

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/305488695>

Pro- and anti-vaccine advocacy on Twitter: An analysis of networks and discourses

Poster · June 2016

DOI: 10.13140/RG.2.1.4617.6247

CITATIONS

0

READS

174

1 author:



Elena Milani

University of the West of England, Bristol

7 PUBLICATIONS 2 CITATIONS

SEE PROFILE

Some of the authors of this publication are also working on these related projects:



Master research thesis in Science Communication [View project](#)



PhD research project [View project](#)



Pro- and anti-vaccine advocacy on Twitter: An analysis of networks and discourses

Elena Milani

Ph.D. student | University of the West of England, BBAS Dpt.

Supervision team

Emma Weitkamp, Ph.D.; Peter Webb, Ph.D.

Background

What's happening?

Background @background · Jun 23
Vaccines have aroused public concerns about their safety and effectiveness, and they are debated in the mainstream media as well as on social media, especially Twitter

Reference @Reference
Love et al., 2013; Witteman and Zikmund-Fisher, 2012

Background @background · Jun 23
In particular, anti-vaccine movements are using the Internet and social media to potentially directly influence public risk perception toward vaccines, and persuading the audience not to vaccinate themselves and/or their children

Reference @Reference
Jolley and Douglas, 2014

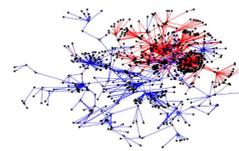
Background @background · Jun 23
On Twitter, pro- and anti-vaccines users often post their messages together with images, which could enhance their visibility in the social media, and their influence on public opinion toward vaccinations

Research questions



ACTORS

Which types of actors share information in favour or against vaccines (i.e. activists, the media, Governmental Health Agencies, health carers, Non-Governmental Organizations, general users, etc.)?



NETWORKS

Do these actors only communicate with people who share their opinion on vaccines, or do they reach people with contrary views?



VISUAL REPRESENTATIONS

How do the images shared by these actors represent vaccines and vaccinations?

Research benefits

The results obtained may contribute to the design of effective immunization campaigns on Twitter, thus addressing the anti-vaccine sentiment issue that appears to be spreading online and offline.

Methods

SOCIAL NETWORK ANALYSIS

To investigate how information about vaccines flows within and between pro- and anti-vaccine communities, I am analysing how Twitter users are connected in networks based on their retweets, i.e. the re-sharing of tweets (messages).

Measuring:

- Users' in-degree centrality (how many times their tweets were re-shared), I can identify which actors post the most popular (and hence visible) messages and images
- Users' betweenness centrality (the smallest number of contacts that connects two users), I can identify if there are actors that share messages and images from both anti- and pro-vaccine communities, thus linking them, and who they are
- Users' eigenvector centrality (how well connected are the few contacts of an user), I can identify which users are more connected either within or between anti- and pro-vaccine groups

DISCOURSE ANALYSIS OF IMAGES

To investigate how anti- and pro-vaccines actors represent and communicate vaccinations visually, I am exploring and comparing the discourses of the shared anti- and pro-vaccines pictures. A discourse depicts the way vaccinations are thought (by the image producer and/or consumer) and its defined by the visual characteristics of the image.

In particular, I am analysing the following characteristics:

- Type of image - photos, comics, infographics, screenshots, etc.
- Theme - vaccine safety and effectiveness, alternative medicine, civil liberties, conspiracy theories/search for truth, morality, religion and ideology
- Subject (e.g. children, health carers, syringes, etc.) and context (tribe, hospital, home, etc.)
- Figurative elements (e.g. metaphors, symbols, stereotypes, etc.)

References

Jolley, D. and Douglas, K.M. (2014) The effects of anti-vaccine conspiracy theories on vaccination intentions. *PLoS ONE* [online]. 9(2), p. e89177. [Accessed 11 October 2015].

Love, B., Himmelboim, I., Holton, A. and Stewart, K. (2013) Twitter as a source of vaccination information: content drivers and what they are saying. *American Journal of Infection Control* [online]. 41(6), pp. 568-570. [Accessed 19 October 2015].

Witteman, H.O. and Zikmund-Fisher, B.J. (2012) The defining characteristics of Web 2.0 and their potential influence in the online vaccination debate. *Vaccine* [online]. 30(25), pp. 3734-3740. [Accessed 11 October 2015].

