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Images that Matter

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Online Protests and the Mobilizing Role of Pictures

Introduction

- Today, simply sharing social media messages should be seen as a form of participation that helps social movements achieve their intermediate and longer-term goals.
  -Barberá et al. 2015; González-Bailón et al. 2011; Theocharis et al. 2015

- **Social movements** are groups protesting against a status quo and seeking some sort of social change. -Tarrow 2011

Introduction

- We consider **social media messaging** as a meaningful way to help a social movement succeed and treat retweets as a form of political participation worth studying.

Hypotheses

Hypothesis 1 (H1) (**General Image Effect**)

"Compared with protest messages without images, messages with images will attract more online attention and recruit more new online participants."

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- The more rapidly people can process pro-mobilization information, the more likely they are to join the action, underscoring the potential importance of images in the context of protest mobilization.

- Images trigger stronger emotional reactions than written or spoken information. -Barry 1997; Grabe and Bucy 2009; Graber 1996

Hypothesis 2 (H2) (**Anger**)

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- **Anger** "emerges in situations when people are threatened or find obstacles blocking their path to reward" -Brader and Marcus 2013, 179

- **Anger** motivates individuals to act to find a solution to the threat or to remove the existing obstacle.
  -Brader and Marcus 2013; Valentino et al. 2011

Hypothesis 3 (H3) (**Enthusiasm**)

"Messages with images that generate **enthusiasm** will attract more online attention and recruit more new online participants."

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- Political ads triggering **enthusiasm** motivate participation and strengthen party loyalty. -Brader 2005

Hypothesis 4 (H4) (**Fear**)

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- **Fear**-evoking information is likely to make people devote more attention to an issue and act on it. -Brader 2005; Marcus, Neuman, and MacKuen 2000

Hypothesis 5 (H5) (**Sadness**)

"Messages with images that generate **sadness** will attract less online attention and recruit fewer new online participants."

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- **Sadness** "motivates withdrawal and more effortful processing of information, encouraging individuals to accept the loss, reflect on their situation, and change goals and plans accordingly"
  -Brader and Marcus 2013, 176-77

Data, Measurements and Methods

And its relation to the material covered in class

Gathered Data

- Looked at a specific protest: ShutdownA14
  - On April 14, 2015, all over the United States
- Gathered data from twitter
  - #ShutdownA14 #BLM & other hashtags
  - 150 324 Tweets by 67 484 unique users
  - 43.2% contained an image (only 9 458 unique ones however)

Measurement of General Image Effect

- Attention and Diffusion as main operationalizations
  - Attention: Number of retweets
  - Diffusion: Number of people whose first post about the topic was a retweet (only #shutdownA14)

Method to ensure validity

Alternative explanations and control variables:

- Alternative emotional mechanisms
  - Disgust, expectation of success & social collective identity
- Topics in the text messages
- Salient image features
  - Text in the image, Police,...
- Characteristics of the user
  - Number of followers, friends, and tweets
  - Time

Measurement

- Main variables:
  - Attention and diffusion
- Explanatory variable: tweet contains an image
- Mechanism variables:
  - How much anger, enthusiasm, sadness & disgust the images provoked (1-10)
  - Whether a protest was shown: Expectation of Success
  - Whether a symbol was present: Social collective identity
- Focused validity on top 1000 most tweeted images
  - 5 people evaluating

Variable	Description (unit of analysis = original tweet)
Outcome variables	
BLM and A14 tweets (attention)	Number of retweets for tweets mentioning any of BLM hashtags/keywords from Table 1
A14 new users (diffusion)	Number of retweets from users mentioning the A14 hashtags/keywords for the first time
Explanatory variables	
Image	Whether or not the tweet contains an image
Anger	Average anger score evoked by the image (0-10)
Enthusiasm	Average enthusiasm score evoked by the image (0-10)
Fear	Average fear score evoked by the image (0-10)
Sadness	Average sadness score evoked by the image (0-10)
Disgust	Average disgust score evoked by the image (0-10)
Symbol	Whether or not the image contains a symbol
Protest	Whether or not the image is of a street protest
Control variables	
Number of followers	Number of followers of original tweeter
Number of friends	Number of friends of original tweeter
Number of previous tweets	Number of previous tweets by the original tweeter in the dataset
Time	Six-class categorical variable (each class is a four-hour break)

BLM = Black Lives Matter.

Measurement Method

- 9 458 images needed to be labeled
- Labeled by humans
- Rated on a scale from 1-10 for each emotion
- Work done by Mechanical Turks and research assistants
  - Crowdsourcing platform by Amazon

Figure 3. Examples of images significantly evoking the four hypothesized emotions.

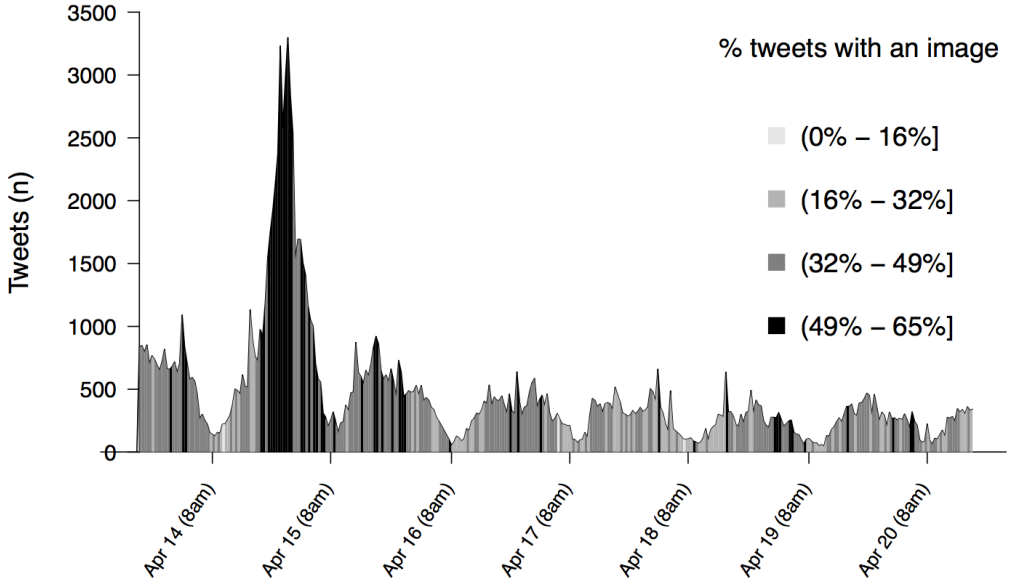
Relation to material covered in class

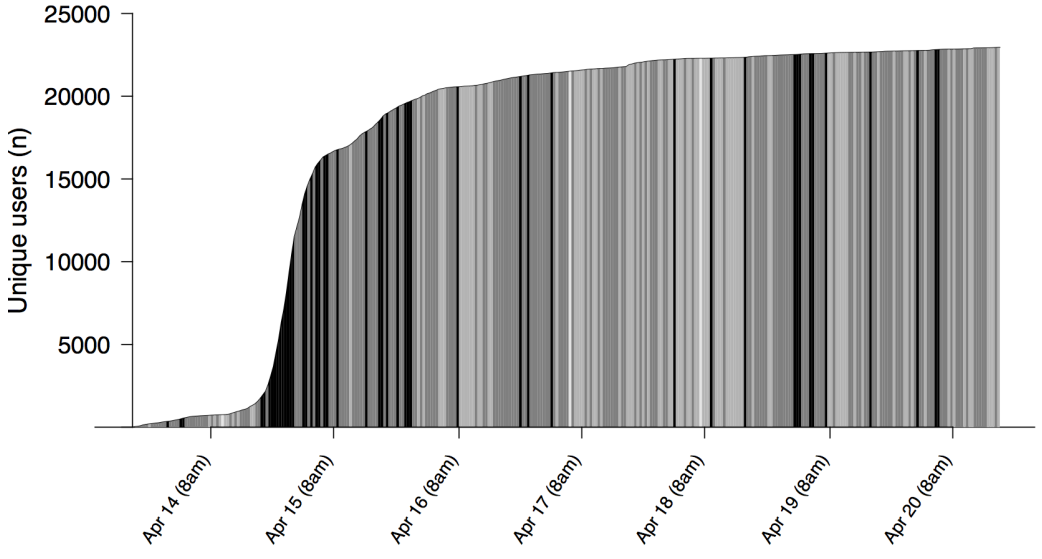
- Labeling of images very time consuming
- Could be automized by computer vision
- This data could be used as a dataset for future models
- Easier research in the future on larger data due to Computer vision
  - Train emotion detection model on data from 7 days to look at data from 7 years

Main Results

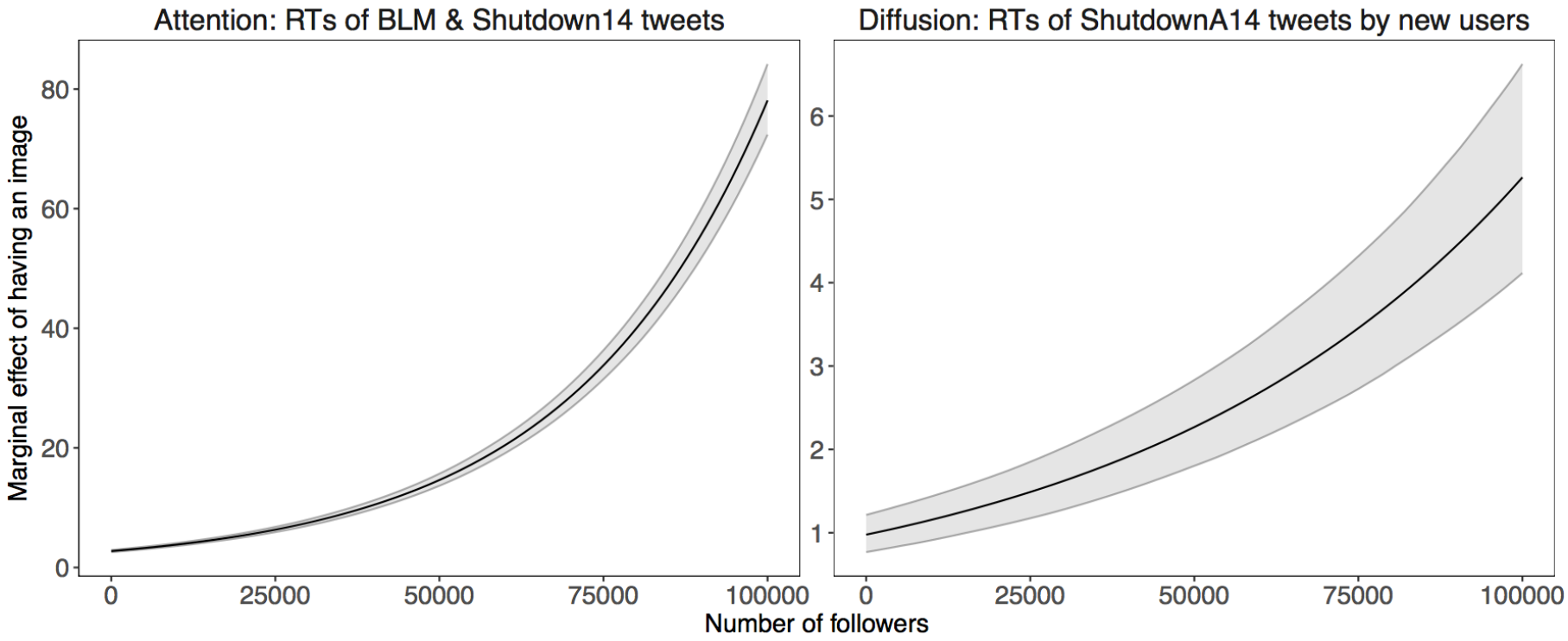
+ Limitations and alternative explanations

Timeline of ShutdownA14

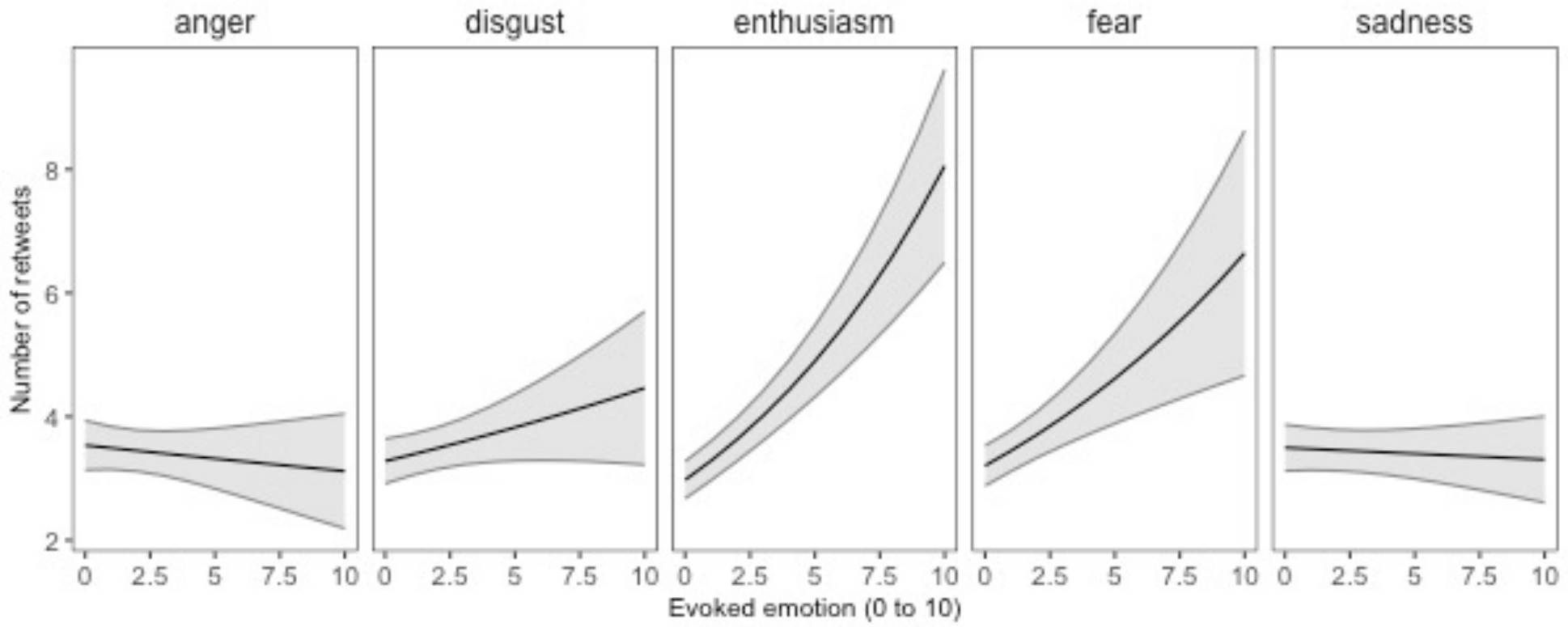




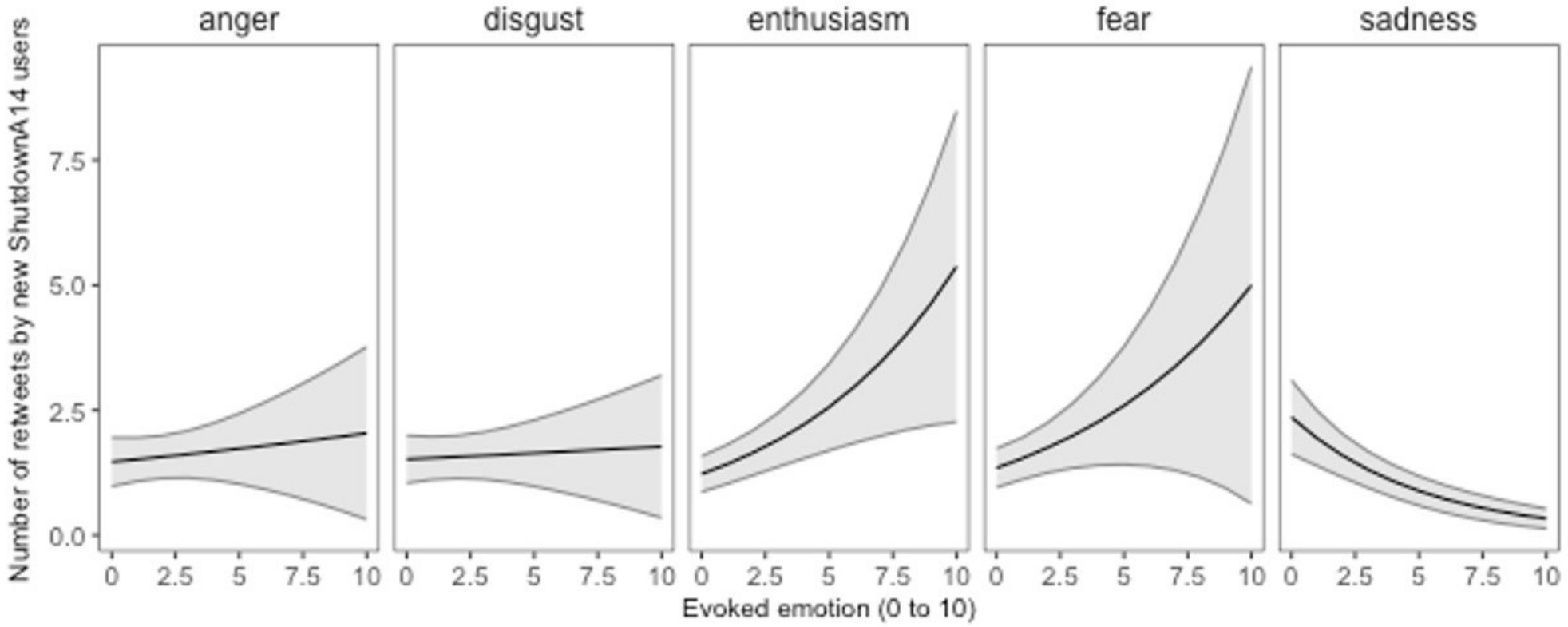
Marginal Effect of Tweets with Images



Predicting Attention



Predicting Diffusion



Why should we trust these results?

Clear statistical significance

Large real-world dataset

In line with previous research

Limitations and alternative Explanations

- Emotions are hard to test
- Accuracy of annotators?
- Causal conclusions depend on...
  - validity of labels
  - control for alternative explanations (symbol, protest)
- Based on a single protest

Possible Future Research

- Influence of demographics of annotators
- More rigorous research design
- Different political contexts

Conclusion

- Images and their emotional content have significant impact on human behavior!
- Ethical and political implications

Thanks for your attention

Questions?