Research Poster

Look Who's Talking: Exploring the Credibility of Authors about Meat Science on Social Media

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Introduction/Need for Research

Social media use has become more ubiquitous, with the average person spending 145 minutes a day on these platforms (Wong, 2023). In addition to the popularity of these platforms, the sharing of misinformation has also increased (Butler Horton, 2021) despite its historical perspectives since the late 16th century (Poole, 2019). Misinformation in the media today has evolved to include clickbait, satire, propaganda, parodies, and information manipulation (Khan et al., 2022). In today's society, scholars define fake news as false information presented with the intent to mislead (Butler Horton, 2021). A few studies in agricultural communications have focused on fake news (Butler Horton, 2021); however, it continues to be a prevalent issue facing agricultural industries (Bezbaruah et al., 2022). Fake news surrounding meat residues has become a significant topic, particularly during the Summer 2024 Olympics where 'contaminated meat' was blamed for athletes failing drug tests (Malatesta, 2024; Pells, 2024). The United States Anti-Doping Agency explained meat treated with anabolic steroids, like Trenbolone used in livestock, can cause positive test results, as seen with athlete Erriyon Knighton (Pells, 2024; Smith & Johnson, 2020; USADA, 2016). However, a 2023 podcast featuring a meat scientist rebutted this claim, stating athletes would need to consume an unrealistic amount of meat within 24 hours for traces of the drug to appear in their system (Parker, 2023). As part of a larger study examining fake news on social media about the agricultural industry, this poster focuses on the credibility of authors providing social media content about meat residues.

Conceptual Framework

This study was guided by the Information Manipulation Theory 2 (IMT2), which provides a framework for understanding the tactics used to spread misinformation or fake news. This theory posits that there are a variety of ways to deceive someone covertly: including message quality, quantity, relevance, and manner in human discourse (McCornack et al., 2014). To further support the identification of fake news content, we integrated the Credibility, Accuracy, Reasonableness, and Support (C.A.R.S) Checklist (Harris & Spinks, 2007) and a credibility assessment tool (Zhou & Zafarni, 2020) to identify components of fake news. This framework lists four goals readers should answer when appraising a source: *Is the source created by someone educated and aware of the message quality? Is the source current and complete? Is the author telling the truth without bias? Could the reader easily confirm the information provided*. The emphasis on pattern detection between IMT2 and C.A.R.S allowed us to build a Fake News Checklist to follow to identify fake news.

Methods

To achieve the purpose, Sprout Social, a social media monitoring tool, surveilled various platforms, using user determined keywords related to a topic. Some of the keywords used included: *Anabolic steroids, trenbolone, meat residues, beta-agonists, growth promoters, food safety, anti-doping, drugs,* and *unnatural residues,* which were developed from prior literature and popular press then reviewed by a panel of experts. Sprout collected data from social media platforms including Twitter/X, Facebook, Instagram, YouTube, and Reddit. Sprout also requires the accounts listened to on Facebook be identified due to differing privacy policies. We monitored the conversation between August 1 and 31, 2024, to cover notable events including anti-doping cases blaming meat from the 2024 Olympic Games, discussion of the Boar's Head

deli meats recall, and political conversations on child labor in meat processing plants. A total of 4,763 messages were collected, and a stratified sample of 476 messages was coded by the research team, selecting 10% from each of the five platforms. After removing irrelevant messages, we analyzed 343 messages utilizing a quantitative content analysis (Kerlinger, 2000). First, we collected data for the Fake News Checklist, where we reviewed previous literature to create a set of 11 questions addressing hallmark traits of fake news on social media (Harris, 2010; Harris & Spinks, 2007; Khan et al., 2022; Zhou et al., 2020; Zhou & Zafarani, 2020). The checklist was used to evaluate social media posts, assigning a quantifiable score based on theoretical insights. The final Fake News Score categorized posts into four categories: *credible*, *questionable*, *suspicious*, or *fake*. In addition to the Fake News Score, we analyzed author information variables, including *verification status* and *credentials*, across the Fake News Spectrum. To ensure reliability, we created a detailed codebook, which was reviewed by a panel of experts. After, we conducted training with three coders to ensure reliability, achieving Krippendorf's alpha reliability values of 0.8 or higher for each variable (Wimmer & Dominick, 2014). Data was then analyzed using descriptive statistics using SPSS version 29.

Results

Messages were categorized along the Fake News Spectrum based on their scores, with credible messages scoring 0 to 3, questionable messages scoring 4 to 7, suspicious messages scoring 8 to 10, and fake messages scoring 11 to 15. The majority of messages were labeled as questionable (n = 220, 64.1%), while fake messages represented the smallest portion (n = 7, 2.0%). The analysis of *author information* variables across the Fake News Spectrum revealed distinct patterns based on account type, verification status, and credentials. Personal accounts accounted for 305 (88.9%) of the 343 messages in the sample, with all fake messages (n = 7) coming from personal accounts. However, along the Fake News Spectrum, messages from business accounts (n = 11; 39.3%) and non-profit accounts (n = 2; 7.1%) were deemed credible. In terms of *verification*, only 6 (1.7%) authors had verification badges, with 5 (83.3%) posting credible messages, and 1 (16.7%) posting a suspicious message. No verified authors posted fake messages. Regarding credentials, 322 (93.9%) authors had self-proclaimed (i.e., verification not from recognized entities such as universities, professional associations, or government), while 21 (6.1%) had institutional credentials. All 7 fake messages were posted by authors with self-proclaimed credentials, and no fake messages came from authors with institutional credentials. Of the ten credentials available, authors without any credentials (288, 84.0%) were the majority.

Conclusions/Implications/Recommendations

Seeing as the majority of authors were personal accounts, there is an opportunity for those involved in the agriculture and meat science industry to utilize social media to promote accurate information. There is no minimum follower count to become verified; the account just needs to be "authentic, complete, unique, and notable" (Tang, 2022, para. 6). Notability is the real challenge, as the user would need to promote their presence to become worth following (Tang, 2022). If there are more meat science brands with verification status, there is potential to ensure that credible, high-quality content reaches the feeds of social media users. Additionally, there is an opportunity for researchers to further evaluate author credibility in the meat science industry as it is an under-studied topic. Lastly, educators should aim to teach students how to identify unreliable authors when using social media.

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