

# Structural and Semantic Impact of Online Collective Action

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## I. BACKGROUND AND RESEARCH QUESTION

Between 2017 and 2019, waves of collective change traversed social media as virally spreading trends. The MeToo movement, despite being already active for more than 10 years, in late 2017 began making worldwide sensation following widespread sexual-abuse allegations against powerful figures in the show business. In 2018, starting from Sweden and later extending to global-scale proportions in early 2019, the initiative of “School strike for climate” became popular especially among young generations [2]. Also known as Fridays for Future (FFF), it promoted participation in demonstrations to demand political leaders to take action to prevent human-induced climate change. These two phenomena had immediate consequences on traditional and new media discourses. Our goal is to shed light on the rhetorics of calls to action in the social justice discourse as mediated by online social networks.

While it is immediate to expect these initiatives to obtain some direct effects, such as the increasing popularity of related hashtags on Twitter, we are interested in a more variegated investigation, especially aimed at assessing the overall impact on the online social network communities. Indeed, while the MeToo movement and the FFF gave them renewed visibility, the topics of sexual harassment and climate changes were already discussed [3]. Specifically, our research question is whether these initiatives really changed the structure of the semantic network revolving around these topics. Given their similar intents of promoting social justice, we conjecture on whether this reflects in a better information flow that enables collective action [4].

## II. METHODOLOGY

To address this question, we collected two separate networks of semantic contents, related to the #MeToo and FFF protests, from Twitter. Data was extracted through Twitter APIs and entirely reproducible procedures that will be fully detailed in the final version [5]. The two networks are chosen in time periods that can be considered “pre” and “post” a main event. For instance, the results reported below refer to the #MeToo movement and compare semantic networks of tweet contents taken between April and June 2017, and between April and June 2018, with the main exposure of sexual harassment scandals of late 2017 in between. We investigate our research under two directions: (i) structural interconnection of the resulting semantic items and (ii) in-depth look of the semantic meaning of relevant keywords.

## III. RESULTS AND CONCLUSIONS

From the structural point of view, “pre” and “post” networks look quite similar. So, a naïve conclusion is that, despite the trend in popularity, nothing changed in the context of online social network rhetoric. However, a better comparative analysis shows a profound translational change in relevance and meaning of key nodes, e.g., see the example of Fig. 1 for the “pre-MeToo” and “post-MeToo” semantic networks. While retaining similar structural roles, the *agency* of verbs [6] is much more relevant in the post-MeToo network, thus hinting at a significant impact of the call to action. Hence, we can conclude that the online collective movement does not actually increase the amount of social effort, but steers it in a more effective direction, where *action* is really crucial. This analytic strategy may therefore provide an effective operational tool to monitor the evolution of collective discourse towards the collective action.

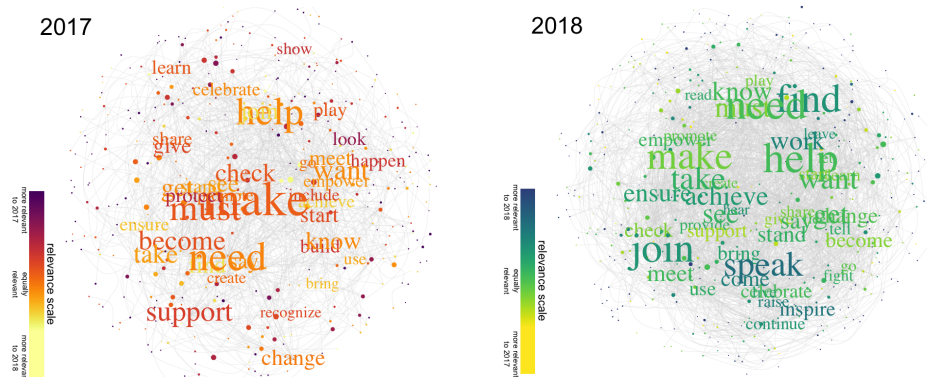


Fig. 1. Semantic network of verbs in the online social discourse on Twitter around “MeToo,” “Women,” and “Feminism.” Comparison between April-June 2017 (pre-MeToo, left) and April-June 2018 (post-MeToo, right).

## REFERENCES

- [1] E. F. Bloomfield, “Rhetorical constellations and the inventional/intersectional possibilities of #MeToo,” *J. Comm. Inq.*, vol. 43, no. 4, pp. 394-414, 2019.
- [2] G. Thunberg, “Our house is on fire,” *Speech at the 2019 World Economic Forum (WEF) in Davos*. Fridays For Future, available at: [https://www.fridaysforfuture.org/greta-speeches#greta\\_speech\\_jan25\\_2019](https://www.fridaysforfuture.org/greta-speeches#greta_speech_jan25_2019)
- [3] E. Cody, A. Reagan, L. Mitchell, P. Dodds, and C. Danforth, “Climate change sentiment on Twitter: An unsolicited public opinion poll,” *PLoS ONE*, vol. 10, no. 8: e0136092. <https://doi.org/10.1371/journal.pone.0136092>
- [4] R. Calogero, “Political consciousness and gender collective action,” *The Political Psychology of Women in US Politics*, no. 93, 2016.
- [5] O. Owoputi, B. OConnor, C. Dyer, K. Gimpel, N. Schneider and N. A. Smith, “Improved part-of-speech tagging for online conversational text with word clusters,” *Proc. NAACL*, 2013.
- [6] M. Formanowicz, J. Roessel, C. Suitner, A. Maass, “Verbs as linguistic markers of agency: The social side of grammar,” *Eur. J. Soc. Psych.*, vol. 47, no. 5, pp. 566-579, 2017.

