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## **Heightening Fake information and Misinformation around COVID-19 Vaccine Controversy by Examining Super-Spreaders' Lies**

*CONFERENCE (work-in-progress)*

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# **Heightening Fake information and Misinformation around COVID-19 Vaccine Controversy: Identifying Super-Spreaders and Their' Lies**

*Online Media and Global Communication (new journal launched in 2022, De Gruyter Publisher)*

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## **Abstract**

**Background:** The benefits of vaccines administered have been widely recognized by medical experts, but public opinion about vaccination policies and practices is diversified. The current COVID-19 pandemic is one of the leading causes of illness and death worldwide and unvaccinated people continue to die in high numbers. It is assumed that the global population is at risk of being less informed, uninformed, and misinformed about vaccination (e.g., Dixon & Clarke, 2013). Collective attitudes regarding vaccine hesitancy and vaccine refusal could be fueled by uninformed, fake, misinformed, or even distorted vaccine information. The spread of misinformation through super-spreaders online can seriously affect COVID-19 vaccine confidence.

**Methods:** This study examines, vis-a-vis the COVID-19-vaccine debate, some ways doctors, experts, and scientists spread counter-vaccination misinformation and rumors. A number of anti-vaccination practitioners, including virologists, have called vaccination programs a mass formation psychosis. International news media data were crawled, including CNN, New York Times, Irish Times, and Reuters covered the high-profile doctors for spreading COVID-19 vaccine lies from January 2020 to March 2022. Automatic content analysis was employed in this study.

DivoMiner, a tool based on machine learning and text-mining platform was used, specifically for identifying Chinese and English language text. The platform of DivoMiner integrating artificial intelligence and automatic coding provides reliable and powerful research execution and management. The workflow of computer-assisted content analysis involved four steps: (1) data crawling and screening; (2) Word2vec embedding modeling for coding keywords development; (3) computational-assisted data processing; (4) statistical data analysis and results-reports visualizations. To investigate how the COVID-19 vaccine controversy spread and influenced judgments of vaccine risk, a codebook was developed and tested in DivoMiner.

**Results:** According to the framing results, a number of false claims around COVID-19 are: 1) government had frequently manipulated COVID-19 vaccines for depopulation as a planned operation; or 2) The COVID-19 vaccine killed more people than the disease and did not prevent any deaths. A total of 33 medical doctors are labeled as super-spreaders whose anti-coronavirus vaccine rumors were circulating on the Internet widely in the West and then translated to different languages for spreading. Two-thirds of the various anti-coronavirus vaccine rumors circulating on the Internet are fabricated by 12 Americans who convinced millions of online

followers. The false claims around COVID-19 vaccine made by academic in school of medicine were also observed for spreading fake information and misinformation around COVID-19 vaccines via social media for Chinese in Mainland China, Taiwan, and Hong Kong.

**Discussions:** The narratives from the high-profile doctors were a form of crowdsourcing, and their ideas created a vaccine controversy based on conspiracy theories. Even though some physicians supported the use of all vaccines, many health experts and government officials worried that these opinions circulated online would significantly impact anti-vaccine groups. An anti-vaccine advocacy group emphasized the anti-vax sentiment by stating that they are concerned about the credibility of information sources. In contrast, the pro-vaccine arguments focused on health risk and shaped perceived certainty about a virus-vaccine link. While abundant scientific evidence suggests the contrary, the general public continues to trust and believe these anti-link sentiment expressions to be true.

**Conclusions:** Evidence from our study suggested that false balance heightened followers' internal and external uncertainty regarding vaccines' relationship with the outbreak of the COVID-19 pandemic. The concept of super spreaders using social media can serve as a heuristic device for researching a wider range of online platforms in Asia. The conclusion acknowledged the initially muted response by the scientific and academic community in countering misinformation.

Keywords: fake news; belief in misinformation; disinformation; super spreaders