

# The shades and shapes of the pink wave: Visual perspectives of the Women's March

Jonathan Homola  
Michelle Torres  
*Rice University*

*Washington University in St. Louis*

March 1, 2019

# ONE MARCH...



# ONE MARCH...



**Estimated 3.3m - 5.6m in the U.S.**

**Over 200,000 in Washington D.C.**

**Largest protests since the 70's**

## ...DIFFERENT PERSPECTIVES



## ...DIFFERENT PERSPECTIVES



## ...DIFFERENT PERSPECTIVES



## ...DIFFERENT PERSPECTIVES



## ...DIFFERENT PERSPECTIVES



# RELEVANCE OF VISUAL FRAMES

## Women and politics in the media

- Quantity → more or less coverage for female candidates?  
(Bystrom et al. 2001; Hooghe et al. 2015; Kahn 1994; Smith 1997)
- Information and facts → shift to broader issue coverage  
(Atkeson and Krebs 2008)
- Style → focus personal issues vs leadership, positive vs negative coverage (Aaldering and Van Der Pas 2018; Bystrom et al. 2001; Devitt 2002; Kahn 1994)
- Visual content → campaigns and appearance (Bauer and Carpinella 2018; Hayes et al. 2014)

# RELEVANCE OF VISUAL FRAMES

## Women and politics in the media

- Quantity → more or less coverage for female candidates?  
(Bystrom et al. 2001; Hooghe et al. 2015; Kahn 1994; Smith 1997)
- Information and facts → shift to broader issue coverage  
(Atkeson and Krebs 2008)
- Style → focus personal issues vs leadership, positive vs negative coverage (Aaldering and Van Der Pas 2018; Bystrom et al. 2001; Devitt 2002; Kahn 1994)
- Visual content → campaigns and appearance (Bauer and Carpinella 2018; Hayes et al. 2014)

## Framing social movements

- Mobilization
- Formation of attitudes and opinions (e.g. inclusiveness, evaluations of success, identification)
- Impact on policy change

# OBJECTIVES

## OBJECTIVES

- Analyze different dimensions of pictures of protests

# OBJECTIVES

- Analyze different dimensions of pictures of protests
  - Size

# OBJECTIVES

- Analyze different dimensions of pictures of protests
  - Size
  - Emotions

# OBJECTIVES

- Analyze different dimensions of pictures of protests
  - Size
  - Emotions
  - Underlying topics

# OBJECTIVES

- Analyze different dimensions of pictures of protests
  - Size
  - Emotions
  - Underlying topics
  - Source

# OBJECTIVES

- Analyze different dimensions of pictures of protests
  - Size
  - Emotions
  - Underlying topics
  - Source
- Analyze the relationship between elements of visual frames and political variables

# OBJECTIVES

- Analyze different dimensions of pictures of protests
  - Size
  - Emotions
  - Underlying topics
  - Source
- Analyze the relationship between elements of visual frames and political variables
  - Political leaning of the city

# OBJECTIVES

- Analyze different dimensions of pictures of protests
  - Size
  - Emotions
  - Underlying topics
  - Source
- Analyze the relationship between elements of visual frames and political variables
  - Political leaning of the city
  - Political leaning of the newspaper

# OBJECTIVES

- Analyze different dimensions of pictures of protests
  - Size
  - Emotions
  - Underlying topics
  - Source
- Analyze the relationship between elements of visual frames and political variables
  - Political leaning of the city
  - Political leaning of the newspaper
  - **More conservative outlets** ⇒ **Downplay size**

# OBJECTIVES

- Analyze different dimensions of pictures of protests
  - Size
  - Emotions
  - Underlying topics
  - Source
- Analyze the relationship between elements of visual frames and political variables
  - Political leaning of the city
  - Political leaning of the newspaper
  - **More conservative outlets** ⇒ **Downplay size**
- Expand the analysis toolkit!

# OBJECTIVES

- Analyze different dimensions of pictures of protests
  - Size
  - Emotions
  - Underlying topics
  - Source
- Analyze the relationship between elements of visual frames and political variables
  - Political leaning of the city
  - Political leaning of the newspaper
  - **More conservative outlets** ⇒ **Downplay size**
- Expand the analysis toolkit!
  - Visual STM

# OBJECTIVES

- Analyze different dimensions of pictures of protests
  - Size
  - Emotions
  - Underlying topics
  - Source
- Analyze the relationship between elements of visual frames and political variables
  - Political leaning of the city
  - Political leaning of the newspaper
  - **More conservative outlets** ⇒ **Downplay size**
- Expand the analysis toolkit!
  - Visual STM
  - GoogleVision API

## DATA AND METHODS

### Data: Women's March (January 2019)

- Getty: 2,492 images
- U.S. Newspaper covers (*Newseum*): 469 covers → 2,948 images (w/o publicity)
- Women's March Instagram: 82 images
- Women's March protests location: Wikipedia
- Ideology of newspapers: slant (Gentzkow and Shapiro 2010) and Twitter (Barberá 2018)
- Public: Clinton's vote share (county)

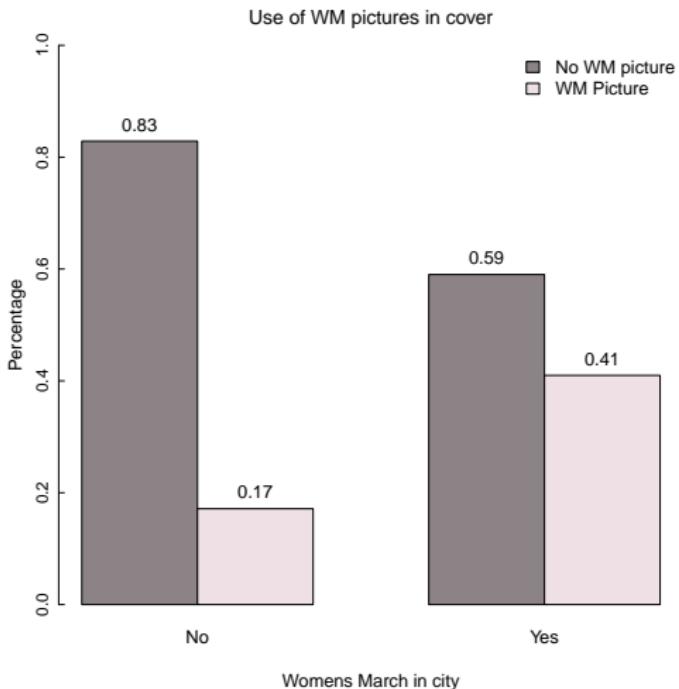
### Methods

- Human coding
- Bag of Visual Words (Torres 2019)
- Content retrieval with GoogleVision API

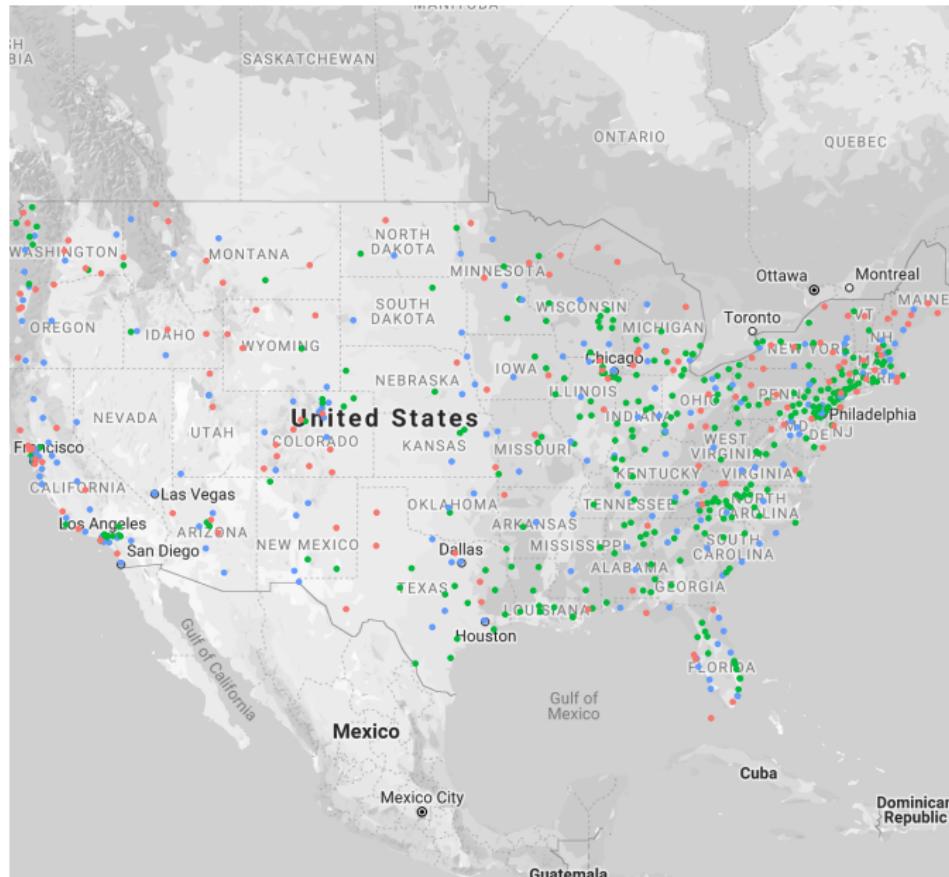
# COVERAGE: THE BASICS

# COVERAGE: THE BASICS

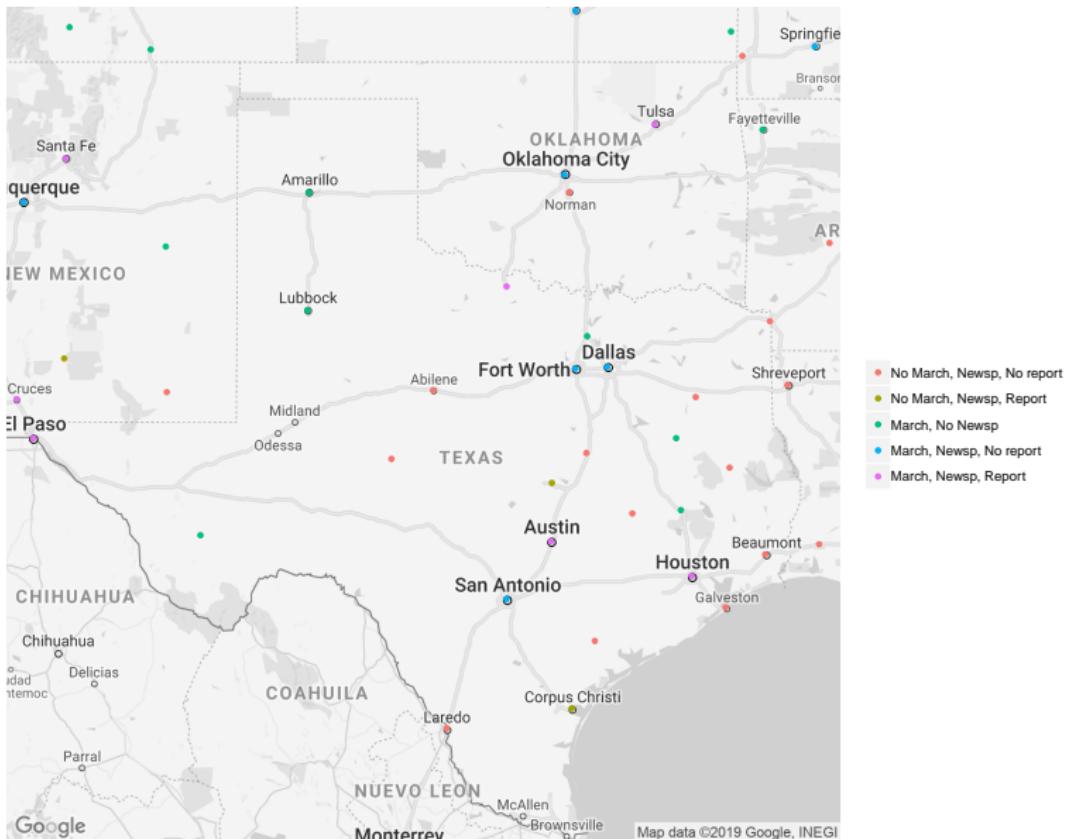
- Focus: (1) is there a picture, (2) if so, how many, and (3) was there a protest in the city where the newspaper is from?
- 124 (26.4%) out of 469 have an image of the WM
- 183 (39.0%) out of 469 had a WM protest
- Mean number of pictures among those publishing at least one picture: 1.37



## COVERAGE: THE BASICS (CONT.)

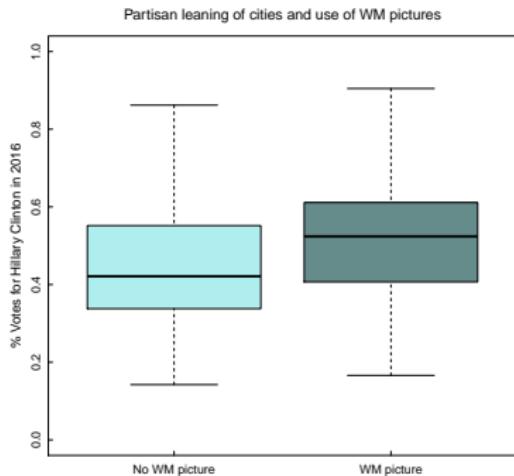


# COVERAGE: THE BASICS (CONT.)



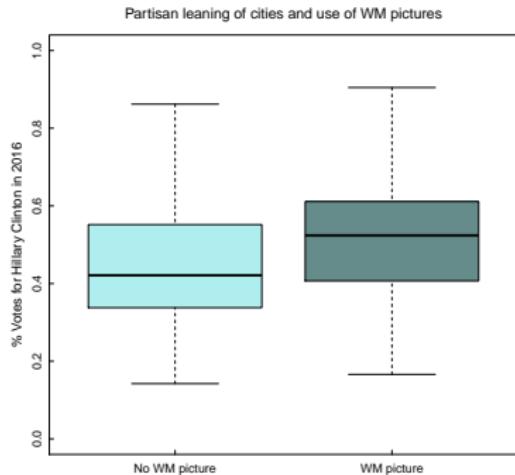
# COVERAGE: FACTORS

## Public's political leanings

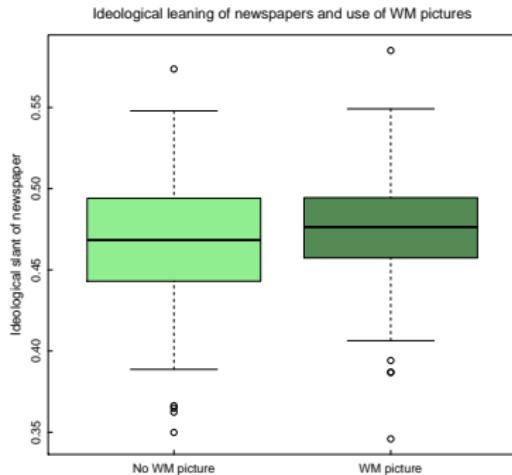


# COVERAGE: FACTORS

## Public's political leanings



## Newspapers' political leanings



## COVERAGE: FACTORS (CONT.)

	WM Picture	Number of WM pictures
	<i>Logit</i> (1)	<i>Poisson</i> (2)
March in the city	0.090 (0.053)	0.274 (0.210)
Vote for Clinton	0.499* (0.220)	2.731* (0.828)
Ideological slant	<b>0.982</b> (0.855)	<b>5.928</b> (3.248)
Northeast	0.052 (0.076)	0.119 (0.352)
South	0.002 (0.070)	-0.073 (0.366)
West	0.410* (0.073)	1.141* (0.289)
Constant	-0.567 (0.478)	-5.731* (1.856)
N	273	273
AIC	297.799	409.915

## CONTENT OF THE COVERS

- GoogleVision: <https://cloud.google.com/vision/>
- Labels found in each picture

## CONTENT OF THE COVERS

- GoogleVision: <https://cloud.google.com/vision/>
  - Labels found in each picture

## Full set of images



## CONTENT OF THE COVERS

- GoogleVision: <https://cloud.google.com/vision/>
  - Labels found in each picture

## Full set of images

## Only WM images



# VISUAL FRAMES

- Bag of Visual Words

# VISUAL FRAMES

- Bag of Visual Words
  - Extract features (pixel intensity change)

# VISUAL FRAMES

- Bag of Visual Words
  - Extract features (pixel intensity change)
  - Form visual words (clusters of mini-patches)

# VISUAL FRAMES

- Bag of Visual Words
  - Extract features (pixel intensity change)
  - Form visual words (clusters of mini-patches)
  - Create an Image-Visual Word matrix

# VISUAL FRAMES

- Bag of Visual Words
  - Extract features (pixel intensity change)
  - Form visual words (clusters of mini-patches)
  - Create an Image-Visual Word matrix
- Identification of frames: Structural Topic Model with 6 topics

# VISUAL FRAMES

- Bag of Visual Words
  - Extract features (pixel intensity change)
  - Form visual words (clusters of mini-patches)
  - Create an Image-Visual Word matrix
- Identification of frames: Structural Topic Model with 6 topics
- Prevalence covariates:

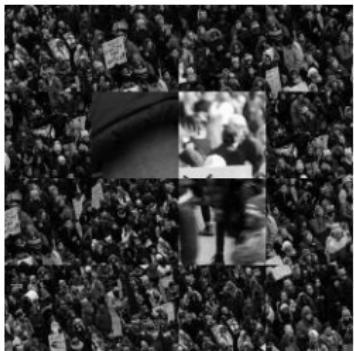
# VISUAL FRAMES

- Bag of Visual Words
  - Extract features (pixel intensity change)
  - Form visual words (clusters of mini-patches)
  - Create an Image-Visual Word matrix
- Identification of frames: Structural Topic Model with 6 topics
- Prevalence covariates:
  - Model 1: source (Instagram vs. Covers)

# VISUAL FRAMES

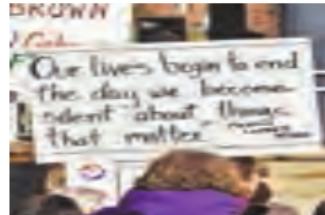
- Bag of Visual Words
  - Extract features (pixel intensity change)
  - Form visual words (clusters of mini-patches)
  - Create an Image-Visual Word matrix
- Identification of frames: Structural Topic Model with 6 topics
- Prevalence covariates:
  - Model 1: source (Instagram vs. Covers)
  - Model 2: ideology public, ideology newspaper, protest in city, and region

# EXAMPLES OF VISUAL WORDS



# THREE TOPICS: REPRESENTATIVE IMAGES

Small group  
w/ signs



Medium  
group



Dense  
Crowd

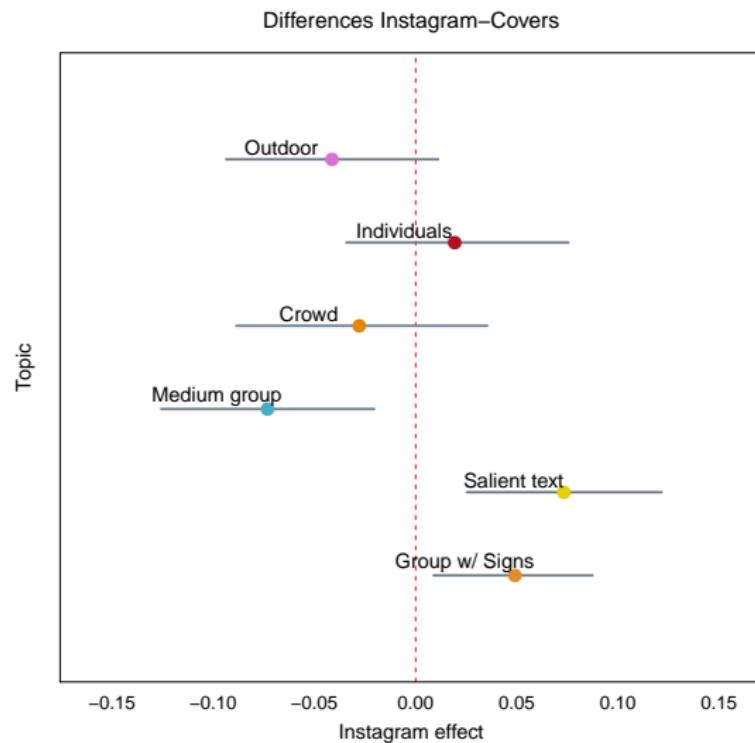


# THREE TOPICS: REPRESENTATIVE IMAGES

Women  
w/ hats

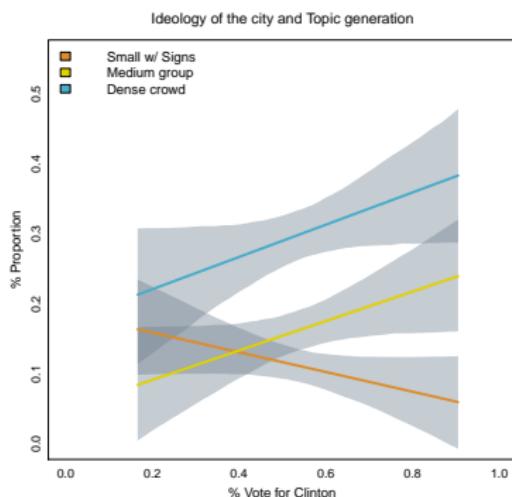


# MOVEMENT VS. MEDIA



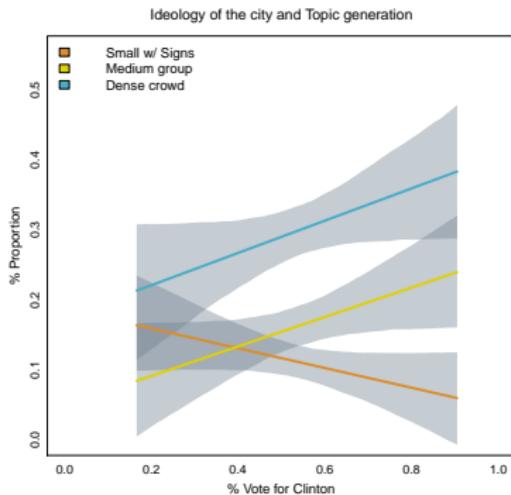
# FRAMES AND POLITICAL LEANINGS

## Public's political leanings

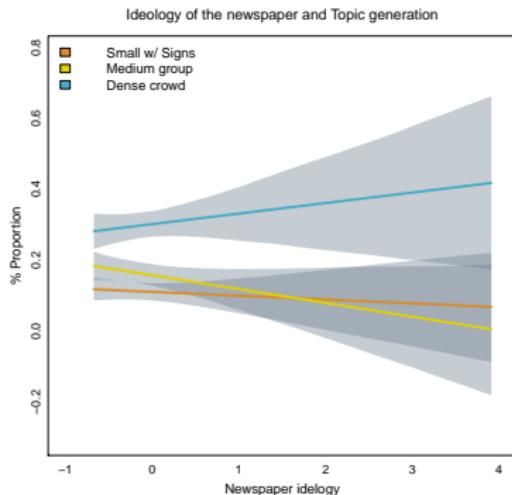


# FRAMES AND POLITICAL LEANINGS

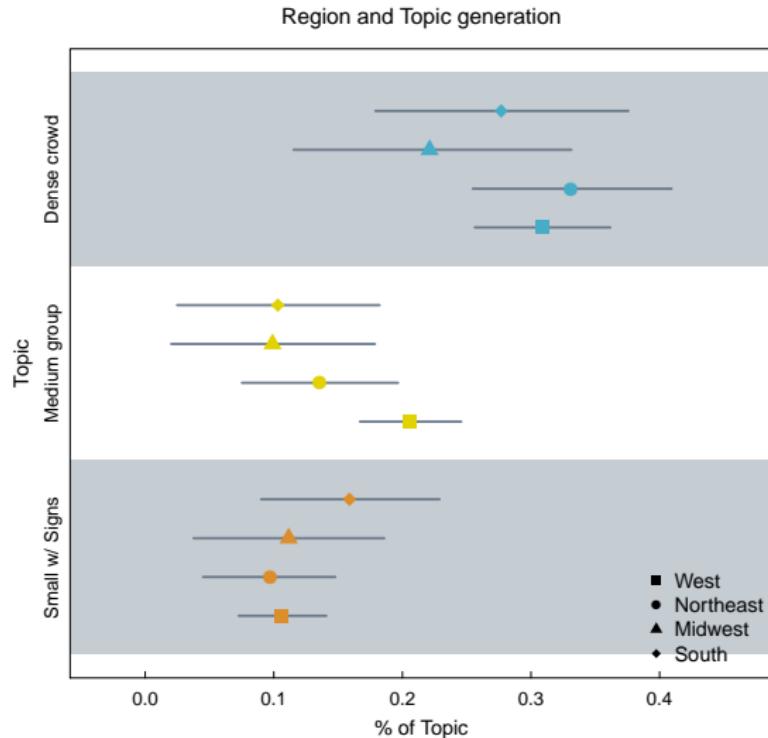
## Public's political leanings



## Newspapers' political leanings



# REGIONAL FOCUS



## EMOTIONAL CONTENT

- GoogleVision
- Face and emotion detection

# EMOTIONAL CONTENT

- GoogleVision
- Face and emotion detection



# EMOTIONAL CONTENT

- GoogleVision
- Face and emotion detection



# EMOTIONAL CONTENT

- GoogleVision
- Face and emotion detection



# EMOTIONAL CONTENT

- GoogleVision
- Face and emotion detection



# EMOTIONAL CONTENT

- GoogleVision
- Face and emotion detection



# EMOTIONAL CONTENT

- GoogleVision
- Face and emotion detection



## CONCLUSION

- Significant variation in newspaper coverage
- Ideology of public > newspaper ideology
- → Newspapers as opinion shapers vs followers?

## FURTHER RESEARCH

- Include text
- Use images from Twitter
- More factual data on protests
- Color-emotions
- Code newspaper presidential endorsements (?)

### Feedback / questions

- What is the most interesting aspect?

**Thank you!**

smtorres@wustl.edu  
homola@rice.edu