 0.60 |

Go Back

Balance Table - Attrition

| | Whole Sample (N = 454) | | Completed (N = 383) | | Attrition (N = 71) | | T test |
|-------------------------------|------------------------|-------|---------------------|-------|--------------------|-------|---------|
| | Mean | Sd | Mean | Sd | Mean | Sd | p Value |
| Panel A: Demographics | | | | | | | |
| Female | 0.69 | 0.46 | 0.70 | 0.46 | 0.62 | 0.49 | 0.17 |
| Asian | 0.53 | 0.50 | 0.54 | 0.50 | 0.44 | 0.50 | 0.10 |
| White | 0.22 | 0.42 | 0.21 | 0.41 | 0.28 | 0.45 | 0.19 |
| Year | 3.21 | 1.42 | 3.26 | 1.43 | 2.97 | 1.35 | 0.12 |
| Ideology | 3.00 | 1.76 | 3.01 | 1.76 | 2.90 | 1.76 | 0.62 |
| Panel B: Private Beliefs | | | | | | | |
| Rename Schools | 0.39 | 0.49 | 0.39 | 0.49 | 0.41 | 0.49 | 0.80 |
| Affirmative Action | 0.47 | 0.50 | 0.46 | 0.50 | 0.52 | 0.50 | 0.38 |
| Death Penalty | 0.63 | 0.49 | 0.63 | 0.48 | 0.65 | 0.51 | 0.76 |
| Immunizations | 0.74 | 0.44 | 0.73 | 0.44 | 0.79 | 0.41 | 0.33 |
| DST | 0.69 | 0.46 | 0.67 | 0.47 | 0.76 | 0.43 | 0.15 |
| Panel C: Baseline Guesses | | | | | | | |
| Rename Schools | 55.79 | 21.64 | 55.60 | 21.24 | 56.82 | 23.82 | 0.66 |
| Affirmative Action | 52.85 | 20.84 | 52.55 | 20.80 | 54.46 | 21.10 | 0.48 |
| Death Penalty | 68.15 | 19.03 | 68.02 | 19.48 | 68.85 | 16.53 | 0.74 |
| Immunizations | 70.04 | 23.56 | 69.44 | 24.38 | 73.27 | 18.36 | 0.21 |
| DST | 64.60 | 24.60 | 63.78 | 25.01 | 69.04 | 21.92 | 0.10 |
| Panel D: Treatment Assignment | | | | | | | |
| treat | 0.50 | 0.50 | 0.50 | 0.50 | 0.49 | 0.50 | 0.89 |

Expression results

| | OLS (Express = 1) | | | | Logit (Express = 1) |
|-----------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| | (1) | (2) | (3) | (4) | (5) |
| Panel A: Privately Disagree | | | | | |
| Treat | 0.160*** (0.0320) | 0.161*** (0.0320) | 0.168*** (0.0266) | 0.169*** (0.0282) | 0.168*** (0.0290) |
| Mean | 0.164 | 0.164 | 0.164 | 0.164 | 0.164 |
| SD | 0.371 | 0.371 | 0.371 | 0.371 | 0.371 |
| IDs | 278 | 278 | 278 | 278 | 278 |
| Obs | 1112 | 1112 | 1112 | 1112 | 1112 |
| Panel B: Privately Agree | | | | | |
| Treat | -0.00965 (0.0416) | -0.0114 (0.0415) | -0.0105 (0.0403) | -0.0163 (0.0387) | -0.0143 (0.0379) |
| Mean | 0.407 | 0.407 | 0.407 | 0.407 | 0.407 |
| SD | 0.492 | 0.492 | 0.492 | 0.492 | 0.492 |
| IDs | 315 | 315 | 315 | 315 | 315 |
| Obs | 1260 | 1260 | 1260 | 1260 | 1260 |
| Topic FE | ✓ | ✓ | ✓ | ✓ | ✓ |
| Baseline guesses | | ✓ | ✓ | ✓ | ✓ |
| Session Controls | | | ✓ | ✓ | ✓ |
| Ind Controls | | | | ✓ | ✓ |

Standard errors clustered at the Zoom session level.

Expressions by Topic

Table: $y_{i,t} = 1$ if individual i truthfully express their views on topic t

| | Affirmative Action | Death Penalty | Immunizations | Rename Schools |
|-----------------------------|----------------------|----------------------|------------------|----------------------|
| Panel A: Privately Disagree | | | | |
| Treat | 0.0826** (0.0397) | 0.258*** (0.0563) | 0.206 (0.129) | 0.171*** (0.0450) |
| Mean | 0.121 | 0.190 | 0.214 | 0.173 |
| SD | 0.328 | 0.395 | 0.418 | 0.381 |
| IDs | 174 | 122 | 60 | 200 |
| Panel B: Privately Agree | | | | |
| Treat | -0.475 (0.391) | 0.0916 (0.280) | 0.187 (0.222) | -0.501 (0.379) |
| Mean | 0.257 | 0.509 | 0.423 | 0.373 |
| SD | 0.440 | 0.502 | 0.496 | 0.487 |
| IDs | 157 | 210 | 272 | 130 |
| Baseline guesses | ✓ | ✓ | ✓ | ✓ |
| Session Controls | ✓ | ✓ | ✓ | ✓ |
| Ind Controls | ✓ | ✓ | ✓ | ✓ |

t statistics in parentheses, standard errors clustered at the Zoom session level.

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Survey Evidence on Mechanisms

- In the endline survey, we measure participants' recall about the Zoom sessions they attended.
 - How many students attended the session;
 - How many expressed views agreeing/disagreeing with each topic;
 - How many stayed silent.
- Treatment participants have more accurate recall of the number of silent participants (64% T vs. 49% C)
- We also ask what they infer from silence: *Among those who stayed silent on this topic during the Zoom discussion, how many do you think privately “agree” and “disagree” respectively?*
 - Over 70% respondents correctly guess direction of selection bias into silence (balanced across C and T)
 - Treatment effects on endline beliefs are ~ 4 pp stronger for those who correctly guess selection bias

Related Literature

- Field evidence on **misperceived social norms**:
Bursztyn, González & Yanagizawa-Drott (2020), Bursztyn, Egorov & Fiorin (2020), Braghieri (2021), Bursztyn and Yang (2021)
This paper: Propose inattention to silence as an explanation.
- Evidence that people do not correctly learn from **“nothing”**:
Lab: Esponda and Vespa (2018) Enke (2020), Jin et al. (2021)
Finance/marketing: Hirshleifer & Teoh (2003), Li & Hitt (2007) , Giglio & Shue (2014)
This paper: Apply this concept to a political setting where silence and misperceptions are widespread and have meaningful impact.
- Social psychology literature on **pluralistic ignorance** and political science models about **spiral of silence**: Noelle-Neumann (1974), Glynn et al. (1995), Kuran (1997), Shamir & Shamir (2000), Scheufle & Patricia (2000), Bicchieri (2005), Duque (2018)
This paper: Formalize these ideas with a model and show dynamics.