Beyond the #justice hashtags

Understanding digital participation after police-involved Deaths

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How is justice expressed through tweets in the context of events that reflect police violence against citizens?

What is the impact of using different methods for detecting relevant content?
- Hashtags
- Machine Learning
Detecting justice discourse

Two methods

◇ Hashtags (text included by user)
◇ Machine learning (automated classification via algorithm)

Impact

◇ Amount of activity
◇ Number of participants
◇ Network size and structure
12 April: Arrest of Freddie Gray by BPD

18 April onward: Protests

19 April: Death of Freddie Gray (attributed to injuries sustained during arrest/transport by police)

25 April: Protests begin to turn violent

27 April: Funeral of Freddie Gray
Riots, looting
Curfew, National Guard called out

1 May: Charges filed against 6 officers involved

Pre-death

Riots and Unrest

Post-Riot
Justice

Public perceptions of justice (esp. procedural justice)
- Compliance with the law
- Cooperation with the police

Physical health, mental health, and a host of other social consequences

Sunshine and Tyler, 2003; Schulhofer et al., 2011
Social media is relevant to justice

Digital collective action (Van Laer & Van Aelst, 2009)

Relationship between social media and activities on the ground

◇ Political activity

◇ Voting (Vissers and Stolle, 2014; Vitak 2010)

◇ Social movements

◇ #Occupy (Conover, 2013), #BlackLivesMatter (De Choudury, 2016; Olteanu, 2015)

◇ Protests

◇ Ferguson (He et al, 2015; Hong et al, 2016, Bonilla and Rosa, 2015)

“..shaping the nature of civic engagement in the digital age.”
-Gordon et al, 2013
Identifying relevant social media

Hashtags

- Important and commonly used approach
- Potential to introduce bias (Tufecki, 2014)
Data

Twitter Historical Powertrack
Geolocated tweets (GNIP) from Baltimore, MD
✦ >5 million
✦ 5 April to 14 May 2015
Unique users
✦ 68k

Vast majority of tweets unrelated to justice
Tweets in Baltimore

Riots

Death

Post-riots
Which tweets are about justice?

- Riots
- Death
- Post-riots
Hashtag-based justice communications

Tweets containing “justice” string in hashtag
◇ over 300 unique hashtags (~220 ignoring capitalization)
◇ dozens of variants on “justice for Freddie Gray” alone
   ◇ #JusticesForFreddieGray, #JUSTICES4FREDDIEGRAY,
      #JusticeFreddieGray, #justiceforfreddygrey, #JusticeForFreddyGray,
      #JusticeForFreddy, #justiceforfreddiegrey, #JusticeForFreddieGray,
      #JusticeForFreddieGra, #JusticeForFreddieG, #JusticeForFreddie,
      #justiceforefreddiegrey, #Justice4Fredrick,#Justice4FreddyGrey,
      #justice4freddygray, #Justice4FreddieVideo,#justice4freddiegrey,
      #Justice4FreddieGray, #Justice4FreddieG, #justice4freddieEveryday,
      #Justice4Freddie, #freddieGrayJustice
Machine learning: justice-related communications

Tweets discussing

- Events/actions of actors in criminal justice system (includes elected officials that drive criminal justice and policing)
- Policies, processes and procedures
- Responses by individuals or groups to these actions, policies, or procedures
Machine learning to identify relevant tweets

Peaceful Protest: 0.84
Crowds: .96
Police: 0.24
Riot: 0.08
How precise are these methods?

100 randomly selected tweets from hashtag and ML data
Hashtag and ML precision very similar (91 true positive)
Are the same actors influential?

- Consider actors who rank in Top 50 for
  - Network In-degree,
  - Network Out-degree, or
  - Total justice tweets

- ~100 unique actors make threshold for each data set

- Only 31 appear in both

- Influential actors (based on machine learning)
  - In-Degree: 10 of top 50
  - Out-Degree: 23 of top 50
  - Tweets: 18 of top 50
Conclusions

Machine learning vs. hashtag-based approaches to identify justice-related discourse provide different perspectives on

• Amount of activity
• Number of participants
• Types of participants
• Network size and structure
• Temporal patterns

Some of the most prolific tweeters, and influential network actors, rarely/never use hashtags

Reliance on a hashtag-based approach risks systematically distorting our understanding of digital engagement with contentious social issues such as justice
Thank You!

Questions?

Comments?

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