Main Themes of Misrepresented Science on Twitter

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Introduction

This research focuses on identifying the main themes of misrepresented science on Twitter, by finding relationships between Twitter (mini-blog) posts and the validity of the reference. Misrepresented scientific research for this study, should be interpreted as information that either refers to, associates with, or references, an actual scholarly article, that is coupled with misconstrued findings, malicious misquotations, or simply lies about the findings, misrepresenting the study. Through the identification of scientific articles shared, and through validating the ‘caption’ or ‘shared meaning’ of the article to discover if the scientific research is being misrepresented, then working to identify the why of the misrepresentation, the what themes, and the who (demographics) quantifiable analysis using academic journal databases, Twitter extract database, and R (R- programming language used for consolidation and statistical computing) to find recurring and significant themes. The results showed that the main themes of misrepresented science are, health, climate change, and astrology.

Keywords: Pseudoscience, fakescience, misinformation, fake, nonsense, health, medicine, vaccinating, immunized, homeopathy, psychiatry, climate, climatechange, global, astrology.

Focus

As academia continues to work to utilize Twitter and other social media platforms to gain an understanding of current events and sentiment, there has yet to be a shared understanding of the main themes of misrepresented science. This research works to gain some understanding and could potentially serve as a catalyst to explore the WHY of sharing misinformation or even originating misinformation and for WHAT purposes(s).

Gaps In Literature

Researchers must continue the efforts to identify the differences between Twitter users and Twitter-bots. This near impossible task is crucial to understanding if confusion if malicious or simply ad bots gone array. Gaining this understanding will not only serve Twitter users, but society. Clearing confusing, providing clarity and appropriate scientific information is crucial to the betterment of all peoples.

Method

The data utilized was from Twitter and consisting 10,000 tweets, between the dates of October 1st, 2008 and October 28th, 2018. The software utilized for analysis was R and Microsoft Excel. The Twitter data pull focused on fake or pseudoscience as a primary marker before extraction to ensure data was related to the study. To reiterate, this study is not concerned with Twitter conversations as a general review, but rather the main themes of misrepresented science circulating on the Twitter social media platform.

Results

A random sample of 500 Tweets was identified, extracted, and utilized. Through analysis the most prominent themes of misrepresented science relate to the health care field, the environmental field (with an emphasis on climate change), and lastly astronomy.

References

• P. Ackerman et al., (2014). Rumors, false flags, and digital vigilantes: misinformation on Twitter after the 2013 Boston Marathon bombing.