INFORMATION
ONLINE
Understanding misinformation for high school students

George Pearson / george.pearson@upenn.edu / @gdhpearson
FIRST UP!

EVERYTHING from today’s presentation is available at bit.ly/gcssa-misinformation
THE GREAT MYTH

Today’s high school students grew up with technology, and are therefore more digitally literate than older generations.
Study involving 3,446 high school students

Given number of tasks – show two
Have you ever noticed that the ONLY people caught committing voter fraud are Democrats?
Clip 3 – “Pennsylvania”

Russia 2016, not USA 2016

This clip also features the “18.09.16” timestamp, and a reverse image search of the relevant screenshots turns up a video uploaded the same day alleged to be from Rostov, Russia. The Russian text in the video play translates as “commission” and “box for vote IAOI”,
Fifty-two percent of students believed a grainy video claiming to show ballot stuffing in the 2016 Democratic primaries (the video was actually shot in Russia) constituted “strong evidence” of voter fraud in the U.S. Among
Volume 24 (2021)

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Tweets by @co2science

Craig idea
@co2science

Over the past 30 years intrinsic water use efficiencies (iWUE) of three Bangladesh tree species rose by a respectable 29-46% in response to a mere 15% rise in atmospheric CO2. co2science.org/articles/57244

Please Contribute to Our Center
Donate: We need your financial support! As a 501(c)(3) public charity, the Center for the Study of Carbon Dioxide and Global Change accepts corporate, foundation and individual donations to fund its educational activities. If you have browsed our website or utilized our material in the past year, please consider making a financial contribution. We need your help to keep us going.

Donate

Last 15 Postings

Autocorrelation in CO2 and Temperature Time Series (16 November 2021)
Detecting autocorrelation in plots of CO2 and temperature...

CO2 and Temperature (16 November 2021)
The correlation between CO2 concentration and temperature...
Carbon dioxide

CO2 Science
A weekly review and repository of scientific research findings pertaining to carbon dioxide and global change.

People also search for
- CO2 science credibility
- CO2 science website credibility
- CO2 science website
- is the website CO2 science reliable
- CO2 science wikipedia
- CO2 studies

Center for the Study of Carbon Dioxide and Global Change
The Center produces a weekly online newsletter called CO2Science. The Center was founded and is run by Craig D. Idso, along with Sherwood B. Idso, his...

Founded: 1986

Funding

According to IRS records, the ExxonMobil Foundation provided a grant of $15,000 to the center in 2000. Another report states that ExxonMobil has funded an additional $55,000 to the center. ExxonMobil stated it funded, "organizations which research policy issues and promote informed discussion on issues of direct relevance to the company. [...] These organizations do not speak on our behalf, nor do we control their views and messages."

The center was also funded by Peabody Energy, America's biggest coal mining company.
• **Ninety-six percent** of students did not consider why ties between a climate change website and the fossil fuel industry might lessen that website’s credibility. Instead of investigating who was behind the site, students focused on superficial markers of credibility: the site’s aesthetics, its top-level domain, or how it portrayed itself on the About page.
"I was the one holding the lighter-colored fuzzy microphone and thus literally in front of @POTUS on the South Lawn," Herman wrote. "It’s all real."

Herman also shared a video created by Mick West, who writes about conspiracy theories. In the video, West explains that because the microphones were on long booms, which enable reporters to maintain physical distance from the president amid the coronavirus pandemic, they give the illusion that something is amiss.

He recreated a similar scenario in his own yard and filmed it from different angles. The effect is the same.

"It does look weird, but once you understand what’s going on, it’s pretty obvious," he says in the video.

Herman noted in an email to PolitiFact that, even when there’s not a pandemic, the booms are regularly used during outdoor helicopter talks due to challenging acoustics.

Other images from that day show the president, microphones and reporters from other angles.

In this Reuters image, taken by photographer Tom Brenner, Biden can be seen from the side talking to reporters who are standing several feet away with their microphones extended forward. This
Engagement

Total Engagements: 36.1M

Claim

Victoria's Secret puts radio-frequency identification tags (RFID) chips in its bras so that it can track customers.

Rating

False

@pinkberenis
My husband had to rip it up and see for himself 😂 #VS
Like in any other subject, students need education in how to use technology and digital resources.
Plan

- Definition
  - trying to understand the parameters

- Challenges
  - why bad information travels so fast

- Dangers
  - the effects of bad information

- Solutions
  - What can we do about each
  - (Forewarning, there are no perfect solutions)
Definition
"Donald Trump praises Colonel Sanders for his service in the Civil War."

TheRedShtick.com
stated on May 2, 2017 in an Internet post:

DONALD TRUMP PRAISES COLONEL SANDERS FOR HIS SERVICE IN THE CIVIL WAR

Manny Schewitz  Off the Wire
But the clip is doctored. It was edited from footage of a speech that Harris delivered at a vaccine mobilization event in Detroit on July 12, removing the first syllable of the word "unvaccinated" to make it appear as if she is saying "vaccinated."

A now-removed tweet of the Harris clip was viewed over 50,000 times, according to Archive.org records, and it also circulated in several Facebook posts.
"We hope to completely eliminate fare dodgers by adding decoy stations throughout the city."

NYC Opens $500 Million Decoy Subway Station To Catch Turnstile Jumpers
NEW YORK—in a new effort by the MTA and law enforcement to crack down on fare evasion, ...
Anti-Trump protestors in Austin today are not as organic as they seem. Here are the busses they came in. #fakeprotests #trump2016 #austin

And BOOM! The old big bad post is gone! Its memory shall live on! Thanks all! Let's keep the conversation moving! blog.erictucker.com/2016/11/11/why...

Anti-Trump protestors in Austin today are not as organic as they seem. Here are the busses they came in. #fakeprotests #trump2016 #austin
If your time is short:

- Misleading posts on Facebook and Twitter say minors in San Francisco are consenting to COVID-19 vaccines without their parent’s permission. San Francisco issued a health order allowing emancipated minors and those considered “self-sufficient” to consent to receive the Pfizer vaccine.
SAN FRANCISCO ALLOWING CHILDREN TO ‘CONSENT’ TO COVID VACCINE WITHOUT PARENT’S APPROVAL

ORDER OF THE HEALTH OFFICER, No. C19-19
OF THE CITY AND COUNTY OF SAN FRANCISCO
ALLOWING MINORS TO CONSENT TO THE COVID-19 VACCINE AND ALLOWING VACCINE PROVIDERS IN THE CITY TO RELY ON THAT CONSENT

OFICIALHODGETWINGS.COM

"We hope to completely eliminate fare dodgers by adding decoy stations throughout the city."

DONALD TRUMP PRAISES COLONEL SANDERS FOR HIS SERVICE IN THE CIVIL WAR

NEW YORK—In a new effort by the MTA and law enforcement to crack down on fare evasion, ...
TYPES OF INFORMATION DISORDER

FALSENESS

Misinformation
Unintentional mistakes such as inaccurate photo captions, dates, statistics or translations or when satire is taken seriously.

Disinformation
Fabricated or deliberately manipulated audio/visual content. Intentionally created conspiracy theories or rumours.

Malinformation
Deliberate publication of private information for personal or corporate rather than public interest, such as revenge porn. Deliberate change of context, date or time of genuine content.

INTENT TO HARM

First Draft via Verification Handbook
TYPES OF INFORMATION DISORDER

FALSENESS

INTENT TO HARM

First Draft
via Verification Handbook
The ‘Intent’ Problem

- Is satire a form of misinformation?
- Disagreement on this
  - Social media generally don’t regulate
  - Many fact-checkers do – e.g. Snopes, FirstDraft
Like its progenitor, The Red Shtick likes to think of itself as a bold and engaging source of satire and irreverent humor. And while The Red Shtick is completely digital and subsequently limited only by the scope of the worldwide web, it – like its printed precursor – has a tendency to focus on happenings in Baton Rouge and the rest of South Louisiana.
The ‘Intent’ Problem

The Anti-Vaccine Influencers Who Are Merely Asking Questions

Institutional experts haven't adapted to today's media ecosystem. Other commentators are filling the gap.

By Renée DiResta

A ‘healthy’ doctor died two weeks after getting a COVID-19 vaccine; CDC is investigating why
The gray zone between partisan spin and misinformation

How to categorize the GOP response to the omicron variant
7 COMMON FORMS OF INFORMATION DISORDER

SATIRE OR PARODY
No intention to cause harm but has potential to fool

MISLEADING CONTENT
Misleading use of information to frame an issue or individual

IMPOSTER CONTENT
When genuine sources are impersonated

FABRICATED CONTENT
New content is 100% false, designed to deceive and do harm

FALSE CONNECTION
When headlines, visuals or captions don’t support the content

FALSE CONTEXT
When genuine content is shared with false contextual information

MANIPULATED CONTENT
When genuine information or imagery is manipulated to deceive

First Draft
via Verification Handbook
Discerning Truth Isn’t Straightforward

- Can view this from two ways
  - Structural changes
  - Human psychology
Structural Changes
Volume of Content

- Zoom: 208,333 hosts
- Reddit: 479,452 people engage with content
- Netflix: 404,444 hours of video
- DoorDash: 555 meals
- Instagram: 347,222 stories
- Facebook: 147,000 photos
- WhatsApp: 41,666,667 messages
- YouTube: 500 hours of video
- Twitter: 319 new users
- Microsoft Teams: 52,083 users
- Amazon: 6,659 packages
- Spotify: 28 tracks
- Venmo: $239,196 worth of payments
- TikTok: 2,704 times
- LinkedIn: 69,444 jobs

$3,805 is spent on mobile apps

$1,000,000,000 spent online

Presented by DonCo
Multiple Sources

'I Saw the News on Facebook': Brand Attribution when Accessing News from Distributed Environments
Loss of Context
Ease of Creation
Look who wandered into my friend's Houston 'hood
Thinking about everyone affected by Harvey and 🙏
y they r safe
How to Create a Fake News Article in Under 90 Seconds
University Hospitals, Cleveland Clinic reverse orders; will allow unvaccinated caregivers to stay on the job

UH, Cleveland Clinic pauses vaccine policies for employees

- Ohio reports 9,131 more COVID-19 cases; daily coronavirus update for Thursday, Dec. 2
- Coronavirus cases continue to climb, with high hospitalizations in Northeast Ohio
Native Leaders Celebrate a Victory as Washington Football Changes Mascot to the Redhawks

Dan Snyder honors Native Americans, changes team mascot to Washington Redhawks
Speed
The Psychological Challenge
News Values Tap Into Intrinsic Needs

- Negativity / threat
- Novelty
- Emotionally charged
Emotionally Charged Content Travels Fast

The spread of true and false news online

Lies spread faster than the truth

There is worldwide concern over false news and the possibility that it can influence political, economic, and social well-being. To understand how false news spreads, Vosoughi et al. used a data set of rumor cascades on Twitter from 2006 to 2017. About 126,000 rumors were spread by ~5 million people. False news reached more people than the truth; the top 1% of false news cascades diffused to between 1000 and 100,000 people, whereas the truth rarely diffused to more than 1000 people. Falsehood also diffused faster than the truth. The degree of novelty and the emotional reactions of recipients may be responsible for the differences observed.

Science, this issue p. 1146
Confirmation Bias

I've heard the rhetoric from both sides... time to do my own research on the real truth.

I Googled the hotly debated topic.

*Literally the first link that agrees with what you already believe.*

Completely supports your viewpoint without challenging it in any way.

Another link.

Don't worry about this one.

...jackpot
Dangers
Dangers

**Some Americans Are Tragically Still Drinking Bleach As A Coronavirus ‘Cure’**

**Claim**

If you can hold your breath without coughing, discomfort, stiffness, or tightness, your lungs do not suffer from fibrosis and therefore you have no COVID-19 infection.

**Rating**

False

About this rating 🌟
Polarization & Distrust

2004

MEDIAN Democrat
Consistently liberal
Consistently conservative

MEDIAN Republican

2014

MEDIAN Democrat
Consistently liberal
Consistently conservative

MEDIAN Republican

Pew Research Center – Political Polarization in the American Public

Gallup – Institutional trust tracker
The Forgotten Problem...
Several of the patients evacuated Sunday from a flooded assisted living center in Dickinson, Tex., have been moved to Laurel Court, a skilled nursing center in the northeast area of Alvin, Texas. Conrad Reardon
“Dripping water hollows out stone, not through force, but through persistence.”
Solutions
\_(_(ツ)_)_/\_
Giving Better Corrections

- Many people lead with misinformation “May have heard that...”
- Primacy & Recency Bias
Changing Approach to Credibility

- Checklist approach most common among educators
- Labor intensive
- Focus on manipulatable variables (e.g. about page, ‘.org’ problem)
Anyone can make a dot org website

Like.... anyone can do this...

This took less than 10 minutes and cost me $10 for a year
Lateral Reading.

Lateral reading helps you determine an author’s credibility, intent and biases by searching for articles on the same topic by other writers (to see how they are covering it) and for other articles by the author you’re checking on. That’s what professional fact-checkers do.
City-Run Internet is Too Risky for West Plains Taxpayers

The City of West Plains is considering building an unnecessary taxpayer-funded internet service—a decades long, high risk project. Instead of putting our tax dollars at risk and letting the government run our Internet, West Plains should focus on more pressing priorities, like fixing our roads and bridges, increasing public safety and supporting our schools.
Civic Online Reasoning

Students are confused about how to evaluate online information. We all are. The COR curriculum provides free lessons and assessments that help you teach students to evaluate online information that affects them, their communities, and the world.

View curriculum collections

As featured in

npr BBC WSJ TIME
RevEye Reverse Image Search
by SuperFreakonomics

Firefox port of the Chrome extension RevEye

Perform a search by image. Choose between the image search engines Google, Bing, Yandex and TinEye
What to focus education on

- Understanding motives
  - Two reasons
    - Understand why someone is doing this
    - Understanding how misinformation happens
What to focus education on

- Understanding own biases
  - Not just political
  - Other psychological

*There can be no peace until they renounce their Rabbit God and accept our Duck God.*
How we could have won in Afghanistan

Tomorrow it will be 100 days since the last British troops left Afghanistan. The last American troops left two days later, on August 30. Chaos had consumed the capital, Kabul, after it fell to the Taliban almost overnight. Nearly 200 Afghans and 15 American troops were blown up in a suicide...

Read the full story ▶

Democrats start to make their excuses as mid-term mauling looms for Biden

The likelihood of a decisive defeat for the Democrats in next year’s mid-term elections is increasing the chances that donors will jettison President Biden and start a scramble for the party’s presidential nomination in 2024. Last week Peter DeFazio, one of the most senior Democrats in the House of Representatives, became the party’s 19th...

Read the full story ▶

Search for survivors after Indonesian volcano erupts

FROM OUR CORRESPONDENT

It’s too hot but I’ve fallen in love with Spain, Virginia Woolf said

“It is the light, of course; a million razor-blades have shaved off the bark and the dust, and out pours pure colour; whiteness from fig-trees; red and green and again white from the enormous, the humped, the everlasting landscape.” So wrote Virginia Woolf about Spain, which she described as “far the most...
How we could have won in Afghanistan

Tomorrow it will be 100 days since the last British troops left Afghanistan. The last American troops left two days later, on August 30. Chaos had consumed the capital, Kabul, after it fell to the Taliban almost overnight. Nearly 200 Afghans and 13 American troops were blown up in a suicide...

Read the full story ▶

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Read the full story ▶
How we could have won in Afghanistan

Tomorrow it will be 10 years since the last British troops left Afghanistan. The last American troops left two days later, on August 30. Chaos had ensnared the capital, Kabul, after it fell to the Taliban almost overnight. Nearly 200 Afghans and 13 American troops were blown up in a suicide car bomb.

Read the full story »

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Read the full story »

Search for survivors after Indonesian volcano erupts

It’s too hot but I’ve fallen in love with Spain. Virginia Woolf said:

“That is the light, of course; a million rose-buds have showered off the back and the face, and set pure colour, without strain from the eyes, to the lips, to the nose, to the whole body in the morning." He wrote Virginia Woolf about Spain, which she described as "for the most...

Read the full story »

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Read the full story »
Understand how easy it is to make

- Get them generating false tweets/making fake news articles
- Get them hunting out examples
- Get them to check how they feel

- Understand the process
- Understand the psychology
TIPS TO SEPARATE COVID-19 VACCINE FACT FROM FICTION

**Scrutinize the source**
Is the author from a reputable organization?

**Examine the “expert’s” qualifications**
Do the experts listed have training in the topic being discussed?

**Read beyond the headline**
Are claims in the headline consistent with the rest of the content?

**Search for solid evidence that supports claims**
Look for links back to sound scientific studies.

**Check the date**
Is the information current?

**Beware of scare tactics**
Is the post anecdotal and emotionally charged?

**Be a skeptic, not a cynic**
Good information is out there—know where to look.

**Think before sharing**
If credibility is in doubt, don’t spread the news.
Some Useful Places

- Snopes / Politifact (fact checking)
- Buzzfeed / Craig Silverman
- First Draft
- Stanford History Group
- Office of the Surgeon General Community Toolkit for Addressing Health Misinformation
In the end...

- Misinformation is evolving
- No magic bullet
- Have to create skills
- Can mean moving away from classic notions
Thank you

That URL again: bit.ly/gcssa-misinformation

Email: george.pearson@asc.upenn.edu
Twitter / LinkedIn @gdhpearson
Reframing as a question of motive
A parody account dupes journalists into spreading viral 'campaign moment' on Twitter

A comedian posed as a campaign staffer for Michael Bloomberg on Twitter.
Parody

Provoke & Punk
Political Influence & Propoganda

Study Exposes Russia Disinformation Campaign That Operated In The Shadows For 6 Years

June 16, 2020 · 2:36 PM ET

TECHNOLOGY

Melody A.M
@mu1_amanda

Not normal 😠 Boost at your own Pearl 🙄

Charlotte @CharlotteEmmaUK · Nov 8

We're living in a sick, sick world.

How is this deemed normal and even acceptable?

Marco Rubio @marcorubio

British GCHQ that spied on @realDonaldTrump in 2016 is back in the game. Now they intend to use #DeepFakes to support Democrats during midterm elections. No one – especially our closest ally – has the right to threaten our democracy & national security.

9:18 AM · 30 Jul 2018
16 Retweets 102 Likes
Passion & Partisanship

Anti-Trump protestors in Austin today are not as organic as they seem. Here are the busses they came in.

#fakeprotests #trump2016 #austin

Not normal 😞
Boost at your own Pearl 👎

We're living in a sick, sick world.

How is this deemed normal and even acceptable?
"I started the site for an easy way to make money. In Macedonia the economy is very weak and teenagers are not allowed to work, so we need to find creative ways to make some money. I'm a musician but I can't afford music gear. Here in Macedonia the revenue from a small site is enough to afford many things."
# Misinformation Matrix

<table>
<thead>
<tr>
<th>Poor Journalism</th>
<th>Satire or Parody</th>
<th>False Connection</th>
<th>Misleading Content</th>
<th>False Context</th>
<th>Imposter Content</th>
<th>Manipulated Content</th>
<th>Fabricated Content</th>
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First Draft
Fake News It's Complicated