DISINFORMATION 101 FOR EMERGENCY MANAGERS

SUMMARY

The spread of mis/dis/malinformation is a growing security concern exacerbated by the rising speed, reach, and efficiencies of the internet.[1] Adversaries are increasingly understanding the utility of disinformation for manipulating real-world events and are seeking to weaponize it to achieve their objectives. Disinformation is a particularly troubling weapon because it manipulates the same psychological mechanisms that we use to process accurate information, making it difficult to build up defenses against it and impossible to eliminate our vulnerability to it. Understanding what disinformation is and how it works is increasingly critical for emergency managers and responders, as it can decrease public trust in government services, complicate emergency and disaster response, create confusion, and generate fear among vulnerable populations.

INTRODUCTION

In 2022, the Department of Homeland Security Office of Inspector General issued a report, *DHS Needs a Unified Strategy to Counter Disinformation Campaigns*, highlighting how widespread use of the internet and social media increases vulnerability to disinformation campaigns targeting public discourse, trust in government institutions and services, emergency response, and elections.[2] As more people rely on the internet and social media for news, emergency alerts, and other information, malign actors have more opportunities to manipulate the content that people see. For example, during the Maui wildfires in September 2023, Chinese influence operations spread AI-generated photographs of the fires, false posts about the source of the fires, and fake commentary about how US money would be better spent on disaster response in Maui than in Ukraine.[3] This disinformation discouraged residents from seeking help and led some to return to the burn zone despite warnings that the structures, air, and water might not be safe.[4] In

---

[1] Unless otherwise cited, the information is this report is condensed from a longer discussion available in Wolters et al., *The Psychology of (Dis)information: A Primer on Key Psychological Mechanisms*, CNA, DRM-2021-U-029337-1Rev, September 2021.

[2] Joseph V. Cuffari, *DHS Needs a Unified Strategy to Counter Disinformation Campaigns*, Department of Homeland Security Office of Inspector General, August 10, 2022, https://www.oig.dhs.gov/sites/default/files/assets/2022-08/OIG-22-58-Aug22.pdf.

[3] David E. Sanger and Steven Lee Myers, "China Sows Disinformation About Hawaii Fires Using New Techniques," *New York Times*, September 11, 2023, https://www.nytimes.com/2023/09/11/us/politics/china-disinformation-ai.html.

[4] Pien Huang and Huo Jingnan, "How Rumors and Conspiracy Theories Got in the Way of Maui's Fire Recovery," *NPR*, September 28, 2023, https://www.npr.org/2023/09/28/1202110410/how-rumors-and-conspiracy-theories-got-in-the-way-of-mauis-fire-recovery.

this case, and others, disinformation has proven to be a serious threat that can directly affect real-world events. Emergency managers and responders must be aware of what disinformation is, how it works, and be prepared to counter it while responding to disasters and emergencies.
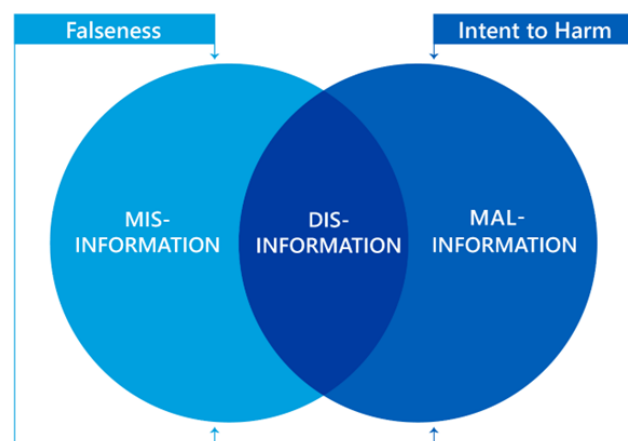
WHAT IS DISINFORMATION?

Disinformation is one term under the umbrella of *information disorder* which refers to information that is known to be false, and that is spread with the explicit goal of deceiving. [5] As illustrated in Figure 1, disinformation is distinguished from misinformation and malinformation by the nature of the content and intent of the content's creator. [6] However, from the viewer's perspective, there is no practical distinction between the types of information, as most viewers are not aware of the content creator's intent. Therefore, for the purposes of accessibility and practical application, we use the term *disinformation* to refer to both disinformation and misinformation.

These definitions, although useful, do not capture the range of material that might fall under the classification of disinformation. A State Department funded report describes the complex nature of the disinformation environment:

Figure 1. Defining mis-/dis-/mal-information (MDM)

Source: Adapted from Claire Wardle, "Misinformation vs. Disinformation: What's the Difference?" *Civic Genius*, February 9, 2022, https://www.ourcivicgenius.org/learn/misinformation-vs-disinformation-whats-the-difference/.

> Disinformation can include authentic material used in a deliberately wrong context to make a false connection, such as an authentic picture displayed with a fake caption. It can take the form of fake news sites or ones that are deliberately designed to look like well-known sites. Disinformation can further include outright false information, shared through graphics, images and videos. It can also take the form of manipulated image and video

---

[5] As defined by Claire Wardle and Hossein Derakhshan (2017), information disorder refers to the three collective phenomena of misinformation, disinformation, and malinformation. https://rm.coe.int/information-disorder-toward-an-interdisciplinary-framework-for-researc/168076277c.
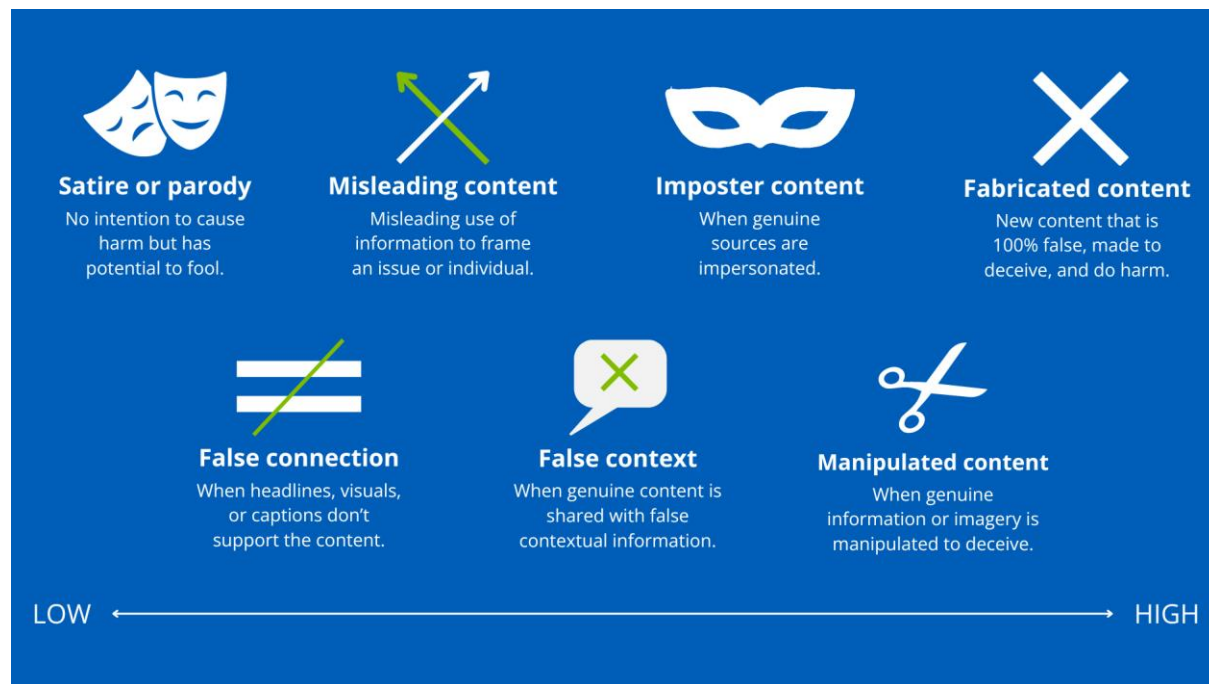[6] Claire Wardle, "Understanding information disorder," *First Draft News*, September 22, 2020, https://firstdraftnews.org/long-form-article/understanding-information-disorder/.

content, where controversial elements are photoshopped into innocuous contexts to evoke anger or outrage.[7]

In other words, disinformation exists in a context and can be fabricated to varying degrees. *First Draft* proposes seven types of disinformation (see Figure 2) on a spectrum based on intention to do harm.[8]

Figure 2. Seven types of disinformation.

Source: Adapted from Claire Wardle, "Understanding Information Disorder," *First Draft News*, September 22, 2020, https://firstdraftnews.org/long-form-article/understanding-information-disorder/.

Notably, both the State Department definition and *First Draft*'s conceptualization exclude various techniques often used in influence campaigns and often discussed in the context of disinformation campaigns (e.g., fake accounts spreading true information, amplifying posts of real people, and infiltrating a closed community). Although these behaviors do not meet the technical definition of disinformation, they are often included because they demonstrate elements of deception and malintent.

---

[7] Christina Nemr and William Gangware, *Weapons of Mass Destruction*, Park Advisors, 2019, https://www.state.gov/wp-content/uploads/2019/05/Weapons-of-Mass-Distraction-Foreign-State-Sponsored-Disinformation-in-the-Digital-Age.pdf.

[8] Claire Wardle, "Understanding Information Disorder," *First Draft News*, September 22, 2020, https://firstdraftnews.org/long-form-article/understanding-information-disorder/.

HOW DOES DISINFORMATION SPREAD?

Many factors facilitate the spread of disinformation. Researchers often identify four primary psychological principles as particularly relevant: initial information processing; cognitive dissonance; the influence of groups, beliefs, and novelty; and the role of emotions and arousal (see Table 1).

Table 1. Psychological principles relevant for disinformation adoption and spread.

Principle	Explanation	Application to disinformation
Initial information processing	We process information as efficiently as possible, which can make us vulnerable to mistakes.	We can accept disinformation as true because we are not thinking deeply and critically.
Cognitive dissonance	When we are confronted with something that goes against our beliefs, we are motivated to resolve the conflict.	We accept disinformation that supports our initial beliefs and try to reject information that conflicts with our initial beliefs.
Group, belief, and novelty	We more readily share information with people with whom we identify, when we believe it is true, and when it is novel or urgent.	We accept and share disinformation more readily when it comes from people we know, it appeals to what "our group" believes, and when we think it is new.
Emotions and arousal	We pay more attention to information that makes us feel positively or arouses us to act.	We are more likely to share disinformation if it is constructed to elicit high-arousal emotions.

Source: Wolters et al., *The Psychology of (Dis)information: A Primer on Key Psychological Mechanisms*, CNA, DRM-2021-U-029337-1Rev, September 2021.

Initial information processing refers to the gathering of information from our environment using our senses. Psychologists argue that we have two mechanisms for evaluating this information: automatic thinking and controlled thinking.[9] Automatic thinking requires little effort and is fast and efficient, while controlled thinking is slower and requires more deliberate attention. In other words, this is the difference between mindlessly driving home from work every evening and carefully watching your GPS as you navigate to a new location for the first time.[10] Although this mechanism allows us to quickly organize and interpret information, sometimes this causes us to process information (both true and false) incorrectly by thinking too superficially and making false connections (e.g., tuning out and accidentally driving home after work, when we meant to go to the grocery store). We are, therefore, more vulnerable to disinformation when we use too many mental shortcuts instead of thinking deeply and critically (e.g., seeing a CNN logo and assuming the content is trustworthy, consequently overlooking signs that the account sharing the content is suspicious).

---

[9] Shelly Chaiken and Yaacov Trope, eds., *Dual-Process Theories in Social Psychology* (New York: Guilford Press, 1999); Susan T. Fiske and Shelly E. Taylor, Social Cognition: From Brains to Culture, 3rd ed. (London: SAGE Publishing, 2016).
[10] Daniel Kahneman, *Thinking, Fast and Slow* (New York: Farrar, Straus, and Giroux, 2011).

Cognitive dissonance describes the discomfort we feel when new information conflicts with information we already believe. If information is incompatible with our existing beliefs, we react by (1) changing our beliefs, (2) ignoring incompatible information, (3) reducing the importance of the conflicting information, or (4) increasing the importance of compatible information.[11] For example, if a smoker is presented with information that smoking is bad for their health, they might do any of the following:

1. Stop smoking (change their beliefs)

2. Conclude that the Centers for Disease Control and Prevention (CDC) is corrupt and incorrect about the negative effects of smoking (ignore incompatible information)

3. Compare the risk from smoking to risk from being addicted to heroin (reduce the importance of incompatible information)

4. Think about the enjoyment of smoking (increase importance of compatible information)

If disinformation supports our initial beliefs or conflicts less with our existing beliefs than true information, we are more likely to accept it.

We are also more likely to accept and share any information, including disinformation, when it meets one of three conditions related to **group membership, strength of belief, and novelty**.[12] First, people are much more likely to share negative rumors with their in-group (e.g., people of the same age, race, gender, occupation, political leaning) than their out-group. Second, they are also much more likely to share information they believe to be true. Third, people are more likely to share new information and less likely to share "stale" news. In one alarming example, COVID-related disinformation spread in India suggesting that Muslim Indians were intentionally spreading a disease (which aligned with preexisting stereotypes about Muslim Indians being unclean) that was killing people around the world (and that was new, and scary, and without a cure).[13]

Finally, we are more likely to share any information, including disinformation, if it is constructed to be **emotional or arousing**. We are more likely to share content that evokes highly arousing emotions such as awe, amusement, anxiety, or fear, and less likely to share content that evokes less arousing emotions such as contentment or sadness.[14] In addition, people are more likely to process highly arousing content using automatic thinking (i.e., our emotions take over, and we stop being good critical thinkers), which may lead them to accept and share disinformation. Vaccine-related disinformation that suggests that babies are at risk and being endangered, is a good example of content that is emotionally arousing.

---

[11] Leon Festinger, *A Theory of Cognitive Dissonance* (Evanston, IL: Row, Peterson, 1957).

[12] Bernard P. Brooks, Nicholas DiFonzo, and David S. Ross, "The GBN-Dialogue Model of Outgroup-Negative Rumor Transmission: Group Membership, Belief, and Novelty," *Nonlinear Dynamics, Psychology, and Life Sciences* 17, no. 2 (2013). https://pubmed.ncbi.nlm.nih.gov/23517609/.

[13] Shruti Menon, "Coronavirus: The Human Cost of Fake News in India," BBC, June 30, 2020, https://www.bbc.com/news/world-asia-india-53165436.

[14] Jonah Berger and Katherine L. Milkman, "What Makes Online Content Viral?" *Journal of Marketing Research* 49, no. 2 (2012); Jonah Berger, "Arousal Increases Social Transmission of Information," Psychological Science 22, no. 7 (2011).

Critically, these principles are not unique to absorbing and spreading disinformation—they are also key to absorbing and spreading true information. This means that at the individual level, disinformation spreads through normal psychological mechanisms that malign actors can exploit to achieve their objectives. We can counter the spread of disinformation with a range of interventions, but we can never become completely immune to it.

WHY DOES THIS MATTER FOR EMERGENCY MANAGEMENT?

The actual or perceived use of disinformation to manipulate events can introduce doubt and anxiety about government institutions, journalism, and other pillars of democracy, which could further help adversaries achieve their goals. A lack of trust between citizens and local and state governments can significantly undermine response efforts before, during, and after a disaster.[15] For example, citizens whose trust in the government has been shaken by disinformation may rely on unofficial sources of information to make decisions about when and where to evacuate.[16] Understanding what disinformation is, how it spreads, and how to prevent its spread is critical to mitigate the risks caused by disinformation during disasters and emergencies.

---

[15] Ritwik Gupta, Shankar Sastry, and Janet Napolitano, "Trustworthy Disaster Response: Technology, Policy, and Society," *Berkeley Center for Security in Politics*, October 17, 2023, https://csp.berkeley.edu/2023/10/17/trustworthy-disaster-response-technology-policy-and-society/.

[16] DHS Social Media Working Group for Emergency Services and Disaster Management, *Countering False Information on Social Media in Disasters and Emergencies*, 2018, https://www.dhs.gov/sites/default/files/publications/SMWG_Countering-False-Info-Social-Media-Disasters-Emergencies_Mar2018-508.pdf.

REFERENCES

Berger, Jonah. "Arousal Increases Social Transmission of Information." *Psychological Science* 22, no. 7 (2011). https://www.jstor.org/stable/25835473

Berger, Jonah, and Katherine L. Milkman. "What Makes Online Content Viral?" *Journal of Marketing Research* 49, no. 2 (2012). doi: 10.1509/jmr.10.0353

Brooks, Bernard P., Nicholas DiFonzo, and David S. Ross. "The GBN-Dialogue Model of Outgroup-Negative Rumor Transmission: Group Membership, Belief, and Novelty." *Nonlinear Dynamics, Psychology, and Life Sciences* 17, no. 2 (2013). PMID: 23517609.

Chaiken, Shelly, and Yaacov Trope, eds. *Dual-Process Theories in Social Psychology*. (New York: Guilford Press, 1999).

Cuffari, Joseph V. *DHS Needs a Unified Strategy to Counter Disinformation Campaigns*. Department of Homeland Security Office of Inspector General. August 10, 2022. https://www.oig.dhs.gov/sites/default/files/assets/2022-08/OIG-22-58-Aug22.pdf.

DHS Social Media Working Group for Emergency Services and Disaster Management. *Countering False Information on Social Media in Disasters and Emergencies*. 2018. https://www.dhs.gov/sites/default/files/publications/SMWG_Countering-False-Info-Social-Media-Disasters-Emergencies_Mar2018-508.pdf.

Festinger, Leon. *A Theory of Cognitive Dissonance*. (Evanston, IL: Row, Peterson, 1957).

Fiske, Susan T., and Shelly E. Taylor. *Social Cognition: From Brains to Culture*, 3rd ed. (London: SAGE Publishing, 2016).

Gupta, Ritwik, Shankar Sastry, and Janet Napolitano. "Trustworthy Disaster Response: Technology, Policy, and Society." *Berkeley Center for Security in Politics*. October 17, 2023. https://csp.berkeley.edu/2023/10/17/trustworthy-disaster-response-technology-policy-and-society/.

Huang, Pien, and Huo Jingnan. "How Rumors and Conspiracy Theories Got in the Way of Maui's Fire Recovery." *NPR*. September 28, 2023. https://www.npr.org/2023/09/28/1202110410/how-rumors-and-conspiracy-theories-got-in-the-way-of-mauis-fire-recovery.

Kahneman, Daniel. *Thinking, Fast and Slow*. (New York: Farrar, Straus, and Giroux, 2011).

Menon, Shruti. "Coronavirus: The Human Cost of Fake News in India." *BBC*. June 30, 2020. https://www.bbc.com/news/world-asia-india-53165436.

Nemr, Christina, and William Gangware. *Weapons of Mass Destruction: Foreign State-Sponsored Disinformation in the Digital Age*. Park Advisors. March 2019. https://www.state.gov/wp-content/uploads/2019/05/Weapons-of-Mass-Distraction-Foreign-State-Sponsored-Disinformation-in-the-Digital-Age.pdf.

Sanger, David E., and Steven Lee Myers. "China Sows Disinformation about Hawaii Fires Using New Techniques." *New York Times*. September 11, 2023. https://www.nytimes.com/2023/09/11/us/politics/china-disinformation-ai.html.

Wardle, Claire. "Understanding Information Disorder." *First Draft News*. September 22, 2020, https://firstdraftnews.org/long-form-article/understanding-information-disorder.

Wardle, Claire, and Hossein Derakhshan. *Information Disorder: Toward an Interdisciplinary Framework for Research and Policymaking*. Council of Europe, DGI(2017)09. September 27, 2017. https://rm.coe.int/information-disorder-toward-an-interdisciplinary-framework-for-researc/168076277c.

Wolters, Heather, Kasey Stricklin, Neil Carey, and Megan K. McBride. *The Psychology of (Dis)information: A Primer on Key Psychological Mechanisms*, CNA, DRM-2021-U-029337-1Rev. September 2021. https://www.cna.org/reports/2021/10/psychology-of-disinformation-key-psychological-mechanisms