

Misinformation

Objective

Learning to identify misinformation from AI-generated answers

Instructions

1. Warm-up: Show three words (Mis-information, Dis-information, and Mal-information) to students; then ask them to discuss the differences between the three terms, without using their smartphones. Ask students to share their answers.
2. Then ask students to type possible questions into AI to get the answer. Share their definition with the class using Padlet, Teams, or Google Docs.
3. Show students the definition:

Term	Definition
Mis-information	is when false information is shared, but no harm is meant.
Dis-information	is when false information is knowingly shared to cause harm.
Mal-information	is when genuine information is shared to cause harm, often by moving information designed to stay private into the public sphere.

“Information Disorder” by Claire Wardle
 “Information Future Lab” Researcher Hossein Derakhshan (Brown University)

4. There are different forms of misinformation. Show students the 5 types of misinformation poster <https://newslit.org/wp-content/uploads/2024/02/5-Types-of-Misinformation-Poster.pdf>
5. Ask students to give examples of misinformation and disinformation in their (academic or personal life)
6. Give students access to the article written by Wakefield (1998). Tell students the handout is only a summary of the scientific study on vaccines and autism.
7. Ask students to ask AI for a better summary with more details from the study.
8. Have students share their AI-generated responses.
9. Ask students:
 - Did AI hesitate to answer their question? If so, why?
 - What information was given by AI regarding the article?
10. If time permits, ask students to Google search for the article and discuss what they have found regarding the article.
11. Teachers could introduce students to fact-checking websites and tools that can help them verify the accuracy of information. Fact-checkers like [Snopes](#), [FactCheck.org](#), and [PolitiFact](#).

Article

Note: The article ‘**Ileal-lymphoid-nodular hyperplasia, non-specific colitis and pervasive development disorder in children**’ by Andrew Wakefield, 1998 was removed by The Lancet due to falsification of information and ethical misconduct. The summary article was recreated using chunks of information from news sources on the internet to spot misinformation.

Summary of research for: ‘Ileal-lymphoid-nodular hyperplasia, non-specific colitis and pervasive development disorder in children’ by Andrew Wakefield, 1998

Abstract:

Ground-breaking findings found that the MMR (measles, mumps, and rubella) vaccine is the possible cause of intestinal inflammation and autism. This finding was based on the observation of 12 children with intestinal inflammation, as these children received the MMR vaccine.

Methods

Study design, population, and setting:

Data from this study come from two sources. First, we test whether or not concern about MMR safety increased following the publication of AW98 using publicly available data of reports of adverse reactions to the MMR vaccine, via the Department of Health and Human Services (DHHS) Vaccine Adverse Event Reporting System (VAERS) [10]. Doctors and other vaccine providers report potential adverse events to VAERS in consultation with the parents of children administered the MMR vaccine. Next, we provide supplemental tests of whether or not media coverage of AW98 presents a plausible mechanism for the effects documented in Fig 1. We obtained data from Lexis Nexis Academic by searching for news stories referencing “measles” or “MMR” in national television broadcasts (ABC, CBS, PBS, and NBC News) and high-circulation newspapers (USA Today, Washington Post, and the New York Times, Associated Press). We measured story sentiment using Linguistic Inquiry and Word Count (LIWC) software [11], which computes the ratio of negatively to positively valenced words in each story, standardized on a scale ranging from 0 (most negative) to 100 (most positive).

Results:

AW98 led to an immediate increase of about 70 MMR injury claims cases per month, averaging across six estimation strategies (meta-analytic effect = 70.44 [52.19, 88.75], $p < 0.01$). Preliminary evidence suggests that the volume of negative media attention to MMR increased in the weeks following AW98’s publication, across four estimation strategies (meta-analytic effect = 9.59% [3.66, 15.51], $p < 0.01$).

Conclusions:

Childhood vaccine presents an important challenge to widespread diseases such as measles, mumps, and rubella. Our team proposed to vaccinate separately against measles, mumps, and rubella and no longer use the combined vaccine. As the measles vaccine could replicate in the digestive tract and cause inflammation, particularly in children with autism [2]. However, vaccine administration should be reconsidered in light of the dangers it could pose to children, particularly the MMR vaccine. Our work cautions that high-profile media attention to vaccine safety should be cautious in undermining public confidence in other vaccines.

Figure 1

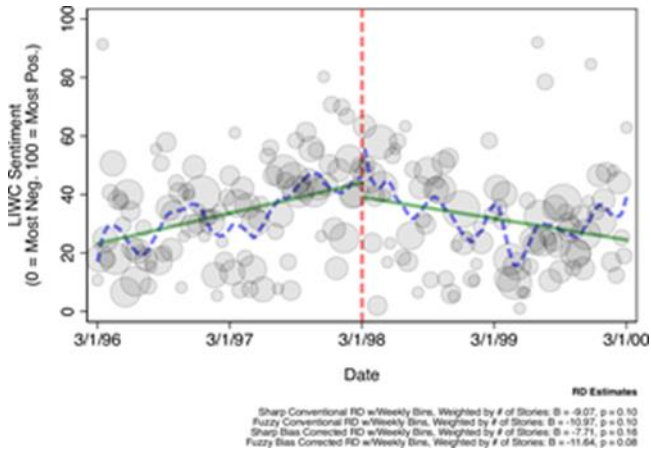


Figure 2:

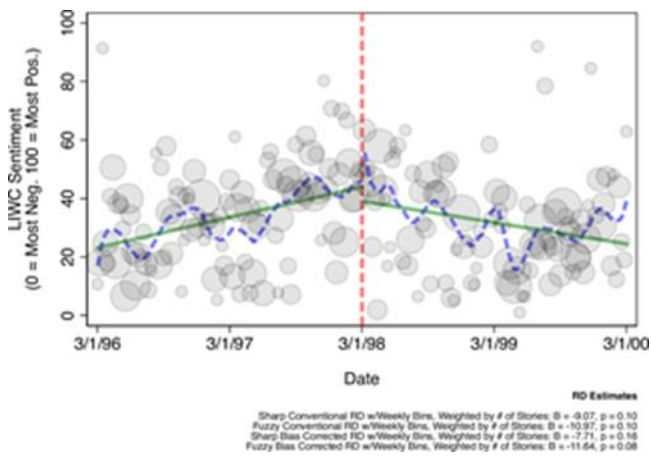


Figure 3:

