

**Post-publication review of:** Nkonde, M., Rodriguez, M. Y., Cortana, L., Mukogosi, J. K., King, S., Serrato, R., Martinez, N., Drummer, M., Lewis, A., Malik, M. M. (2021). Disinformation creep: ADOS and the strategic weaponization of breaking news. *Harvard Kennedy School (HKS) Misinformation Review*, 1(7). <https://doi.org/10.37016/mr-2020-52>

**Reviewed by:** Bruce Desmarais, Ph.D., Professor of Political Science, Penn State University. August 18<sup>th</sup>, 2021.

---

## Abstract

In this review I consider the connections between the evidence presented and conclusions drawn in Nkonde et al.'s analysis of the American Descendants of Slavery (ADOS) network on Twitter.

Nkonde, M., Rodriguez, M. Y., Cortana, L., Mukogosi, J. K., King, S., Serrato, R., Martinez, N., Drummer, M., Lewis, A., Malik, M. M. (2021). Disinformation creep: ADOS and the strategic weaponization of breaking news. *Harvard Kennedy School (HKS) Misinformation Review*. <https://doi.org/10.37016/mr-2020-52>

I present a brief summary of the research design and core conclusions. I then discuss some relevant literature on sampling from and characterizing distinct populations—networks, specifically—on Twitter. I then present analysis of a sample of tweets that I see as more accurately characterizing the ADOS network. I find that the conclusions drawn by the authors are supported primarily by their interpretation of a few selected tweets by ADOS leadership, and that the quantitative analysis is insufficiently connected to the conclusions.

## Article summary and critique

In this article the authors conduct quantitative and qualitative analyses with the overall objective of characterizing the online communication strategies of the American Descendants of Slavery (ADOS) “network”. Through various analyses of a large sample of tweets containing relevant key terms, and qualitative interpretation of tweets by ADOS organizational leaders, the authors distill a communication pattern that they characterize as “disinformation creep,” which is defined by the subtle manipulation of legitimate grievances to spin breaking news in a way that fits the grievance narrative.

The primary empirical evidence presented in the article is a series of tweets posted by the ADOS leadership. These tweets fit the patterns of “disinformation creep” presented by the authors. The authors also connect their tweet examples to a large scale quantitative analysis. The tweets that are highlighted in the paper (1) cover breaking news stories that the authors find to be associated with substantial spikes in the frequency of tweets in their data, and (2) are selected to fit the points that the authors want to make. This quote from the article presents the authors’ approach,

“The tweets in Figures 2-5 are examples of breaking news stories which led to a spike of activity within the ADOS network (which do not necessarily correspond to the overall spikes shown in Figure 1). We then chose the ones that best illustrated the point we wanted to make.”

Since it is largely outside of my area of expertise, I will not comment on the qualitative interpretations of the tweets presented in the article. I will, however, note that the authors do not discuss how they identified the news stories related to the frequency spikes in their data. The replication materials posted on Dataverse also do not provide code to replicate the analysis of news stories.

The authors also note some additional quantitative analysis, as quoted in the following paragraph,

“To analyze these tweets, we used a method called computational grounded theory (Nelson, 2020), a three-step approach to examining large volumes of text data that combines computational methods with in-depth qualitative analysis. We used the rtweet R library

**Post-publication review of:** Nkonde, M., Rodriguez, M. Y., Cortana, L., Mukogosi, J. K., King, S., Serrato, R., Martinez, N., Drummer, M., Lewis, A., Malik, M. M. (2021). Disinformation creep: ADOS and the strategic weaponization of breaking news. *Harvard Kennedy School (HKS) Misinformation Review*, 1(7).  
<https://doi.org/10.37016/mr-2020-52>

**Reviewed by:** Bruce Desmarais, Ph.D., Professor of Political Science, Penn State University. August 18<sup>th</sup>, 2021.

---

(Kearney, 2020) to gather timelines and follower lists, and networks. Following descriptive statistics, we then used structural topic modeling (STM) (Roberts, 2019) to estimate the general thematic content of the tweets. In the second step, we conducted a thorough deep read of all topics to categorize themes of interest, using the output from the STM as a guide (Rodriguez Storer, 2020) while reading tweets. The qualitative analysis can be understood as an inductive thematic analysis (Clarke et al., 2015). The third step involved using supervised machine learning methods to validate the resultant qualitative themes. In this step, we used a variety of established natural language processing models to examine whether our final themes held across the dataset.”

This is a dense description of the analysis. However, it does not appear that the article contains direct results reported from the timeline data, follower lists, networks, STM, or supervised machine learning. The replication materials do not include code to replicate any of the analysis described in this paragraph. I wish the selection of STM, as compared to other topic modeling approaches, would have been explained in more detail. The STM is used to analyze the effects of covariates on topic distributions, and the authors do not discuss what covariates, if any, are used in predicting topic distributions in the STM.

## Measuring user networks on Twitter

Though the core evidence presented in this article is represented by the example tweets highlighted in the figures, the authors do comment on two important quantitative features that they claim to identify. First, they find that the ADOS network displays a “lack of concern” with the COVID-19 pandemic. Second, they claim that the passing of Chadwick Boseman, the actor who played the film character Black Panther, “barely registered” in the ADOS conversation. Though specific statistics are not cited directly in support of these claims, Nkonde et al. summarize analyses of tweets collected via keyword searches, and characterize their results as assessing discussion by the ADOS Network. Keyword searches are valuable in finding tweets that cover a given topic, and identifying users who tweet about a given topic, but keyword searches are typically just the first step in characterizing the behavior of users who tweet about a given topic. For example, Barnard (2018) tracks discussion of #Ferguson to identify lists of activist and journalist Twitter users who discussed the Ferguson, Missouri protests that arose in response to Michael Brown’s killing. Williams et al. (2015) use keyword searches to identify users who tweet about climate-related issues, and then conduct further analysis of user behavior to classify individual users into distinct groups/networks (e.g., activists, sceptics). Jackson, Bailey and Foucault Welles (2018) use searches for the hashtag #GirlsLikeUs’ to identify potential members of the online advocacy community for transgender women, but then limit the advocacy network to be identified by those users who are retweeted or mentioned by another user who tweeted #GirlsLikeUs’.

For the purpose of identifying topics of discussion in which a network of users engage, I would expect to see a second round of data collection, beyond the initial keyword searches to gather tweets. Specifically, since the tweets analyzed in this article were gathered via keyword searches including “ADOS,” “LineageMatters,” or “AmericanDOS,” analysis of this corpus of tweets can indicate whether users combine these terms with discussion of specific topics (e.g., COVID-19, Boseman’s passing). However, if members of the ADOS network discuss these topics without using these key terms, that discussion will be missed through the analysis of tweets that used the respective key terms. This potential omission could have been avoided by collecting comprehensive, or sampled, timeline data for the users who tweeted, or tweeted frequently, on the key topics of interest.

**Post-publication review of:** Nkonde, M., Rodriguez, M. Y., Cortana, L., Mukogosi, J. K., King, S., Serrato, R., Martinez, N., Drummer, M., Lewis, A., Malik, M. M. (2021). Disinformation creep: ADOS and the strategic weaponization of breaking news. *Harvard Kennedy School (HKS) Misinformation Review*, 1(7).  
<https://doi.org/10.37016/mr-2020-52>

**Reviewed by:** Bruce Desmarais, Ph.D., Professor of Political Science, Penn State University. August 18<sup>th</sup>, 2021.

---

## Alternative ADOS network measurement and content analysis

As part of my review I attempted to replicate, in both the original form and with an alternative sampling approach, the quantification of attention to both COVID-19 and Boseman's passing among Twitter users in the ADOS network. In the first step, I obtained a rehydrated sample of tweets by running the "rehydrate\_tweets.R" script in the replication archive. Approximately half of the original tweets were available via the Twitter API, resulting in a rehydrated sample of 246,793 tweets. To construct a sample that more broadly represents the content discussed by members of the ADOS network, I gathered full time-line data from 500 accounts represented in the rehydrated sample. I sampled accounts at random, weighting the account in proportion to the number of tweets posted by that account in the rehydrated sample. For the selected accounts, I collect all available tweets that they posted prior to the last date on which one of their tweets appears in the rehydrated sample. The date threshold is intended to match the timeframe of the original data collection effort. This data collection effort resulted in a sample of 335,092 tweets. In order to further match this dataset to the rehydrated sample, I randomly selected tweets from my updated sample to match the same number of tweets per day for each day in the rehydrated tweet sample. The result is an alternative sample, which more broadly represents the contents of tweets posted by active members of the ADOS network.

I use both the alternative and rehydrated samples to investigate the attention of ADOS network members to the COVID-19 pandemic. In both samples I search for terms listed on Twitter's official list of COVID-19 related terms, augmented with additional terms from Keith (2021).<sup>1</sup> I simply tally the proportion of tweets that contains at least one of these high-precision terms, which can be seen as a lower bound on the proportion of tweets related to COVID-19. I find that approximately 4.6% of tweets in the alternative sample, and 3.2% of tweets in the rehydrated sample, contain at least one high-precision COVID-19 term. Are these high or low percentages? That is a relative question, and a bit challenging to answer. Keith (2021) studied the contents of tweets posted by 20 U.S. Senate candidates between 10/03/2020 and 11/03/2020, and found that approximately 11% were about COVID-19. This percentage is higher than that in the ADOS network, but that is to be expected given that all of the individuals in the sample are public figures, and the data was gathered during the period of the Fall 2020 COVID-19 wave in the U.S. Though not particularly high, I do not see this level of COVID-19 attention as justifying the conclusion that the network exhibits a "lack of concern" for the virus.

Chadwick Boseman passed on 8/28/20, but the viral tweet from his account announcing his death, which Twitter noted to be the most liked tweet in the history of the platform, was not posted until 10pm Eastern Time on 8/28.<sup>2</sup> As such, much of the discussion of Boseman's passing occurred the following day. Tweets including obvious keywords related to Boseman accounted for approximately 5% of the tweets on 8/29/20 in the alternative sample, and approximately 4% of the tweets in the rehydrated data. This is a high proportion of the discussion dedicated to a single individual, and the true percentage is likely higher, as some tweets probably reference his passing without mentioning some of the simple keywords for which I searched. This finding does not fit with the authors' claim that Boseman's passing "barely registered" in the ADOS network.

---

<sup>1</sup> See the Twitter COVID-19 list at <https://developer.twitter.com/en/docs/labs/covid19-stream/filtering-rules>.

<sup>2</sup> See <https://twitter.com/Twitter/status/1299808792322940928?s=20>.

**Post-publication review of:** Nkonde, M., Rodriguez, M. Y., Cortana, L., Mukogosi, J. K., King, S., Serrato, R., Martinez, N., Drummer, M., Lewis, A., Malik, M. M. (2021). Disinformation creep: ADOS and the strategic weaponization of breaking news. *Harvard Kennedy School (HKS) Misinformation Review*, 1(7).  
<https://doi.org/10.37016/mr-2020-52>

**Reviewed by:** Bruce Desmarais, Ph.D., Professor of Political Science, Penn State University. August 18<sup>th</sup>, 2021.

---

## Conclusion

In this article the authors investigate the communication patterns in ADOS-related tweets. They use both qualitative and quantitative methods. Most of the conclusions are based on qualitative interpretation of selected tweets posted by ADOS leadership. However, there is a large-scale data collection effort that is partially reported on in the paper, and the authors comment on a few patterns that appear to be quantitative in nature.

If I were reviewing this paper pre-publication, I would recommend that the quantitative analysis, which is sparsely reported on, and is not clearly connected to the central conclusions of the paper, be dropped. I would recommend that the authors focus their analysis on the discussion of selected tweets posted by ADOS leadership.

## References

- Barnard, Stephen R. 2018. "Tweeting# Ferguson: Mediatized fields and the new activist journalist." *New Media & Society* 20(7):2252–2271.
- Jackson, Sarah J, Moya Bailey and Brooke Foucault Welles. 2018. "# GirlsLikeUs: Trans advocacy and community building online." *New Media & Society* 20(5):1868–1888.
- Keith, Jacob. 2021. "Did COVID Infect Twitter? An analysis of campaign Tweets in 2020."  
[https://mdsoar.org/bitstream/handle/11603/21381/covid\\_twitter\\_honors\\_keith\\_jacob.pdf?sequence=1&isAllowed=y](https://mdsoar.org/bitstream/handle/11603/21381/covid_twitter_honors_keith_jacob.pdf?sequence=1&isAllowed=y)
- Williams, Hywel TP, James R McMurray, Tim Kurz and F Hugo Lambert. 2015. "Network analysis reveals open forums and echo chambers in social media discussions of climate change." *Global environmental change* 32:126–138.