

# Contextual Affective Analysis: A Case Study of People Portrayals in Online #MeToo Stories

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# Background: The #MeToo Movement

2006: Tarana Burke coins phrase "Me Too." Burke is a survivor of sexual assault and wanted to do something to help women and girls of color who had also survived sexual violence

Oct. 5 2017: Actress Ashley Judd accuses media mogul Harvey Weinstein in a breaking story by The New York Times.

Oct 15 2017: Actress Alyssa Milano reignites "Me Too" with the tweet "If you've been sexually harassed or assaulted write 'me too' as a reply to this tweet," and it quickly turned into a movement.

Oct 18 2017: Olympic gymnast McKayla Maroney tweets that she was sexually assaulted by former team doctor Lawrence G. Nassar

...

Jan 23 2019: An article published Wednesday online in the Atlantic contains new allegations against "X-Men" Director [Bryan Singer](#),

<https://www.chicagotribune.com/lifestyles/ct-me-too-timeline-20171208-htmlstory.html>



Jan 13, 2018

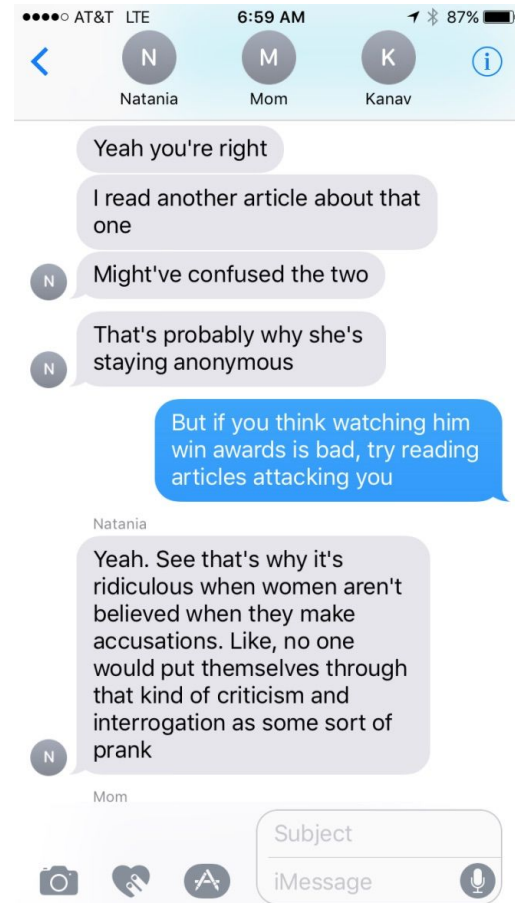
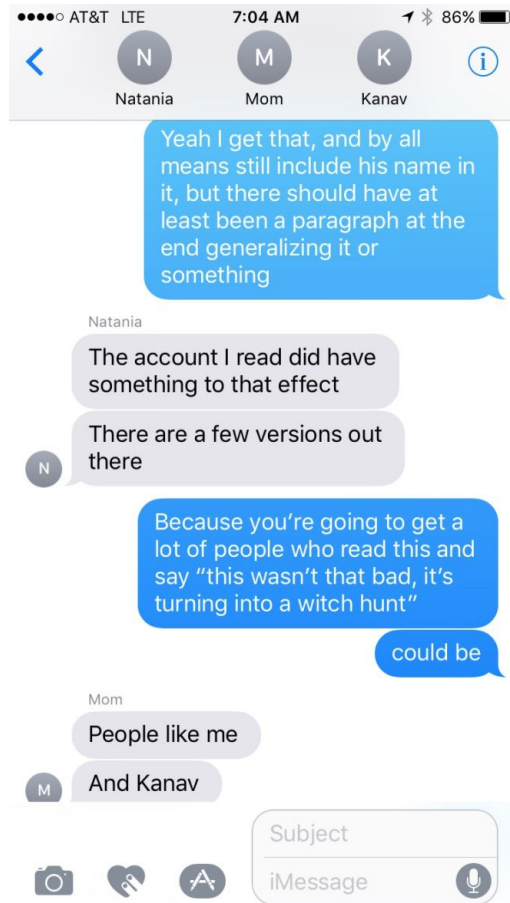
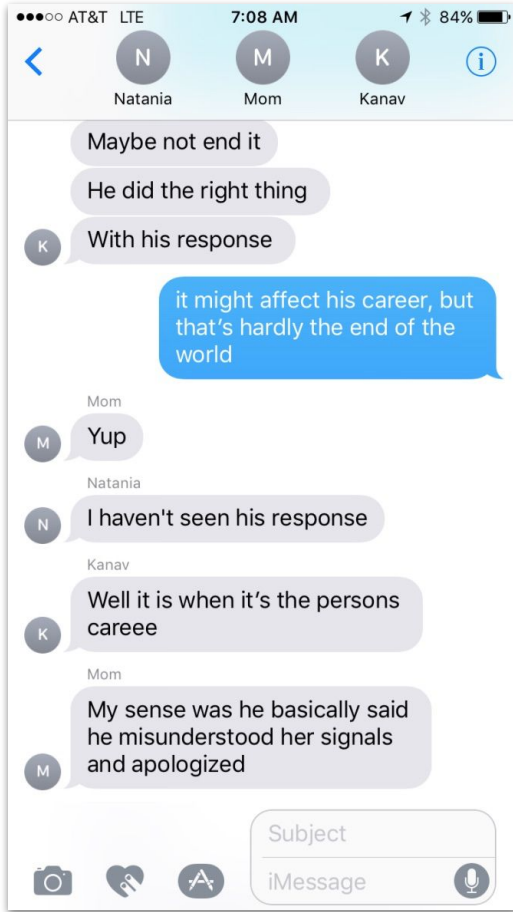
*babe*

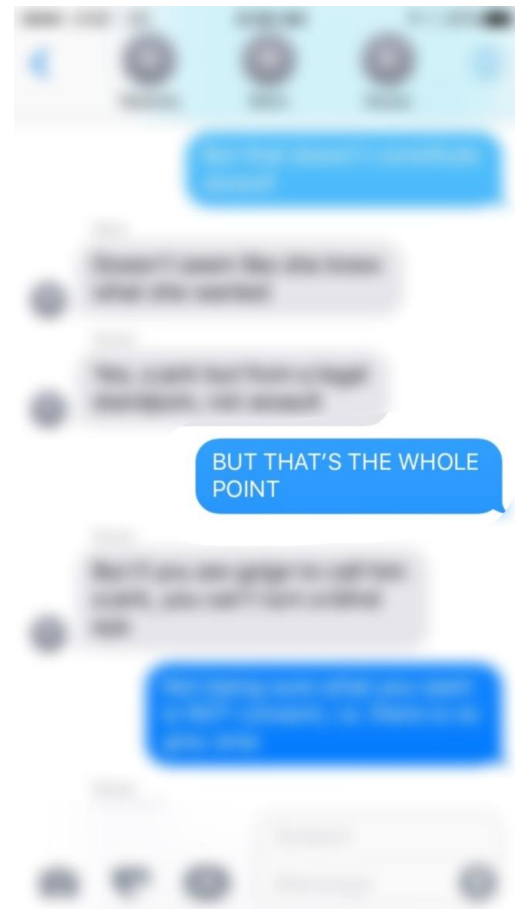
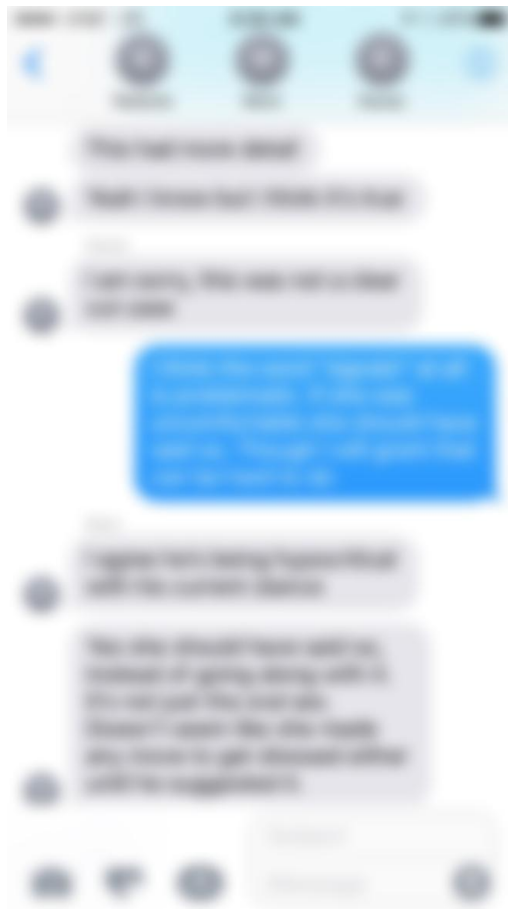
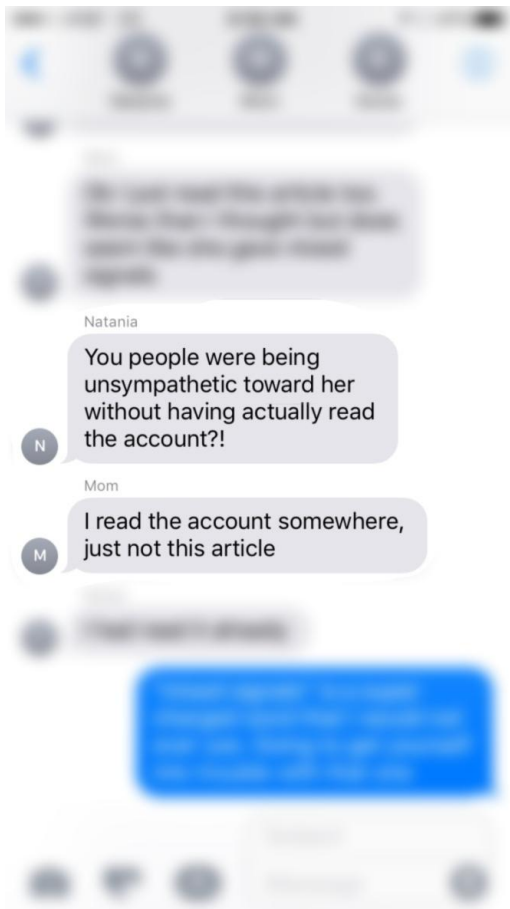


by *Katie Way*

<https://babe.net/2018/01/13/aziz-ansari-28355>







# Importance of Power and Agency in Narratives of Sexual Harassment

“The single most distressing thing to me about this story is that the only person with any agency in the story seems to be Aziz Ansari. The woman is merely acted upon.”, Bari Weiss, New York Times

Something inherently important about portrayals of power and agency: the type of response they elicit from readers

<https://www.nytimes.com/2018/01/15/opinion/aziz-ansari-babe-sexual-harassment.html>



# Importance of Power and Agency in Narratives of Sexual Harassment

“Victim” vs. “Survivor”

- [Even this distinction is problematic]
- Victim: Someone who underwent trauma; evokes pity
- Survivor: Someone who fought through trauma; evokes admiration

Tarana Burke described her goal in founding the #MeToo Movement as:  
“**empowerment through empathy**”

<https://metoomvmt.org/>

Spry, Tami. "In the absence of word and body: Hegemonic implications of "victim" and "survivor" in women's narratives of sexual violence." *Women and Language* 13.2 (1995): 27.



# Affective Control Theory: valence, arousal, dominance

Three most important, largely independent, dimensions of word meaning are:

- Valence (positiveness–negativeness/pleasure– displeasure)
- Arousal (active–passive)
- Dominance (dominant–submissive)

Mohammad, Saif. "Obtaining reliable human ratings of valence, arousal, and dominance for 20,000 english words." *Proceedings of the 56th Annual Meeting of the Association for Computational Linguistics (Volume 1: Long Papers)*. Vol. 1. 2018.

Osgood, C.; Suci, G.; and Tannenbaum, P. 1957. *The Measurement of Meaning*. Illini Books, IB47. University of Illinois Press





# Research Questions

The #MeToo movement has largely been viewed as “empowering” but journalists have a choice in how they portray people (victim vs. survivor)

In news articles about the #MeToo movement:

- Who is portrayed as powerful?
  - Women? Men? Accusers? Accused? Someone else?
- Who is portrayed as sympathetic?
- Who is portrayed as having high agency?
- How do these portrayals differ across narratives and news outlets?



**How do we measure power, agency, and sentiment?**



# Connotation Frames (Rashkin 2016)

She pushed him away

How do you think **she** feels about the outcome of this event?

Positive    Either Positive or Neutral    Neutral    Either Negative or Neutral    Negative    Can't have feelings

How do you think **he** feels about the outcome of this event?

Positive    Either Positive or Neutral    Neutral    Either Negative or Neutral    Negative    Can't have feelings

How the **writer** feels about **she**:

Positive    Either Positive or Neutral    Neutral    Either Negative or Neutral    Negative

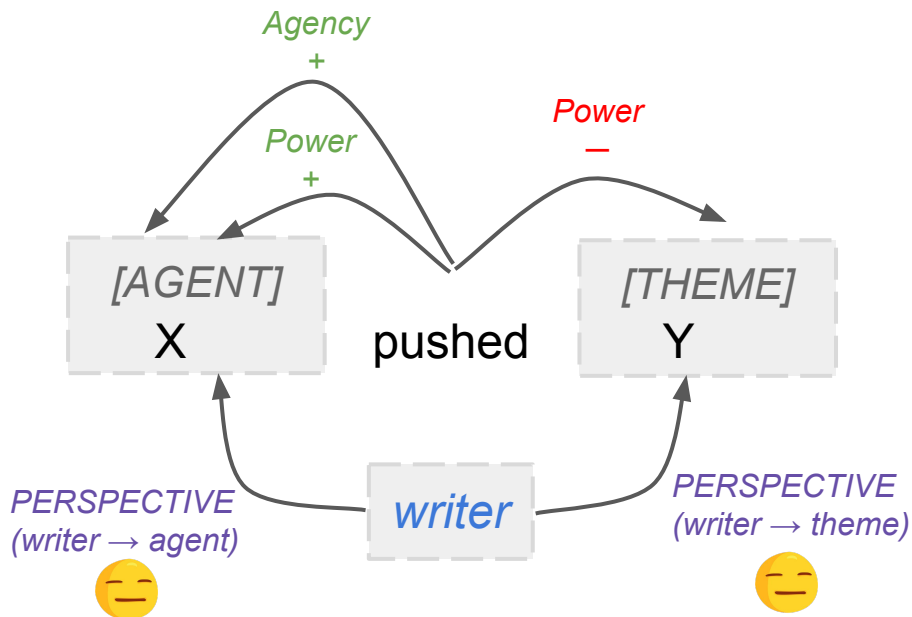
Annotations on **verbs** for various traits from various perspectives

Rashkin, Hannah, Sameer Singh, and Yejin Choi. "Connotation Frames: A Data-Driven Investigation." *Proceedings of the 54th Annual Meeting of the Association for Computational Linguistics (Volume 1: Long Papers)*. Vol. 1. 2016.

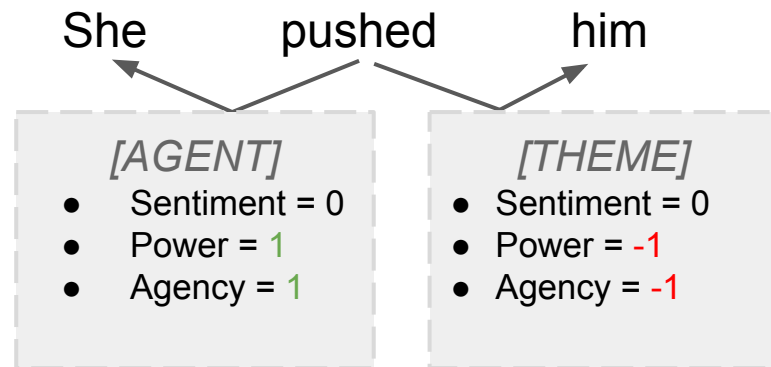
Sap, Maarten, et al. "Connotation frames of power and agency in modern films." *Proceedings of the 2017 Conference on Empirical Methods in Natural Language Processing*. 2017.



# Translate verb scores to people scores



**Connotation Frames**



**Contextual Affective Analysis**



# What extensions do we need beyond existing annotations?

- How do we handle verbs without annotations?
  - Ignore them -- only include annotated verbs in analysis
  - Supervised learning / label propagation
- Each verb has a single annotation for each dimension

She pushed him away

She pushed herself to work harder

- Verbs have different connotations in different contexts



# Generating Contextualized Lexicons

Given a corpus and a set of training verbs (with *uncontextualized* connotation frame annotations):

- Generate an uncontextualized representation for each training verb  $v$ :
  - Extract the ELMo embedding for every instance of  $v$
  - Take the average of these token-level embeddings
- Train a classifier (logistic regression) using the uncontextualized training examples
- For every instance of any verb in the corpus:
  - Extract its ELMo representation
  - Use the trained classifier to predict a *contextualized* score for the verb



# Full Pipeline

- Preprocess the corpus:
  - Perform coreference resolution, NER tagging, and parsing to obtain [entity, verb, relation] tuples:
    - “Grace pushes Aziz”
    - [*Grace, push, subject*]
    - [*Aziz, push, object*]
- Score verbs for power, agency, and sentiment *in context*
- Obtain a corpus-level score for entity *E* by averaging the verb scores for every [*E*, verb, relation] tuples



# Analysis of #MeToo Data





# Data

- Gathered corpus of newspaper articles and blog posts containing the keyword *#metoo* using NewsApi
- Two data pulls:
  - November 2, 2017 - January 31, 2018
  - February 28, 2018 - May 29, 2018
- Discarded 404 errors, videos, non-English articles and **removed duplicates**
- **27,602** articles across 1,576 outlets
- 3,132,389 entity-verb tuples



# Who are the most powerful, sympathetic, and high agency people?

**Most Positive:** Kara Swisher, Meghan Markle, Frances McDormand, Oprah Winfrey, Jimmy Kimmel

**Most Negative:** Bill Cosby, Harvey Weinstein, Eric Schneiderman, Ryan Seacrest, Woody Allen

**Highest Power:** Eric Schneiderman, the #MeToo movement, Congress, Twitter, Donald Trump, Democrats, Jimmy Kimmel, Roy Moore

**Lowest Power:** Leeann Tweeden, Andrea Constand, Kara Swisher, Uma Thurman, Matt Damon

**Highest Agency:** Judge Steven O'Neill, Frances McDormand, Russell Simmons, Congress, Donald Trump, The #MeToo movement

**Lowest Agency:** Kara Swisher, the United States, Hollywood, Meryl Streep, Hillary Clinton, Andrea Constand

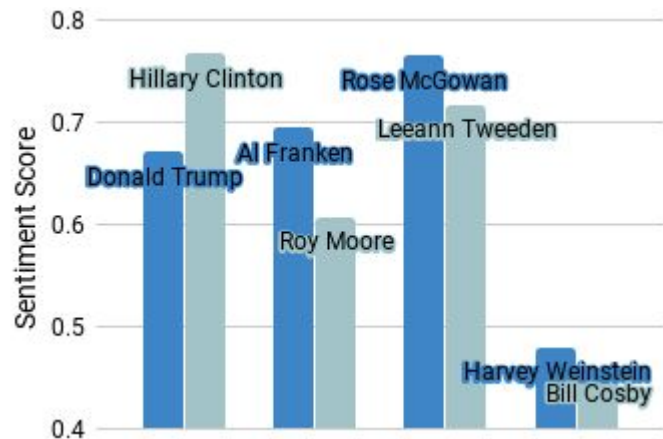
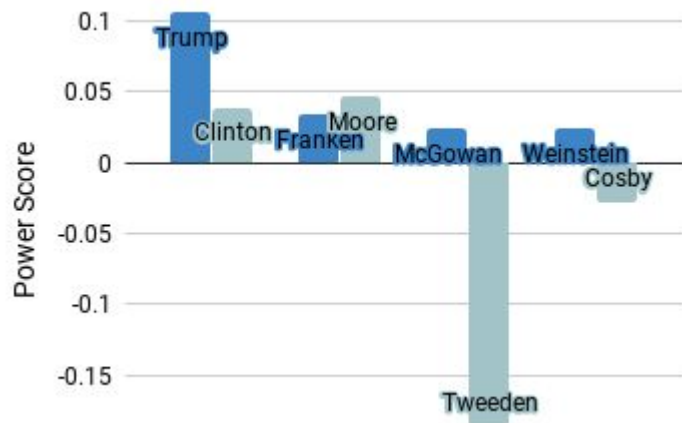


# Who are the most powerful, sympathetic, and high agency people?

- Male accused are portrayed with negative sentiment but with high power
- Female accusers are portrayed among the most least powerful entities
- Prominence of 3rd party commenters:
  - Lots of positive sentiment and often high-powered
- Prominence of abstract entities: the #MeToo movement, Congress, Twitter
  - High powered, sometimes high agency



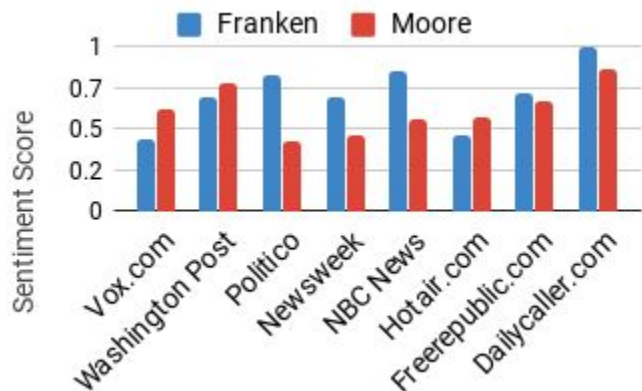
# How do similar people compare?



- Rose McGowan and Leeann Tweeden are both portrayed with positive sentiment but Rose McGowan has much higher power
- Trump has higher power but Clinton has more positive sentiment
- Politicians Al Franken and Roy Moore have more positive sentiment than Weinstein and Cosby



# Cross-outlet comparison: journalistic bias



**Left-leaning (Democratic):** Vox.com, The Washington Post, Newsweek, NBC.

**Right-leaning (Republican) outlets:** Hotair.com, Freerepublic.com, Dailycaller.com.

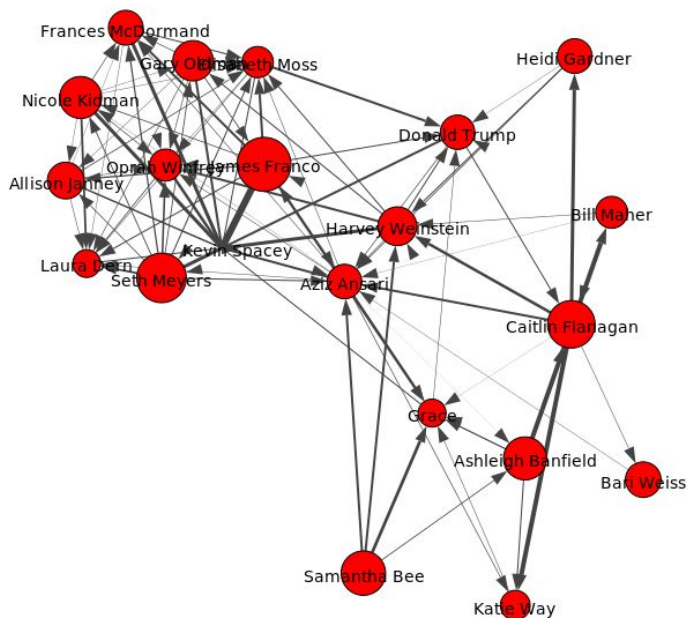
**Centrist:** Politico

- **Al Franken (Democrat)** and **Roy Moore (Republican)** were both politicians accused of sexual misconduct
- Sentiment portrayals does not fall along party lines
- Dailycaller.com articles present Al Franken as a scapegoat, forced out of office by other Democrats without a fair ethics hearing.

<http://dailycaller.com/2018/01/01/railroaded-the-real-reasons-al-franken-is-no-longer-a-senator/>  
<https://www.allsides.com/>



# Returning to our motivating example: visualize media landscape through a power graph

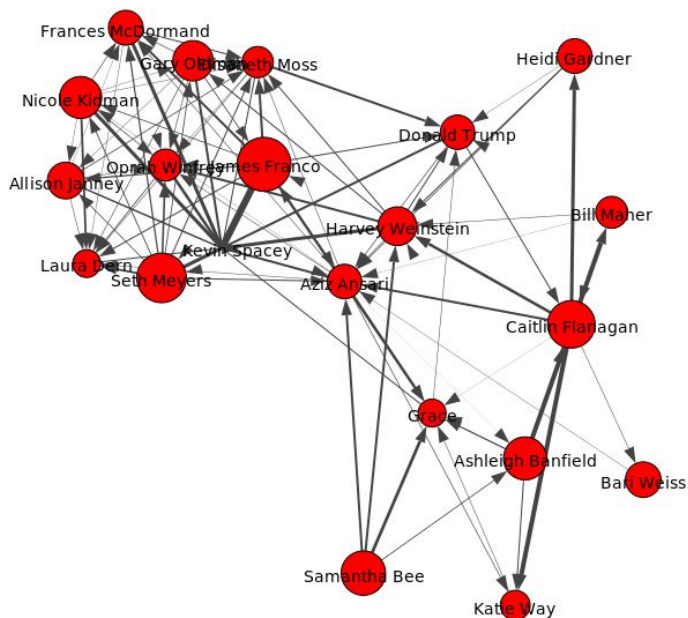


## Graph construction:

- All articles containing “Ansari”
- Keep only most frequent entities
- Edge from node A to node B suggests A is portrayed as more powerful than B



# Returning to our motivating example: visualize media landscape through a power graph



## Key points:

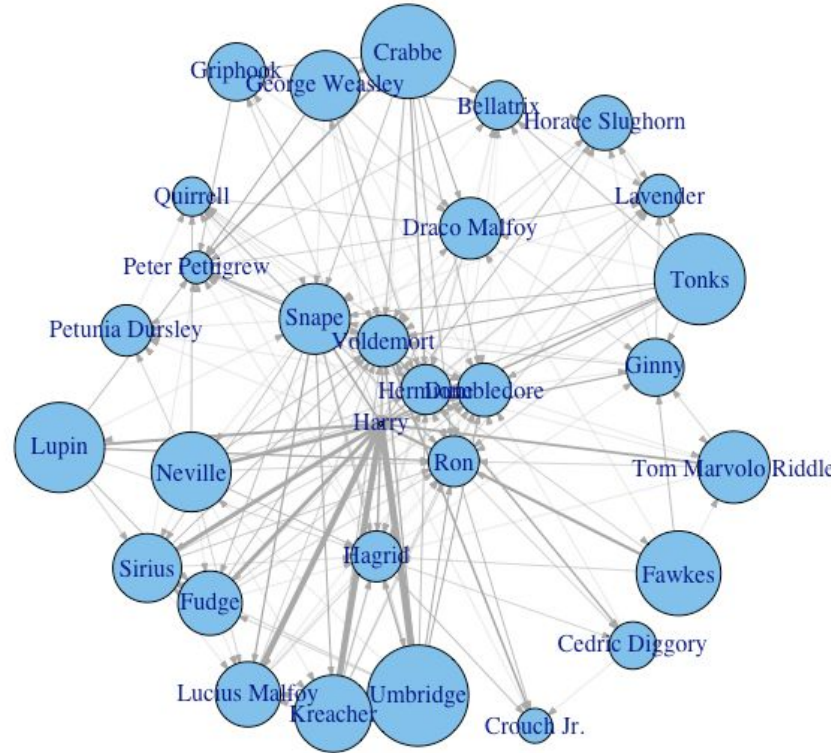
- Top left: focused on Golden globes
- Bottom Right: focused on Babe.net articles
- Journalists become powerful entities in the narrative: Caitlin Flanagan, Ashleigh Banfield, Bari Weiss, etc.
- Grace is generally less powerful than Aziz Ansari

**Quick Detour: What about other domains?**





# Power graph visualization of Wikipedia summaries of Harry Potter



- Voldemort was unable to **kill** him
- working behind the scenes to **kill** Harry
- attempts to seize the stone and **kill** Harry
- attempt to **murder** Harry
- tried to **murder** Harry
- Before Moody can **kill** Harry
- arrives to **kill** Harry
- Horcrux tries to **kill** him
- allow Voldemort to **kill** him

Missing 115 / 584 verbs -- 19.7%



# Conclusions and Future Work



# Conclusions

- We combine psychology literature and affective control theory with NLP connotation frames to develop *contextualized affective analysis*
- We examine dimensions of power, agency, and sentiment media coverage of the #MeToo movement
  - Female accusers are highly sympathetic entities but accused men are portrayed as more powerful
  - Journalists / other 3rd parties commenting on events become powerful entities in the narrative



# Limitations and Future Work

- Our analysis is restricted to verbs:
  - What about other parts of speech? Adjectives? Apposition nouns?
  - Syntactic features, quoting patterns, location of mention in the article, etc.
- Power, agency, and sentiment are not binary attributes
- Random sampling of articles may not be entirely representative
- Can we measure impact of articles? How do readers respond to them?
- How can we incorporate the role of social media?



# Ethical Considerations

- This work could be used to intentionally undermine social movements
- This work could be used to maliciously manipulate public opinion
- Our analysis of actual individuals could have unintended consequences on them and their reputations
  - Reiterating narratives of sexual harassment can be traumatizing
- Biases of researchers could have influenced results and analysis





Ok we've gotten to the root of the issue here-- the reason that we can read the same story and anju and I think "Aziz is a jerk" whereas our mom thinks "the woman should've been clearer" is that our mom has lower expectations for men

Mom

Ok point- make the men learn. But meantime, women should be clear. If there's no grey area, why create one

Haha I have way more experience

Natania

Haha

Kanav

Agree. Case closed.

Mon, Jan 15, 7:20 PM



**Thank you!**

