GDI

Global Disinformation Index

Measuring Disinformation Risk on TV News Programming

A Demonstration Study of Three U.S. Networks

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GDI Global Disinformation Index

Contents

Abstract

Identifying disinformation requires a more complex analysis than simply evaluating whether a statement or assertion is true or false. This paper presents an initial attempt to measure the risk of disinformation posed by mainstream cable television news programmes in the United States. The method does not attempt to fact-check TV content. Rather, it uses a composite indicator to measure the likelihood that a particular programme will disinform its viewers.[1] The study finds that primetime opinion programmes carry a higher risk of disinforming viewers than other formats or time slots. Of the three networks studied (CNN, MSNBC and Fox News), Fox News programming had the highest levels of disinformation risk.

Key findings

- GDI's methodology rates the level of disinformation risk in five categories from "minimum" to "maximum."

- CNN was the only network to carry a minimum-risk programme, namely *CNN Newsroom*.

- All of the high- and maximum-risk programmes were carried by Fox News.

- The opinion programmes that air in prime time showed the highest level of risk, with an average score of 36.2 of 100, compared to 54.8 for news content. Six out of nine primetime opinion programmes were rated as high or maximum risk.

- Eight of the nine high- and maximum-risk programmes were Fox News opinion shows.

- All of the MSNBC programmes reviewed in the study fell in the low- and medium-risk categories.

- Six of the fifteen Fox News programmes included in the study were rated low or medium risk.

- Primetime programmes scored 27% worse than daytime and weekend shows, on average. Notably, none of the primetime news programmes in the study sample were rated minimum risk.

- *Tucker Carlson Tonight*, *The Ingraham Angle*, *Hannity* and *Justice with Judge Jeanine* – all Fox News programmes – were rated as maximum risk, indicating that these programmes were highly likely to disinform their viewers.

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1   A common definition of risk is likelihood times impact. Our risk metric focuses on likelihood and does not account for differentiations in impact across networks or programmes. However, future iterations could adjust the risk scores based on viewership.

Introduction

Disinformation has been a growing area of study in light of the increasingly widespread harm it has caused. With ever-widening access to information comes increased risk of accessing mis- or disinformation. However, identifying and quantifying this risk is complex and challenging, and few viable frameworks exist.

Identifying disinformation requires a more nuanced analysis than simply evaluating whether a statement or assertion is true or false. A factual statement can be false without qualifying as disinformation, and a technically true statement can be presented out of context in a misleading and harmful way. Most definitions of disinformation emphasise its intentional nature, which cannot be directly measured, and the veracity of its facts, which becomes extremely difficult to assess at scale.[2]

The Global Disinformation Index (GDI) defines disinformation as adversarial narratives targeting at-risk individuals, groups or institutions that lead to real-world harm.[3] This definition transcends many of the semantic arguments and other challenges faced by the anti-disinformation space, and provides a framework for understanding the broader universe of disinformation techniques.[4] Based on this definition, GDI has developed a number of measurement approaches that evaluate disinformation risk on open-web news websites. However, as disinformation does not only exist online, GDI is now applying its measurement approach to other forms of media.

This paper presents an initial attempt to measure the level of risk of disinformation posed by mainstream cable television news programmes in the United States. The method does not attempt to fact-check TV content, nor does it rely on assessments of political partisanship. Rather, it uses a composite indicator (commonly called an index) to measure the likelihood that a particular programme will disinform its viewers.[5] A composite indicator can be used to measure multi-dimensional phenomena by bringing together various indicators of distinct concepts into a single summary metric.[6]

As applied here, the index measures a variety of disinformation risk factors, including the adversarial nature of news coverage.

This risk-based approach was designed to offer advertisers and other media stakeholders a forward-looking method for assessing the likelihood of making a financial contribution to disinformation by funding its sources. This paper elaborates how such an approach can be successfully applied to measure disinformation risk on TV.

Methodology

The disinformation risk rating methodology developed by GDI measures the risk that a news or information source will disinform its readers or viewers, based on both the observed behaviour of the media outlet and the policies and practices in place to mitigate risk. GDI has developed and iterated on this methodology for digital news sources in more than 20 media markets worldwide, with input from our Technical Advisory Group and our research partners in each market.

This paper demonstrates that the GDI disinformation risk rating methodology can be successfully adapted to TV news programming. Adapting the methodology for TV has involved:

- Updating the indicators used to detect disinformation risk to be applicable to TV programming

- Developing a method of sourcing raw data for review (i.e., anonymised, plain-text transcripts of TV content)

- Training a research team to conduct content reviews and gather additional data on the journalistic operations of each TV programme

- Calculating risk ratings that apply specifically to TV news

The review of each TV programme was conducted by a team of researchers who were trained to collect

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2   Many fact-checking efforts use a continuum of some kind rather than a binary true/false distinction.

3   Decker, Ben. "Adversarial Narratives: A New Model for Disinformation." *Global Disinformation Index*, 2019, https://www.disinformationindex.org/research/2019-4-1-adversarial-narratives-a-new-model-for-disinformation/.

4   Rogers, Daniel. "Disinformation as Adversarial Narrative Conflict." *Global Disinformation Index*, 22 June 2022, https://www.disinformationindex.org/blog/2022-06-22-disinformation-as-adversarial-narrative-conflict/.

5   A common definition of risk is likelihood times impact. Our risk metric focuses on likelihood and does not account for differentiations in impact across networks or programmes. However, future iterations could adjust the risk scores based on viewership.

6   OECD. "Handbook on Constructing Composite Indicators: Methodology and User Guide." *OECD*, OECD, 2008, https://www.oecd.org/sdd/42495745.pdf.

data on a set of indicators in two pillars: the Content pillar, based on content aired on the programme, and the Operations pillar, which reflects the operational policies, practices and past behaviour of the programme and the network.

The final output was a set of risk ratings, ranging from minimum to maximum risk, for the 35 news programmes included in the sample. The risk ratings were based on where the show's overall index score fell within the distribution of all scores in the dataset. Thus, the risk rating can be interpreted as: *the level of disinformation risk relative to the other TV programming included in the study.*

Defining the study sample

This project was developed at the request of GDI's advertising industry partners, as a demonstration that the methodology could be applied to television news. This iteration of the project focused on cable news; future, more comprehensive projects might cover a greater range of networks.

The study includes programmes from Fox News, MSNBC and CNN. Ratings data from 2021 show that these three networks were the most widely watched cable news networks in the U.S., and among the top five cable networks overall.[7,8] Fox News had the greatest number of views by far, at an estimated 2.39 million, followed by MSNBC (1.54 million) and CNN (1.11 million).

The study was conducted in mid-2021; as such, the study sample was defined based on network programming as of May 2021.

Defining the sample for the study involved two steps:

1. Identifying the shows to be included, and

2. Defining a sample of content for review from each show.

As the most widely watched cable news network, Fox News programmes made up 41.6% of the shows in the sample. This is roughly consistent with its share of viewers across the three networks, at an estimated 47.4% in 2021. MSNBC follows with approximately a third of overall viewership and a third of the shows in the sample. CNN accounts for 22% of total viewership and shows in the study sample.

Figure 1. Network viewership, millions, 2021
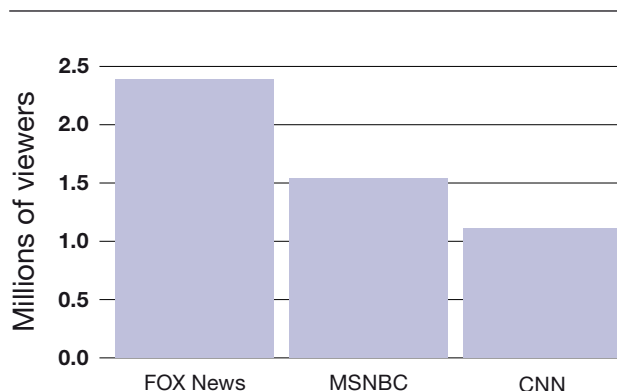
Source: Nielsen

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7   Alongside ESPN and Hallmark Channel.

8   Nielsen. "Leading cable networks in the United States from 2017 to 2021, by number of total viewers (in millions)". *Statista*, December 2021, https://www.statista.com/statistics/379648/cable-networks-viewers-usa/.

Table 1. Viewership and sample representation by network[9]

Network	Estimated no. of viewers, 2021 (millions)	Percentage of viewers across 3 major networks	No. of shows included in the study	Percentage of shows included in the study
FOX News	2.39	47.4%	15	42.9%
MSNBC	1.54	30.6%	12	34.3%
CNN	1.11	22.0%	8	22.9%
Total	5.04		35	

Source: Nielsen and Global Disinformation Index

GDI defined the show sample based on a mix of programme times and formats, taking into account the availability of transcripts from the programmes. Table 2 gives an overview of the study sample by network, format and daypart.

The sample included a variety of programme formats to ensure that the adapted methodology could be applied widely across televised news. Programme format was defined based on whether the programme had a single anchor ("news"), a single host ("opinion"), multiple anchors ("news panel"), or multiple hosts ("opinion panel").

For the purpose of this study, "primetime" was defined as weekday shows that aired from 7pm onwards. The sample was made up of 36% of primetime programming, roughly consistent with actual network programming, and included a similarly representative distribution of weekend programming.

Table 2. Number of shows by network and format

Type	All networks	FOX News	MSNBC	CNN
News	13	5	5	3
News panel	5	2	0	3
Opinion	13	5	6	2
Opinion panel	4	3	1	0
Total	35	15	12	8

Source: Global Disinformation Index

Table 3. Number of shows by network and daypart

Slot	All networks	FOX News	MSNBC	CNN
Daytime	22	8	9	5
Primetime	13	7	3	3
Total	35	15	12	8

Source: Global Disinformation Index

Table 4. Number of shows by format and daypart

Type	All hours	Daytime	Primetime	Primetime / total
News	13	9	4	31%
News panel	5	5	0	0%
Opinion	13	5	8	62%
Opinion panel	4	3	1	25%
Total	35	22	13	

Source: Global Disinformation Index

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9   Nielsen. "Leading cable networks in the United States from 2017 to 2021, by number of total viewers (in millions)". *Statista*, December 2021, https://www.statista.com/statistics/379648/cable-networks-viewers-usa/.

Table 5 lists the shows that were included in the study.

Table 5. Shows included in the methodology pilot[10]

Network	Show title
CNN	At this Hour with Kate Bolduan
CNN	CNN Newsroom
CNN	CNN Tonight with Don Lemon
CNN	Cuomo Prime Time
CNN	Erin Burnett OutFront
CNN	Fareed Zakaria GPS
CNN	New Day
CNN	State of the Union with Jake Tapper and Dana Bash
Fox News	America's Newsroom
Fox News	Fox & Friends
Fox News	Fox News @ Night
Fox News	FOX News Live
Fox News	FOX News Primetime
Fox News	Fox News Sunday
Fox News	Hannity
Fox News	Justice with Judge Jeanine
Fox News	Life, Liberty & Levin
Fox News	Special Report with Bret Baier
Fox News	The Faulkner Focus
Fox News	The Five
Fox News	The Ingraham Angle
Fox News	The Story with Martha MacCallum
Fox News	Tucker Carlson Tonight
MSNBC	All In with Chris Hayes
MSNBC	Andrea Mitchell Reports
MSNBC	Ayman Mohyeldin Reports
MSNBC	Deadline: White House
MSNBC	Morning Joe
MSNBC	MTP (Meet The Press) Daily
MSNBC	PoliticsNation
MSNBC	The Rachel Maddow Show
MSNBC	Stephanie Ruhle Reports
MSNBC	The Beat with Ari Melber
MSNBC	The ReidOut
MSNBC	Velshi

Source: Global Disinformation Index

Data included in the risk rating

The overall score for each show was the average[11] of the show's score on the two pillars of indicators included in the index: Content and Operations.

Content Pillar

The Content pillar consists of six indicators based on the researcher's review of the content sample from each show. Content pillar scores reflect what was actually observed on each TV programme.

The sample was made up of ten segments per show, randomly selected from the sixty days prior to the review period[12] and shown to reviewers as anonymised plain text.[13] A segment was defined as the content between two commercial breaks.

In order to mitigate any bias on the part of the reviewers, each segment was reviewed by at least two reviewers and all identifying information was removed, ensuring that the reviewers did not know which show or network each segment originated from.[14] Reviewers were trained on a highly structured methodology for coding each component of the transcript, and these data were then used to calculate the indicator scores.

Table 6 outlines the indicators included in the Content pillar.

10 Show names are given as they appeared on network websites at the time of the study.

11 Arithmetic mean.

12 1 March 2021 to 31 May 2021.

13 Show transcripts were sourced from Factiva, LexisNexus, and direct downloads from the network's website (in the case of CNN) from the time period 1 March 2021 to 30 May 2021. Episode transcripts were broken into segments for review. Segments were then anonymised to remove any identifying information referring to the show, network, or major personalities. Ten segments per show, from a variety of episodes, were included in the study sample.

14 In order to ensure anonymity, the review team was not informed about which shows or networks were included in the study until after they completed the Content review.

Table 6. Content pillar indicators

Indicator	Definition	Calculation
Adversarial narrative	Measured the degree to which the narrative of the coverage cultivated an adversarial relationship between the viewer and a specific individual, group, or institution.	Average rating of all reviews per show on the following scale: 0 = "Extreme" 1 = "Inflammatory" 2 = "Subtly derogatory" 3 = "Fair and neutral"
Consistency of type	Measured the degree to which the anonymised content was consistent with the type of program. Because all of the programmes in the study appear on news networks, this indicator awarded the best possible score to news programming that read as "straight news" when anonymised, and a neutral score to opinion content that appeared to be either opinion content or news content. The lowest score was reserved for content that appeared to be opinion but aired on a news program, or any content from any programme that appeared to be satire. Because there were no satire programmes included in the sample, plain text news content that appears to be satire would be extremely sensationalised.[15]	Average rating of all reviews per show on the following scale: 0 = any programme (news or opinion) that appeared to be satire or any news programme that appeared to be opinion 1 = any opinion programme that appeared to be opinion or news 2 = any news programme that appeared to be news
Events vs. discourse	Measured the average proportion of reporting on events that occurred relative to reporting on discourse (reactions, punditry, etc.)	Average of the proportion of news items (individual items of coverage) that were classed as events relative to discourse, across all reviews per show.
Host/anchor bias	Measured the degree of bias demonstrated by the host(s)/anchor(s), if any, defined in terms of the construction of the core news narrative. This indicator did not penalise journalists for presenting an opinion or analysis, and did not depend on the reviewer agreeing with the journalist. Rather, reviewers were provided with detailed instructions on how to identify a poorly constructed news story and/or a flawed narrative. The political orientation of the coverage or analysis is not taken into account.	Average rating of all reviews per show on the following scale: 0 = "Extremely biased" 1 = "Mostly biased" 2 = "Mostly unbiased" 3 = "Entirely unbiased"
Journalism vs. commentary	Measured the degree to which the coverage consisted of original journalism (reporting and/or investigation) vs. commentary (opinion and/or analysis).	Average rating of all reviews per show on the following scale: 0 = "Entirely commentary" 1 = "Mostly commentary" 2 = "Mostly journalism" 3 = "Entirely journalism"
Sensationalised coverage	Measured the degree of the host(s)/anchor(s)'s use of sensationalism, if any.	Average rating of all reviews per show on the following scale: 0 = "Extremely sensationalised" 1 = "Somewhat sensationalised" 2 = "Mainly neutral" 3 = "Entirely neutral"

Source: Global Disinformation Index

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15 For example, in nine instances the review team tagged the anonymised content as "Satire." However, no satire programmes were included in the study; all of the content reviewed came from news programming. Satirical content was most often identified by the frequent use of sarcasm by the hosts/anchors.

Operations Pillar

The Operations pillar is composed of three indicators based on policies and practices in place to mitigate disinformation as well as verified incidents of prior high-risk behaviour. Data for the Operations pillar were based on:

1. Publicly available policies/practices published by the show, the network, or the network's parent company,

2. A survey submitted to each show/network by GDI, and

3. Open-source research conducted by GDI analysts.

The data were collected according to a highly-structured questionnaire, then compiled and scored by GDI. The complete questionnaire was completed for each show by two researchers independently.

Then, the sections on publicly available policies/practices were reconciled by the two researchers to ensure that all relevant information was provided and to verify the final answers. The data collected on prior incidents of high-risk behaviour were validated by a separate analyst to ensure that all events meet GDI's strict inclusion criteria and that such criteria were applied uniformly across all shows included in the study. None of the shows or networks included in the study replied to GDI's survey.

The review questions referencing show and network policies and practices were based on indicators developed by the Journalism Trust Initiative (JTI). JTI is a benchmarking effort that has developed a set of indicators based on professional journalistic standards for use in identifying trustworthy, high-quality media outlets online.

Table 7 outlines the indicators included in the Operations pillar.

Table 7. Operations pillar indicators

Indicator	Definition	Calculation	Data source
Editorial independence	Measured the number of provisions in place to ensure editorial independence and mitigate against conflicts of interest.	The number of existing policies, out of 11 total criteria.	Publicly available policies/practices published by the show, the network, or the network's parent company, or policies provided privately to GDI.
Editorial guidelines	Measured the number of provisions in place to govern staff conduct and to ensure appropriate lines of editorial responsibility, clear distinctions between news and opinion content, appropriate fact-checking and attribution of information sources, and adequate correction of errors.	The number of existing policies, out of 23 total criteria.	Publicly available policies/practices published by the show, the network, or the network's parent company, or policies provided privately to GDI.
Prior incidents of high-risk behaviour	Measured the number of verified incidents of high-risk behaviour that occurred within the 12-month period prior to the end of the study.[16]	The number of incidents identified from the following categories: – Editorial interference – Conflicts of interest of a political nature – Conflicts of interest of a financial nature – Conflicts of interest of some other nature – Credible accusations of mis/disinformation	Open-source research conducted by GDI analysts.

Source: Global Disinformation Index

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16   21 August 2020 to 20 August 2021.

Minimising reviewer bias

In order to minimise any potential reviewer bias in the overall scores, GDI took the following steps:

- The researchers who conducted the Content and Operations reviews were engaged specifically for this study, based on their ability to identify high-risk content from both the left and the right during a blind review of transcripts containing political news coverage.

- The review team was not informed about which shows or networks were included in the study until after the Content review was completed.

- All of the reviewed content was presented as anonymised plain text; the names of the show, network, hosts, and any major journalists affiliated with the network were removed.

- The Content reviews were randomised in GDI's data entry system, so that each show's content was scored by a variety of reviewers.

- Segments for review were drawn from a variety of episodes over a 60-day period so that no single event or news story was likely to dominate the sample.

- The show assignments for the Operations review were randomised such that each network was scored by a variety of reviewers.

- Every data point for the Operations review was verified by at least two researchers.

- In the case of the data for "Prior incidents of high-risk behaviour," a third analyst extraneous to the review team verified each data point to ensure that the data collection standards were applied fairly and consistently across shows and networks.

Calculating the scores

Each indicator score was tallied based on the data collected and the calculation method described, then converted to a common scale of 0 to 100.[17] The pillar scores were then calculated for each show by taking the average of each indicator score. The overall score is the average of each pillar score.

Risk ratings were computed using the mean and standard deviation of the overall scores. Each risk level was one standard deviation in width, centred around the mean. That is to say, a score was considered medium risk if it fell within half of a standard deviation on either side of the mean. A score was considered low risk if it was half to one and a half standard deviations above the mean, or high risk if it was half to one and a half standard deviations below the mean. A score was considered minimum risk if it was more than one and a half standard deviations above the mean, and maximum risk if it was more than one and a half standard deviations below the mean.

Table 8 captures these calculations for each risk level.

Table 8. Risk level calculations

Risk level	Calculation	Score range
Minimum risk	> 1.5 sd + mean	68.17 to 100
Low risk	> 0.5 and ≤ 1.5 sd + mean	55.14 to 68.16
Medium risk	> -0.5 and ≤ 0.5 sd + mean	42.12 to 55.13
High risk	> -1.5 and ≤ -0.5 sd + mean	29.09 to 42.12
Maximum risk	≤ -1.5 sd + mean	0 to 29.08

Source: Global Disinformation Index

Interpreting the scores

This study was designed to yield the risk level (e.g., minimum, low, medium, high, or maximum) as its main result, which was derived from the numeric indicator scores and indicates the level of risk relative to other TV news programmes. Each indicator within the index measured only one component of disinformation risk, and as such may not be a sufficient measure of disinformation risk on its own. As such, the interpretable results are the overall risk levels, and they indicate *the level of disinformation risk relative to the other TV programmes included in the study.*

Additionally, the study was designed to yield a proof-of-concept for the methodology; shows were not selected as a representative sample for each network. In other words, this study cannot yield an overall risk level for each network, nor can the networks as a whole be directly compared based on this data.

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17   Using min-max normalisation.

Results

GDI found that most of the shows in the sample had disinformation risk ratings of low to medium. The average show rating across all three networks was 48.6, which would equate to a "medium" level of risk. Only one programme received a minimum-risk rating, while five fell into the high-risk category and four were rated maximum risk.

### Table 9. Results by risk level, number of shows

Risk level	No. of shows
Minimum risk	1
Low risk	12
Medium risk	13
High risk	5
Maximum risk	4
Total	35

Source: Global Disinformation Index

Figure 2 gives the overall distribution of risk levels in the sample. By definition, risk levels were distributed across the spectrum of possible categories because the risk ratings were computed using the mean and standard deviation of the overall scores. However, there was a greater number of programmes that departed significantly from the mean on the high end of the risk spectrum versus the low end. That is, there were four maximum-risk shows compared to only one minimum-risk show.

The low- and medium-risk programmes came from all three networks; CNN, MSNBC and Fox News all carried at least some programmes that can be categorised as low risk. The shows in the sample that were rated high and maximum risk all came from Fox News, while the one minimum-risk programme aired on CNN.

Figure 2. Overall market distribution

Risk level: ■ Minimum ■ Low ■ Medium ■ High ■ Maximum
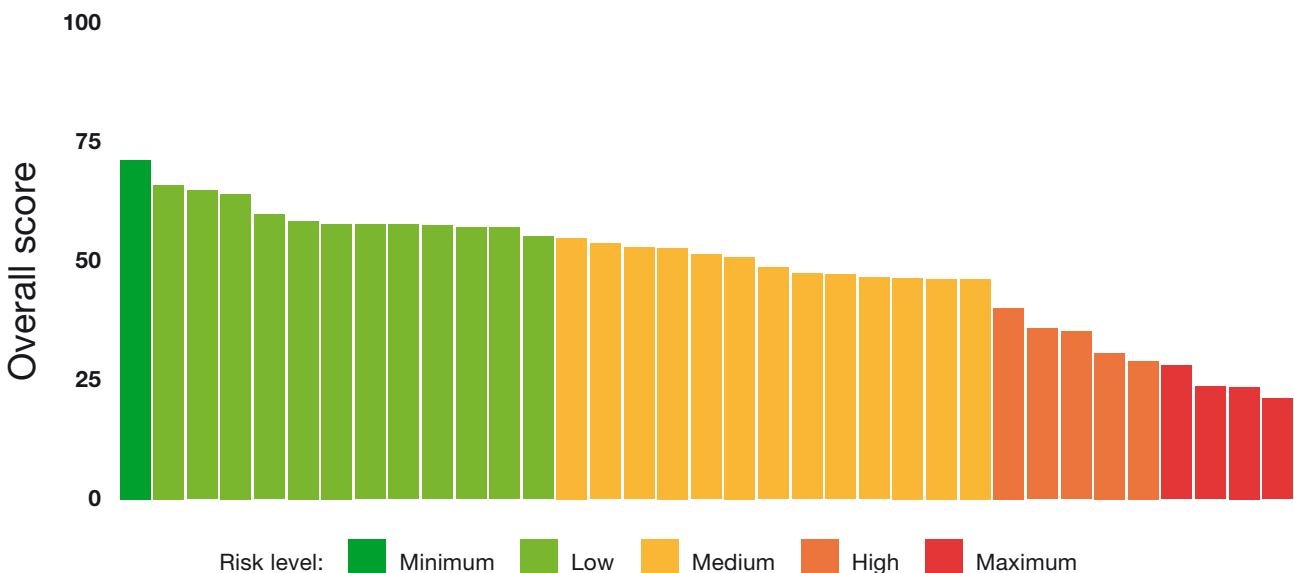
Source: Global Disinformation Index

Figure 3 shows that the average level of disinformation risk was higher in prime time, based on this sample. The average score for primetime programmes in the study was 39.5, which would equate to a risk level of "high," compared to an average score of 54 out of 100 (medium risk) for daytime and weekend programmes. However, only six of the thirteen primetime shows were rated high or maximum risk themselves. All six were Fox News programmes. Seven of the primetime programmes were rated low or medium risk. Notably, none of the primetime news programmes in the study sample were rated minimum risk.

Figure 3. Distribution by daypart
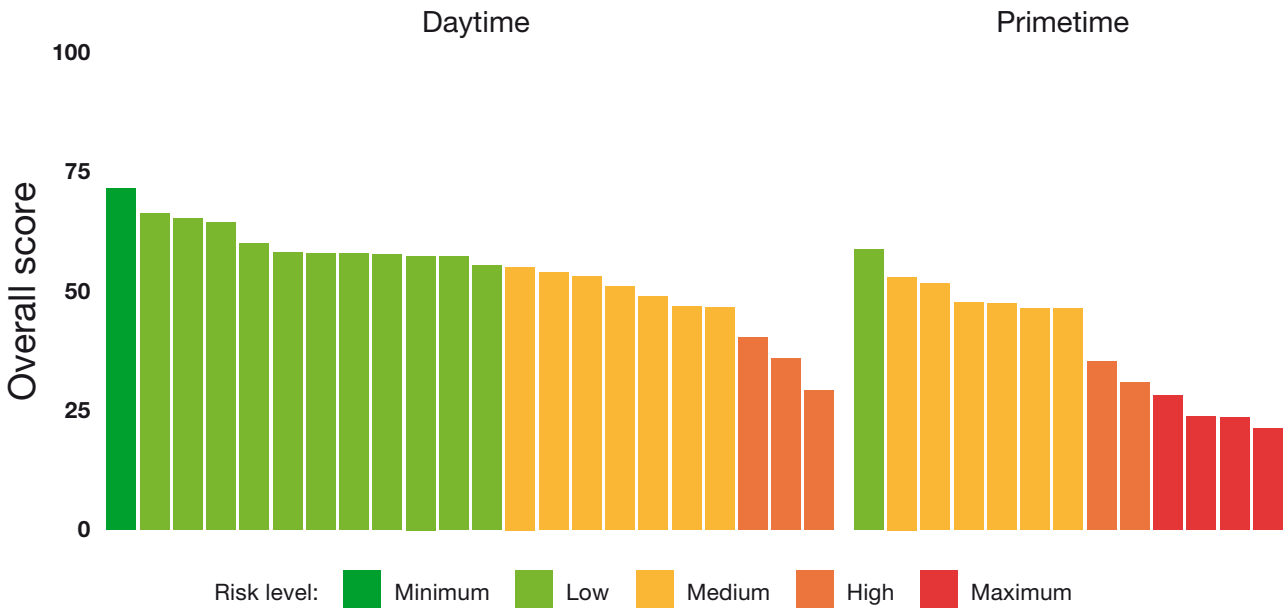
Source: Global Disinformation Index

Cable news networks in the United States carry some programmes that are not limited to straight news reporting, but also significantly incorporate the personal views and opinions of their presenters. In network parlance, these shows have a "host" rather than a news "anchor." GDI categorised each of the programmes in the study sample as either "news" or "opinion" by reviewing the web page for each show on the network's main domain[18] and determining whether the journalists or other persons leading the programme were referred to as host(s) or anchor(s). In cases where the show page did not make this clear, the job title given in the individual's biography on the network website was used.

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18   CNN.com/shows, FoxNews.com/shows, and MSNBC.com.

Figure 4 gives the distribution of risk levels for news versus opinion programmes, showing that eight out of the nine high- and maximum-risk programmes were Fox News opinion shows. This may represent a systemic risk factor for the media environment, in that these programmes air on a news network, but are in fact opinion content with a significant risk of disinforming viewers. Roughly half of the opinion programmes in the sample aired during primetime.

The average rating for opinion programmes was 42.1, compared to 54.8 for news content. This put both types of programming within the medium risk category, but at either end of the scoring scale. In fact, both types of programming had a diverse range of scores, as seen in Figure 4, but there was a greater degree of risk within the opinion sector.

Figure 4. Distribution by type of programme
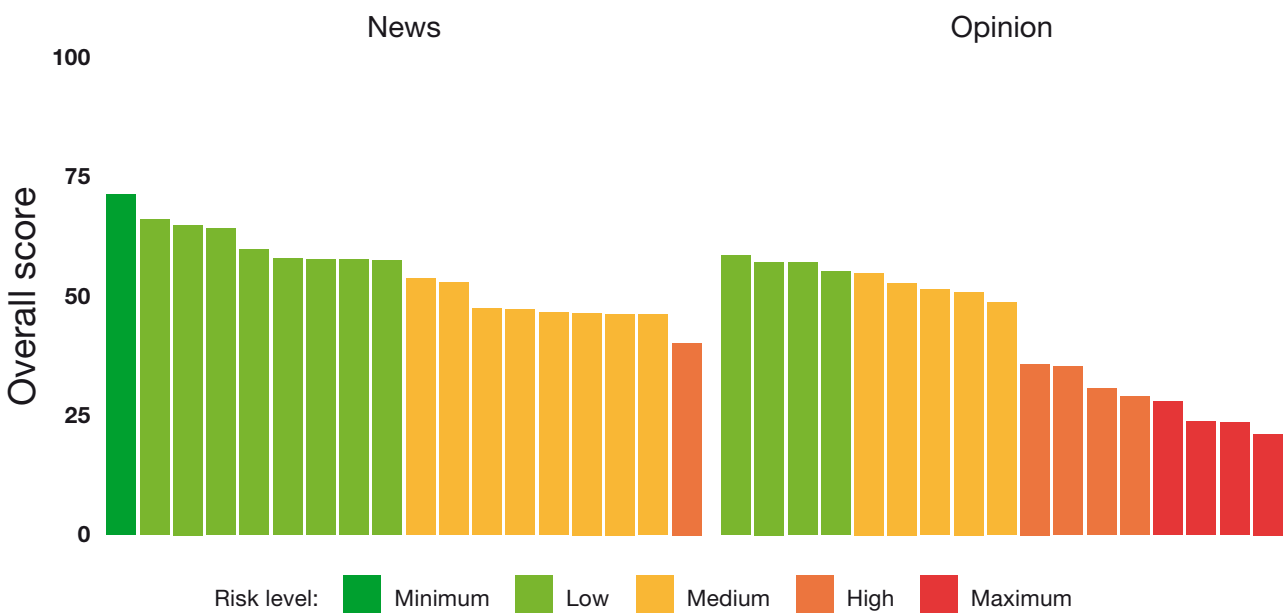
Source: Global Disinformation Index

Figure 5 gives the distribution by network. CNN was the only network to carry a minimum risk program, namely *CNN Newsroom*, the network's two-hour morning and afternoon headline-news program. CNN's poorest performing programme was *Cuomo Prime Time*, both because of conflicts of interest on the part of host Chris Cuomo and the adversarial and sensational nature of the show's content. The programme was subsequently cancelled after it was confirmed that Cuomo inappropriately aided his brother, then-Governor of New York Andrew Cuomo.[19,20]

All of the MSNBC programmes reviewed in the study fell in the low- and medium-risk categories. *Ayman Mohyeldin Reports*, the network's weekend evening news program, had the strongest rating – low risk with a score of 66.2. *Velshi*, airing on weekend mornings, and *The ReidOut*, a primetime political interview programme, had the worst results for the network, with scores of roughly 46 out of 100 putting them in the medium-risk category. Both programmes had a high percentage of commentary relative to original journalism, which is considered a disinformation risk in combination with the levels of bias, sensationalism, and adversariality observed in the content.

The Fox News programmes ranged from low to maximum risk; Fox News was the only network in the sample to carry high- and maximum-risk programmes. *Special Report with Bret Baier* and *Fox News Sunday* both scored in the low-risk category based on their neutral, journalistic content. At the time that the reviews were conducted, Chris Wallace was the host of *Fox News Sunday*; Wallace has since left the network.[21]

Tucker Carlson Tonight, *The Ingraham Angle*, *Hannity* and *Justice with Judge Jeanine*, all primetime opinion programmes, were rated as maximum risk, indicating that these programmes were highly likely to disseminate adversarial narratives that disinform their viewers.

Figure 5. Distribution by network
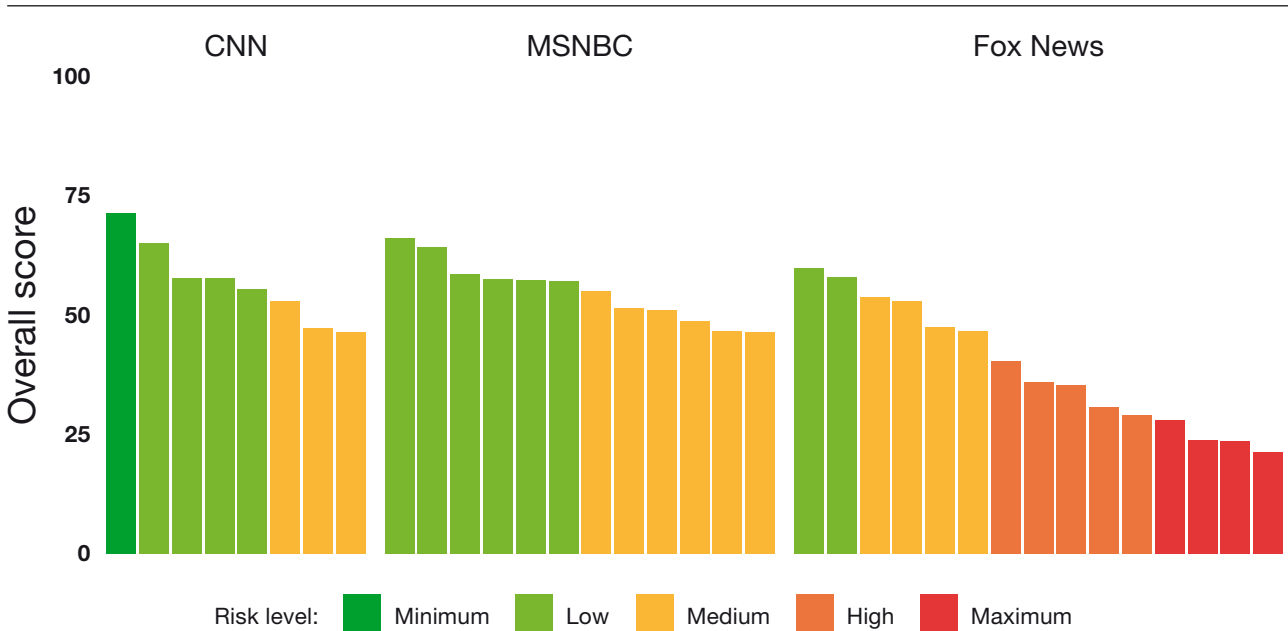
Source: Global Disinformation Index

19   Darcy, Oliver, and Brian Stelter. "CNN Suspends Chris Cuomo Indefinitely." *CNN, Cable News Network*, 1 Dec. 2021, https://edition.cnn.com/2021/11/30/media/chris-cuomo-suspended/index.html.

20   Stelter, Brian, et al. "CNN to Conduct 'Thorough Review' of Documents Showing Chris Cuomo's Intimate Role Advising Brother Andrew Cuomo." *CNN, Cable News Network*, 30 Nov. 2021, https://edition.cnn.com/2021/11/29/media/chris-cuomo-documents-under-review/index.html.

21   Wallace, Chris quoted in Grynbaum, Michael M. "Chris Wallace Says Life at Fox News Became 'Unsustainable'." The New York Times, *The New York Times*, 27 Mar. 2022, https://www.nytimes.com/2022/03/27/business/media/chris-wallace-cnn-fox-news.html.

Table 10 gives the risk ratings for each show in the study.

Table 10. Disinformation risk ratings by show

Show	Network	Overall score	Risk rating
CNN Newsroom	CNN	71.47	Minimum
Ayman Mohyeldin Reports	MSNBC	66.16	Low
New Day	CNN	65.08	Low
Andrea Mitchell Reports	MSNBC	64.34	Low
Special Report with Bret Baier	Fox News	59.91	Low
The Rachel Maddow Show	MSNBC	58.64	Low
Fox News Sunday	Fox News	57.99	Low
State of the Union with Jake Tapper and Dana Bash	CNN	57.88	Low
At this Hour with Kate Bolduan	CNN	57.80	Low
Stephanie Ruhle Reports	MSNBC	57.62	Low
MTP (Meet The Press) Daily	MSNBC	57.32	Low
Morning Joe	MSNBC	57.18	Low
Fareed Zakaria GPS	CNN	55.38	Low
Deadline: White House	MSNBC	55.03	Medium
FOX News Live	Fox News	53.89	Medium
America's Newsroom	Fox News	52.95	Medium
Erin Burnett OutFront	CNN	52.90	Medium
All In with Chris Hayes	MSNBC	51.63	Medium
PoliticsNation	MSNBC	50.96	Medium
The Beat with Ari Melber	MSNBC	48.84	Medium
Fox News @ Night	Fox News	47.54	Medium
CNN Tonight with Don Lemon	CNN	47.32	Medium
Velshi	MSNBC	46.72	Medium
The Faulkner Focus	Fox News	46.58	Medium
The ReidOut	MSNBC	46.41	Medium
Cuomo Prime Time	CNN	46.37	Medium
The Story with Martha MacCallum	Fox News	40.32	High
The Five	Fox News	35.92	High
Life, Liberty & Levin	Fox News	35.25	High
FOX News Primetime	Fox News	30.82	High
Fox & Friends	Fox News	29.13	High
Tucker Carlson Tonight	Fox News	28.06	Maximum
The Ingraham Angle	Fox News	23.79	Maximum
Hannity	Fox News	23.62	Maximum
Justice with Judge Jeanine	Fox News	21.22	Maximum

Source: Global Disinformation Index

Discussion and future research

The results of this study yield several important implications. First of all, the study demonstrates the feasibility of detecting disinformation risk on television programming. Television is a difficult medium due to the number of different signals that the viewer must interpret (for example, words, tone, graphics, music, etc.). GDI's study has demonstrated that much of this input can be considered noise; a purely textual analysis highlights clear disinformation signals. Interesting future projects might:

- Expand the sample to be generalisable at the network level, across the market, or to other markets.
- Assess to what degree viewers are able to distinguish between signal and noise in drawing conclusions from television news content.

Secondly, the findings highlight that there is some relatively reliable news content on U.S. cable television, across all three networks. This is reassuring for the roughly five million Americans who watch CNN, MSNBC and Fox News.

Of concern, however, are the results for primetime and opinion programming. Nine out of the 12 primetime programmes in the sample can be characterised as opinion rather than news. Primetime content was found to score 27% worse than daytime and weekend shows, on average. The opinion shows that air in prime time showed the highest level of risk, with an average score of 36.2 out of 100, compared to 54.8 for news content and 48.6 for the sample overall. This average score puts the group firmly in the high risk category, and indeed, six of the nine programmes were rated as high or maximum risk. The majority of Americans (65%) report that they turn to cable news for the news, rather than for entertainment or to watch specific programmes or personalities.[22] However, based on the programming assessed, the content they are consuming likely comes with a significant amount of personal opinion and a heightened risk of exposure to disinformation.

The usual conception of risk considers the probability of an event multiplied by its impact. For many risks, the

likelihood of the outcome may be very low, but the potential impact is significant enough to deter us. This study looked only at the likelihood that disinformation, expressed as harmful adversarial narratives, will air on cable television, and found that the probability is actually quite high. Eleven percent of the sample (four out of thirty-five shows) present a maximum-risk level, and twenty-five percent of the sample (nine shows) ranges from high to maximum.

In this context, impact can be conceived of in various ways. On the one hand, we may note that 5.04 million viewers[23] is a relatively small portion of the American public. Further, viewers as counted in the data may not be mutually exclusive; that is, the same person may be tuning into more than one network. And indeed, as of 2019, only 16% of U.S. adults identified Fox News as their main source of political news. Twelve percent cited CNN while only four percent reported relying mainly on MSNBC.[24]

On the other hand, if we consider impact in terms of the most widely watched shows, we may note that the lowest-risk programmes are not the most widely viewed. That is to say, the risk of consuming disinformation on cable news is amplified because the most widely watched programmes are also those which are likeliest to air sensationalised content that creates an adversarial relationship between the viewer and other groups or institutions. These programmes tend to rely heavily on commentary over journalism (i.e., analysis and opinion rather than uncovering new facts and information for the viewer) and may stoke political division by emphasising discourse (e.g., punditry and reactions) rather than reporting on newsworthy events.

The study sample included eight of the ten most widely watched cable news programmes in 2021, as detailed in Table 11. These shows had an average risk score of 39.5, which would be considered high risk. But we can see that there are some important differences between the programmes. The top three shows in terms of viewership all rated no better than 35.9 on the disinformation risk scale. The most widely watched show, *Tucker Carlson Tonight*, had 24% more viewers than the most-widely watched low-risk show, *The Rachel Maddow Show*, and was twice as risky in terms of disinformation.

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22   Morning Consult. "Main reason for watching cable news among adults in the United States as of February 2022, by age group." *Statista*, February 2022, https://www.statista.com/statistics/1308035/reasons-for-watching-cable-news-in-the-us/.

23   Nielsen's estimated viewership.

24   Grieco, Elizabeth. "Americans' Main Sources for Political News Vary by Party and Age." Pew Research Center, *Pew Research Center*, 18 Aug. 2020, https://www.pewresearch.org/fact-tank/2020/04/01/americans-main-sources-for-political-news-vary-by-party-and-age/.

Table 11. Ten most widely watched cable news shows, 2021

Show	Network	Viewers, 2021 (millions)	GDI risk score	GDI risk rating
Tucker Carlson Tonight	Fox News Channel	3.21	28.1	Maximum
The Five	Fox News Channel	2.94	35.9	High
Hannity	Fox News Channel	2.87	23.6	Maximum
The Rachel Maddow Show	MSNBC	2.59	58.6	Low
The Ingraham Angle	Fox News Channel	2.27	23.8	Maximum
Special Report with Bret Baier	Fox News Channel	2.13	59.9	Low
Fox News Primetime	Fox News Channel	1.87	30.8	High
The Last Word with Lawrence O'Donnell	MSNBC	1.78	–	–
Gutfeld!	Fox News Channel	1.7	–	–
Deadline: White House	MSNBC	1.58	55.0	Medium
		Average risk rating	39.5	High

Source: Nielsen and Global Disinformation Index

Lastly, it is worthwhile to consider the advertising revenue allocated to cable news programming, in light of its risk of disinforming viewers. As the most widely watched cable network, Fox News drew the largest advertising revenues in 2020, totaling 203.8 million U.S. dollars. Americans tuned in for both pandemic and election-related coverage, and the network realised a 41% year-on-year increase. CNN followed in terms of ad revenue, at 140.4 million, while MSNBC brought in 77.9 million, despite attracting 19% more viewers than CNN.[25]

This study sample was not designed to produce a network-level risk rating; shows were chosen to comprise a proof-of-concept dataset for the approach in general. But given the disparities in ratings and ad dollars, the next iteration of the work may do well to sample content from across each network in a way that allows for direct comparisons between the networks as a whole. These initial findings suggest significant differences in scores based on the networks' most widely viewed programmes.

Table 12. Advertising revenue by network, 2018 to 2020, in million U.S. dollars

Network	2018	2019	2020
Fox News	157.3	144.5	203.8
CNN	140.7	163.4	140.4
MSNBC	116.8	106.3	77.9

Source: Pew Research Center, Kantar

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25   Pew Research Center, Kantar. "Advertising revenue of selected cable TV news channels in light of the coronavirus outbreak in the United States in 2nd quarters of 2018 to 2020 (in million U.S. dollars)." *Statista*, October 2020, https://www.statista.com/statistics/1190246/advertising-revenue-of-selected-cable-tv-news-channels/.

Conclusion

This study has demonstrated a new application of GDI's risk rating approach, showing that empirical evidence collected within a structured methodology can reveal disinformation risk on television. Further, this methodology is more nuanced and scalable than simple fact-checking (based on its reliance on a sample of content, rather than a comprehensive review of all facts) and demonstrates the feasibility of using an apolitical approach to uncover problematic aspects of news coverage (compared to similar efforts that predominantly focus on partisanship).

The findings provide viewers and advertisers with initial data regarding the level of disinformation risk on some of cable news' most widely watched programming. While it is encouraging to find low-risk programming on all three major networks, the project has highlighted that the most widely watched shows carry a significant risk of disinforming the American public.