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CREATE CHANGE

# Critical Thinking and Media Literacy

Professor Deb Brown

Dr Luke Zaphir

UQ Critical Thinking Project

Faculty of Humanities and Social Sciences,  
University of Queensland

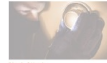


# Media Literacy— the problem

2010: Rockefeller  
Foundation ‘scenario  
planning’ report

## Scenario Narratives

Lock Step



Rock Atlas

### **LOCK STEP**

A world of tighter top-down government control and more authoritarian leadership, with limited innovation and growing citizen pushback

## Scenarios for the Future of Technology and International Development

THE  
ROCKEFELLER  
FOUNDATION

**GBN** Global Business Network

a member of the Monitor Group

# From scenario narrative to conspiracy theory

## The claim: COVID-19 is part of 'Operation Lockstep' from 'The Rockefeller Playbook'

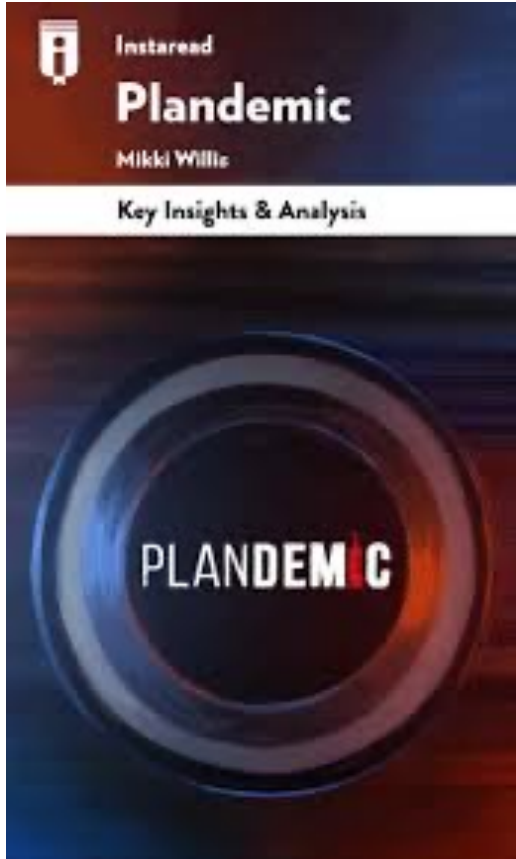
Recent posts to Facebook about "Operation Lockstep," a COVID-19 conspiracy theory, have gone viral.

The posts feature a page that was allegedly scanned from "The Rockefeller Playbook" that outlines the three phases of public response to the pandemic.

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## Conspiracy theories thrive online

- *Plandemic: The Hidden Agenda Behind Covid-19* by Mikki Willis spread online it via some major social media platforms
- 2021: WHO declares an Infodemic to describe the spread of mis- and disinformation and conspiracy theorizing
- UNESCO launches #ThinkBeforeSharing campaign

Early report

February 28, 1998

## **Ileal-lymphoid-nodular hyperplasia, non-specific colitis, and pervasive developmental disorder in children**

*A J Wakefield, S H Murch, A Anthony, J Linnell, D M Casson, M Malik, M Berelowitz, A P Dhillon, M A Thomson, P Harvey, A Valentine, S E Davies, J A Walker-Smith*

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# Ileal-lymphoid-nodular hyperplasia, non-specific colitis, and pervasive developmental disorder in children

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## Summary

**Background** We investigated a consecutive series of children with chronic enterocolitis and regressive developmental disorder.

**Methods** 12 children (mean age 6 years [range 3-10], 11 boys) were referred to a paediatric gastroenterology unit with a history of normal development followed by loss of acquired skills, including language, together with diarrhoea and abdominal pain. Children underwent gastroenterological, neurological, and developmental assessment and review of developmental records. Ileocolonoscopy and biopsy sampling, magnetic-resonance imaging (MRI), electroencephalography (EEG), and lumbar puncture were done under sedation. Barium follow-through radiography was done where possible. Biochemical, haematological, and immunological profiles were examined.

**Findings** Onset of behavioural symptoms was associated by the parents, with measles, mumps, and rubella vaccination in eight of the 12 children, with measles infection in one child, and otitis media in another. All 12 children had intestinal abnormalities ranging from lymphoid nodular hyperplasia to granulomatous ulceration. Histology showed patchy chronic inflammation in 11 children and reactive ileal lymphoid hyperplasia in seven, but no granulomas. Behavioural disorders included autism (nine), disintegrative psychosis (one), and a possible postviral or vaccinal encephalitis (two). There were no focal neurological abnormalities and MRI and EEG tests were normal. Abnormal laboratory results were significantly raised urinary methylmalonic acid compared with age-matched controls ( $p=0.03$ ), low haemoglobin in four children, and a low serum IgA in four children.

**Interpretation** We identified associated gastrointestinal disease and developmental regression in a group of previously normal children, which was generally associated in time with possible environmental triggers.

## Introduction

We saw several children who, after a period of apparent normality, lost acquired skills, including communication. They all had gastrointestinal symptoms, including abdominal pain, diarrhoea, and bloating and, in some cases, food intolerance. We describe the clinical findings, and gastrointestinal features, of these children.

## Patients and methods

12 children, consecutively referred to the department of paediatric gastroenterology with a history of a pervasive developmental disorder with loss of acquired skills and intestinal symptoms (diarrhoea, abdominal pain, bloating and food intolerance), were investigated. All children were admitted to the ward for a week, accompanied by their parents.

## Clinical investigations

We took histories, including details of immunisations and exposure to infectious diseases, and assessed the children. In 11 cases the history was obtained by the senior clinician (JW-S). Neurological and psychiatric assessments were done by consultant staff (PH, MB) with HMS-4 criteria.<sup>1</sup> Developmental assessments included a review of prospective developmental records from parents, health visitors, and general practitioners. Four children did not undergo psychiatric assessment in hospital; all had been assessed professionally elsewhere, so these assessments were used as the basis for their behavioural diagnosis.

After bowel preparation, ileocolonoscopy was performed by SHM or MAT under sedation with midazolam and pethidine. Paired frozen and formalin-fixed mucosal biopsy samples were taken from the terminal ileum; ascending, transverse, descending, and sigmoid colons, and from the rectum. The procedure was recorded by video or still images, and were compared with images of the previous seven consecutive paediatric colonoscopies (four normal colonoscopies and three on children with ulcerative colitis), in which the physician reported normal appearances in the terminal ileum. Barium follow-through radiography was possible in some cases.

Also under sedation, cerebral magnetic-resonance imaging (MRI), electroencephalography (EEG) including visual, brain stem auditory, and sensory evoked potentials (where compliance made these possible), and lumbar puncture were done.

## Laboratory investigations



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## Why conspiracy theorising is irrational

- Based on prejudice, bias, insufficient evidence
- Resistant to falsification
- Circular reasoning: evidence against and absence of evidence are interpreted as evidence for it
- Associated with psychopathologies like apophenia (seeing patterns or meaningful connections among random data points); narcissism; Machiavellianism; paranoia...to name a few.

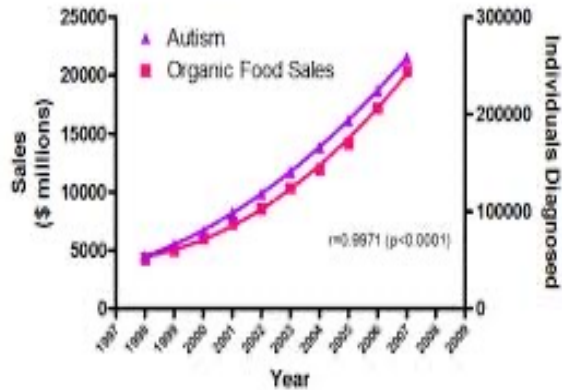
# Misleading headlines



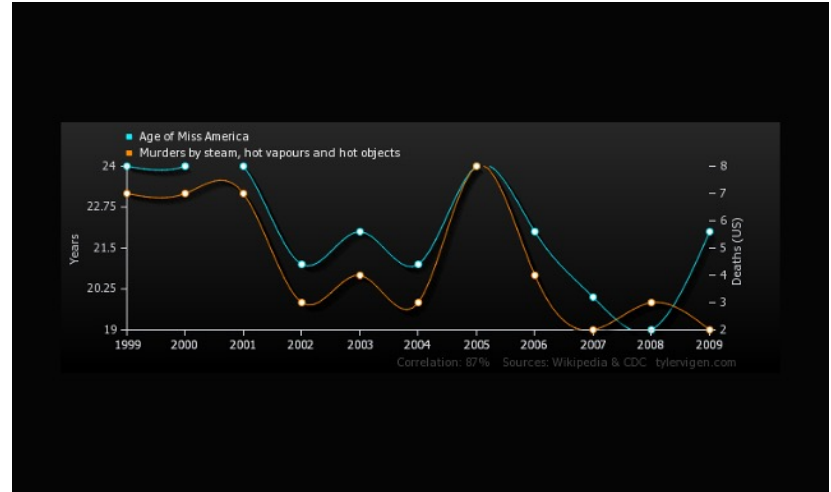
<https://www.fredhutch.org/en/news/center-news/2020/02/spinning-science-overhyped-headlines-snarled-statistics-lead-readers-astray.html>



# Correlations without causation...



Sources: Organic Trade Association, 2011 Organic Industry Survey; U.S. Department of Education, Office of Special Education Programs, Data Analysis System (DANS); OMBIR 1820.0043 "Children with Disabilities Receiving Special Education Under Part B of the Individuals with Disabilities Education Act"



## Framing: A Cognitive Bias



How information is presented or requested affects how it is interpreted and can be misleading.

Compare:

- (1) Is Tom popular?
- (2) Is Tom unpopular?

# Framing: Misleading headlines



'Number of burglaries going up'

'Downward trend in burglary rate'

Misleading headlines in factual articles **decrease ability to recall details** of the article and **impede inferential reasoning**

The effects of subtle misinformation in news headlines.

EXPORT

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Journal /

[Ecker, Ullrich K. H.](#), [Lewandowsky, Stephan](#), [Chang, Ee Pin](#), [Pillai, Rekha](#)

Citation

Ecker, U. K. H., Lewandowsky, S., Chang, E. P., & Pillai, R. (2014). The effects of subtle misinformation in news headlines. *Journal of Experimental Psychology: Applied*, 20(4), 323–335. <https://doi.org/10.1037/xap0000028>

# Poor rates of Media Literacy

485

British Journal of Educational Psychology (2019), 89, 485–500  
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The British  
Psychological Society

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*Special Issue Article*

## Improving university students' web savvy: An intervention study

Sarah McGrew , Mark Smith , Joel Breakstone ,  
Teresa Ortega  and Sam Wineburg\* 

Stanford Graduate School of Education, Stanford University, California, USA

**Background.** Young people increasingly turn to the Internet for information about social and political issues. However, they struggle to evaluate the trustworthiness of the information they encounter online.

- Stanford University (2019) study: young people surveyed reported they get 75% of their news online yet showed poor media literacy skills
- *“They are often duped by misinformation and deceived by faulty arguments. They struggle to evaluate digital claims, sources, and evidence.”*

80% of undergraduate students and 50% historians tested preferred or were indifferent to biased sources compared to credible sources.



American Academy  
of Pediatrics



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# News & Young Australians in 2023 Survey

- Poor rates of news engagement—83% (ages = 8-16) said they get news from one source, mostly from friends, social media, family (47%), and TV—with high rates of trust in these sources
- Young people don't understand how algorithms work
- Only 10% (n=>1000) said they tried to verify information or the source



**Young Australians increasingly get news from social media, but many don't understand algorithms**

## Authors



### **Tanya Notley**

Associate Professor in Digital Media, Western Sydney University



### **Michael Dezuanni**

Professor, Queensland University of Technology



### **Sora Park**

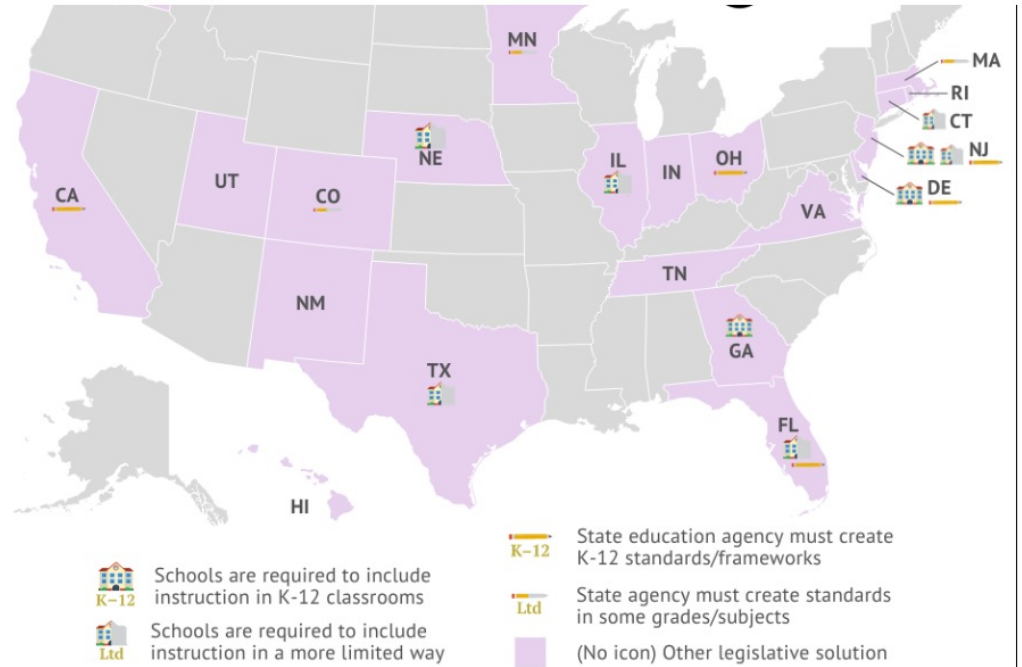
Professor of Communication, News & Media Research Centre, University of Canberra



About ▾

The Challenge

# Legislative solutions



# Media literacy programs



Often focus on fact or source checking:

1. Lateral searching—researching sponsoring organisation or author of a site
2. Checking for consistency of evidence across sites
3. ‘Click restraint’—scrolling down search results to find trustworthy starting points rather than random ‘fluttering’ over sites



# Critical Thinking-Media Literacy



1. Understanding how beliefs are framed and shaped by what is presented and how—cognitive biases
2. Knowing how to *identify, construct and evaluate arguments*
3. Upholding the values and ideals of journalism as a public service—integrity, honesty, open-mindedness, resilience and persistence after the truth.

Ask critical questions!

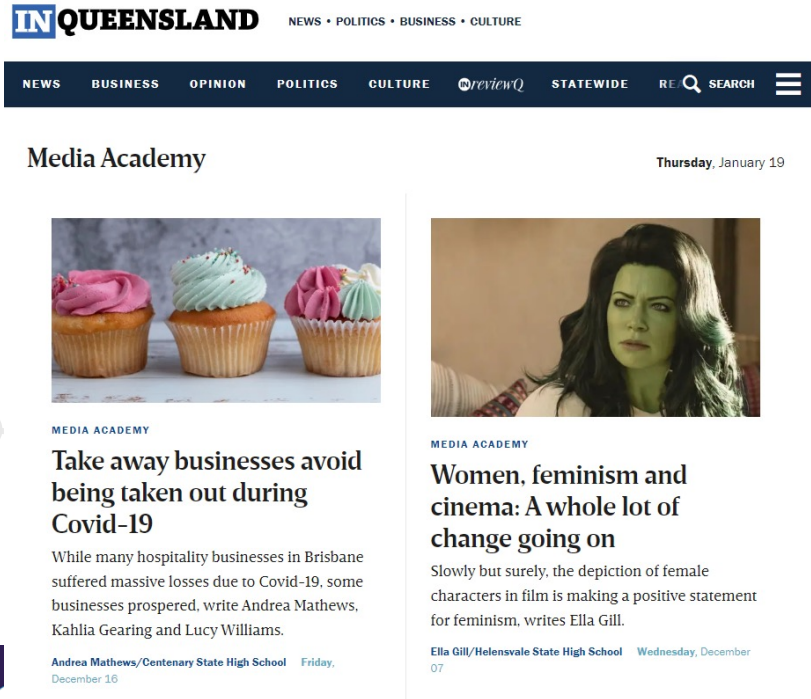
31,000 US scientists have signed a document declaring that there is no evidence of anthropogenic climate change.

## 31,000 scientists say "no convincing evidence".

31,000 scientists reject global warming and say "no convincing evidence" that humans can or will cause global warming? But polls show that of scientists working in the field of climate science, and publishing papers on the topic: 97% of the climate scientists surveyed believe "global average temperatures have increased" during the past century; and 97% think human activity is a significant contributing factor in changing mean global temperatures. What is the significance of these statistics?

While polls of scientists actively working in the field of climate science indicate

# Media Literacy and the UQ Critical Thinking Project




**IN QUEENSLAND** NEWS • POLITICS • BUSINESS • CULTURE

NEWS BUSINESS OPINION POLITICS CULTURE *reviewQ* STATEWIDE RE Q SEARCH ☰

## Media Academy

Thursday, January 19




MEDIA ACADEMY

### Take away businesses avoid being taken out during Covid-19

While many hospitality businesses in Brisbane suffered massive losses due to Covid-19, some businesses prospered, write Andrea Mathews, Kahlia Gearing and Lucy Williams.

Andrea Mathews/Centenary State High School Friday, December 16



MEDIA ACADEMY

### Women, feminism and cinema: A whole lot of change going on

Slowly but surely, the depiction of female characters in film is making a positive statement for feminism, writes Ella Gill.

Ella Gill/Helensvale State High School Wednesday, December 07

Media Academy: 10 x 1 hr critical media literacy training + cadetship with InQueensland

# UQCTP Media Academy

Peter  
Greste



- Students work in teams or individually to develop a news story
- Students work with InQueensland editors and professional journalists

# Evaluation Report

## **InQueensland Media Academy Course Evaluation**

October 2022

Simon Chambers

Tanya Notley




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## Outcomes

- The Academy created a **network of youth correspondents** across Queensland schools to develop local, relevant news content.
- Student articles were published via **[inld.com.au/category/media-academy](https://inld.com.au/category/media-academy)**, reaching local and global audiences.
- With a focus on media literacy, critical thinking, research skills, interviewing techniques and protocols, and other real-world skills, students' **confidence and thinking and writing** capabilities significantly grew.
- The program also created avenues for students to explore University and **career pathways** in journalism and communication.

# The student voice

The other thing which I learned was the importance of brevity in news writing and, again, that's really helped me in, like, my broader academic writing because whenever I'm writing something I'm passively thinking 'How do I say this with more brevity?' -- Student, Indooroopilly State High School



[My article was about] child exploitation on YouTube and I chose this because it is not talked about enough and is highly important. -- Student, Park Ridge State High School

# Changes in news consumption

So I think the actual news that I've consumed hasn't changed. But I think I've been able to, like, identify whether something is coming from a specific angle or whether there is a bias that is behind it. -- Student, Indooroopilly State High School

The news source I get my information from hasn't changed. But I've now learned to question and research other news sources. -- Student, Yeronga State High School.



# Thank you!

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[ctp@uq.edu.au](mailto:ctp@uq.edu.au)

[Deborah.brown@uq.edu.au](mailto:Deborah.brown@uq.edu.au)



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