



Abstract

The US government has long sought to counter foreign malign influence, but the solutions of previous generations have fallen short when faced with the challenges of the modern media environment. Fortunately, a growing field of research is focused on identifying techniques and strategies to help increase resilience to such malign influence. Drawing on a comprehensive literature review, this guide summarizes best practices from the literature, including when to use an intervention, how to describe it to participants, and how to design it for maximum efficacy.

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April 2025

A handwritten signature in black ink, appearing to read 'DK', is located below the 'Approved by:' text.

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Executive Summary

Foreign malign influence poses a significant threat. US adversaries are motivated to spread false narratives among a range of populations, including US servicemembers, those in the paths of extreme weather events, and disaster victims. Minimizing the impact of malign influence is a complex challenge that requires an evidence-informed response.

Malign narratives exploit normal psychological mechanisms that help people to function in their daily lives (for more, see our earlier work titled *The Psychology of (Dis)information*).¹ As a result, it is not possible to fully erase this threat. However, a number of interventions can increase resilience to such content on a large scale:

- *Inoculation*. The practice of preparing individuals in advance in order to “inoculate” them against malign messages.
- *Debunking*. The use of a concise correction that demonstrates that the prior message or messaging campaign was inaccurate.
- *Fact-checking*. A journalistic practice designed to reject clearly false claims with empirical evidence from neutral or unimpeachable sources.
- *Media literacy*. A skill-building effort that improves an individual’s ability to critically assess a piece of content.

The goal of these interventions is not to change people’s strongly held positions or lightly held opinions. In fact, research suggests that these interventions do not change general political views, attitudes, or voting preferences, though they may change beliefs about the accuracy of false narratives.

A full review of the literature on these interventions—including a brief history and definition of each technique, a description of how they work, and a summary of the state of research on each technique—is available in the companion to this report: *Evidence-Based Techniques for Countering Mis-/Dis-/Mal-Information: A Primer*. The primary objective of this report is to provide practitioners with recommendations for how to use these interventions.

¹ Heather Wolters, Kasey Stricklin, Neil Carey, and Megan K. McBride, *The Psychology of (Dis)information: A Primer on Key Psychological Mechanisms*, CNA, 2021.

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Introduction

The challenge posed by malign influence is significant. Knowing that you are being exposed to such content is not enough to protect you from its influence, because such content typically exploits normal psychological mechanisms that help us function in our day-to-day lives (for more, see our earlier work titled *The Psychology of (Dis)Information*).² An analogy illustrates the point: keeping your front door locked at night is a great first step in protecting your home, but it will not stop a burglar who breaks in through your dryer vent (i.e., something you did not think of as a vulnerability). In the same way, being intelligent, thoughtful, and critical—and even recognizing that there are false narratives in your newsfeed—is not adequate protection because this type of content circumvents normal defenses.

This research—in addition to the interventions described in this review—is designed to bolster natural defenses, including those at the metaphorical front and back doors (which may be strong but not strong enough) and those at the dryer vent and heat exhaust (which may not yet exist).

The goal of these interventions is not to change people’s strongly held positions or even lightly held opinions. In fact, research suggests that these interventions do not change general political views, attitudes, or voting preferences, though they may change beliefs about the accuracy of false narratives.

Summary of interventions

In the companion to this report (*Evidence-Based Techniques for Countering Mis-/Dis-/Mal-Information: A Primer*), we reviewed the literature on four types of interventions designed to counter malign influence: inoculation, debunking, fact-checking, and media literacy. That paper presents a full review of the research on these interventions, including a brief history and definition of each technique, a description of how they work, and a summary of the state of research on each technique. Tables 1–4 summarize the critical findings for each type of intervention.

² Heather Wolters, Kasey Stricklin, Neil Carey, and Megan K. McBride, *The Psychology of (Dis)information*.

Table 1. Key findings for inoculation

Inoculation (also called prebunking) is the practice of preparing individuals in advance in order to "inoculate" them against malign messages. Inoculation is an effective way to build resistance to manipulation and malign influence.

- Inoculation works if people:
 - have imperfect knowledge of a topic
 - have imperfect knowledge of the techniques of manipulation
 - care that they are being manipulated
- Inoculations can be designed to:
 - target false narratives on a specific topic (e.g., safe evacuation routes)
 - target the techniques used by the creators of false narratives
- Inoculations may be more effective when they actively engage the user
- Inoculations can be given before or after exposure to false information
- Inoculations that cite consensus information may be more effective

Source: CNA.

Table 2. Key findings for debunking

Debunking is the use of a concise correction that demonstrates that the prior message or messaging campaign was inaccurate; it is an effective way to reduce belief in false narratives.

- Debunking can correct specific instances of inaccurate information, but it cannot protect people from malign influence in general
- Debunking messages appear to be more effective when they:
 - cite high-credibility sources (i.e., sources that have expertise and are trustworthy)
 - contain detailed corrective information, which is more effective than simple corrections
 - express stronger corrections (e.g., those containing more information)
- The tone of the correction (e.g., uncivil, neutral, affirmational) does not appear to change the effect of the correction
- The format of the correction (e.g., truth first, myth first) does not appear to change the effect of the correction

Source: CNA.

Table 3. Key findings for fact-checking

Fact-checking is a journalistic practice designed to reject clearly false claims with empirical evidence from neutral or unimpeachable sources; it is an effective way to reduce belief in false narratives.

- Fact-checking can correct specific instances of inaccurate information, but it cannot protect people from malign influence in general
- Fact-checking is best when integrated into the consumption of news

Source: CNA.

Table 4. Key findings for media literacy

Media literacy is an individual's ability to critically assess a piece of content. It includes the skills required to evaluate a piece of content, as well as an understanding of the structures that produced that content. Media literacy is an effective way to increase resistance to manipulation.

- In-person media literacy training has been found to be effective across a range of topics, behaviors, and outcomes
- Online media literacy training has been shown to positively affect media use in multiple ways. It can:
 - increase trust in media
 - increase the ability to differentiate real from fake headlines
 - lower people's belief that false narratives are accurate
- Online *news* media literacy training may be limited in its ability to counter false narratives, but it has been shown to:
 - improve self-perceptions of media literacy
 - effectively reinforce lessons learned from in-person trainings
 - improve the quality of the news that people share online

Source: CNA.

Best Practices for Implementation

The best practices presented in this section are designed to be implemented by a range of actors, including policy-makers, leaders, public health officials, and public affairs officers.

We have intentionally kept this part of the document short and pragmatic, so there are no in-text citations except for direct quotations. For those interested, the supporting research can be found in the literature review that is a companion to this report: *Evidence-Based Techniques for Countering Mis-/Dis-/Mal-Information: A Primer*.

In this section, we combine debunking and fact-checking because there is considerable overlap in the best practices, advantages, and disadvantages of these two techniques.

As a final note, these best practices are informed by the existing research, but perfect consensus is rare in academic literature. We based these best practices on (1) findings that had achieved significant consensus (e.g., putting on a helmet before riding a bike will protect you from some head injuries) and (2) findings that had been contested but that would likely do no harm (e.g., putting on a helmet and saying a lucky chant before riding a bike will protect you from some head injuries).

Inoculation

When to use it

- **Consider using inoculation to counter a constant stream of falsehoods.** A “firehose of falsehoods” cannot be effectively countered with a “squirt gun of truths.”³ In these cases, using inoculation strategies that expose manipulation tactics and flawed arguments may be more effective than trying to counter each individual falsehood.

How to describe it

- **Note that this tool is apolitical.** Inoculation theory should be described as a series of tools that everyone can use to protect themselves from undue influence, not as a means of trying to persuade people to believe a certain way. This distinction is important because the underlying mechanisms for self-protection are apolitical, broadly applicable, and effective, even though some of the issues that inoculation interventions focus on are political or controversial.

³ Christopher Paul and Miriam Matthews, *The Russian “Firehose of Falsehood” Propaganda Model: Why It Might Work and Options to Counter It*, RAND, 2016.

- **Note that inoculation increases smart decision-making and free will.** Inoculation theory interventions focus on training the mind to understand influences that may diminish an individual's ability to make decisions of their own free will.

How to design it

Structure

- **Build the intervention** around the following steps:
 1. **Introduce a threat or forewarning to the target audience.** Doing so lets the target population know that they are at risk and need to protect their attitudes or beliefs against manipulation.
 2. **Introduce the inoculation,** which is a weakened form of the false narrative they will face in the real world or an explanation of the tools that malign actors use (e.g., during hurricane season, this might mean telling people to anticipate false narratives about curfews, or to anticipate content that is emotionally manipulative).
 3. **Prompt the individual to develop “antibodies” to reject the threatening message.** For example, explain techniques for recognizing manipulation (passive inoculation) or ask them to identify such techniques (active inoculation).
 4. **If possible, follow up with a refresher.**
- **Choose active inoculation when possible.** If the situation permits, *active* inoculation should be prioritized over *passive* inoculation because evidence shows it is relatively more effective.

- Active inoculation can take the form of playing an online game, but it doesn't need to be that sophisticated. Active inoculation also occurs when people are prompted to come up with their own counterarguments, or to identify which content is using a technique associated with malign influence.

- **Choose passive inoculation when active is not an option.** *Passive* inoculation is a straightforward process that can be done online or offline.
 - This approach can take the form of reading a text (short paragraph, social media post, etc.) or observing a visual intervention (infographic, short video, etc.) that explains the false content or the manipulation technique.

Content

- **Choose technique-based inoculation when possible.** If the goal of inoculation is to help people develop the skills to identify psychological manipulation techniques that could be applied to any number of topics (such as emotional manipulation), choose a *technique-based* inoculation intervention.
 - Technique-based approaches focus on teaching people about the techniques used by those who are behind malign influence and false narratives (e.g., teaching about emotional manipulation or ad hominem attacks). This approach does not mention any specific issues, so it is entirely apolitical, which may lessen the likelihood that it will trigger a defensive response.
- **Choose issue-based inoculation when attempting to counter a specific narrative.** If the goal of inoculation is to help people develop the skills to identify psychological

manipulation around specific topics (e.g., shelter locations during a natural disaster), choose an *issue-based* inoculation intervention.

- **Avoid the appearance of partisanship when selecting topics.** Notably, issue-based inoculations need to be approached carefully because they tackle specific (and sometimes controversial) information and narratives. Thus, communicators should take care when constructing a specific inoculation.
- **Incorporate consensus information into an inoculation strategy** because evidence suggests that consensus information has a positive, value-added effect on inoculation.
- **Consider the audience when selecting tone and nuance.** There are different styles of presenting inoculation, such as those that use humor or graphics. All have been shown to be effective, but it is important to consider the audience. Humor, sarcasm, or certain imagery may not be appropriate for all audiences or topics.

Timing

- **Design interventions to be short.** Short messages are more likely to keep people's attention and reach more people.
- **Plan to repeat inoculation interventions to ensure the longevity of the effect.**

Debunking and fact-checking

When to use them

Experts offer several strategies for determining when to use debunking and fact-checking:

- **Focus on information that can indeed be debunked or fact-checked** versus statements

that are opinions or normative in nature. For instance, providing information on whether a narrative regarding US biological warfare or a safe evacuation route is accurate would be better than trying to fact-check opinion-based assertions, such as "Building bioweapons is the only way to protect ourselves" or "The newspaper is the best source of information in an emergency."

- **Correct falsehoods when they arise.** Debunking and fact-checking should be used to rebut a false narrative when it arises. Research consistently shows that seeing corrections can lead to more accurate understanding of various topics.
- **Choose your battles.** There may be little value in responding to a false narrative if it is not spreading widely or does not seem likely to cause harm. In these cases, the less said about the myth, the better.
- **Acknowledge and work within the limits of this intervention.** Fact-checking is limited to particular falsehoods *within a given context*. It is about correcting a particular piece of false information presented to a consumer.
- **Target the undecided majority.** Debunking and fact-checking can be effective even for "deniers," but remember that this work is also about onlookers. You may not persuade people who are locked into the false information, but you may persuade those who are undecided.

How to describe them

Debunking and fact-checking should be presented as efforts to articulate factually correct information, which would appeal to people's desire for accuracy. Experts offer a few ideas for cultivating a positive attitude toward this approach:

- **Emphasize its impartiality.** Fact-checking is supposed to adhere to journalistic standards of accuracy. Consequently, fact-checking can be described as an impartial process.
- **Point out that it is a way to respond quickly to a false narrative and to help others.**
- **Describe it as a way to encourage healthy skepticism.** Corrections that counter false narratives can encourage scrutiny and healthy skepticism.

How to design them

Structure

Research indicates that the format of the debunking or fact-checking message has little to no influence on its effectiveness. However, experts offer the practical guidelines listed below, which leaders should use to ensure that these techniques are being applied appropriately:

- **Identify and target.** Identify the specific falsehood and provide a corrective statement tightly scoped to that falsehood.
 - A general template for the debunking or fact-checking message is as follows:
 - **Present the fact.** Lead with the fact, which allows the debunker to frame the message rather than respond to talking points from the misinformation.
 - **Warn about the false information.** Warning people ahead of time helps put them on guard cognitively that they are about to receive false information.
 - **Repeat the false information only as necessary.** Remember that unnecessary repetition may cause the original false

narrative to stick in people's minds more than the correction itself.

- **End with the facts.** State the truth again so that it is the last thing people process.
- **Keep it short.** Research has shown that short statements can be more effective than long, complex statements. Particularly when correcting false information on social media, a correction should use fewer than 280 characters so that it is "tweetable."
- **If exceptionally short on space, focus on the correction.** The correction should provide accurate information (e.g., whales are mammals) instead of negating incorrect information (e.g., whales are not fish).
- **Build trust by connecting with the audiences' values and concerns.** Those using debunking and fact-checking approaches should endeavor to build trust with audiences by linking corrections to issues, concerns, and values that are important to people.
- **Consider using videos.** Videos may be the most effective way to debunk or fact-check malign influence.

Content

This type of content aims to present facts effectively. Some general tips offered by experts are as follows:

- **Translate complicated ideas.** The truth is often more complicated than the false claim. Therefore, ensure that the correction is easily read, easily understood, and easily recalled.
- **Use visual aids.** Well-designed graphs, videos, photos, and other visual aids can help convey complex or statistical information clearly and concisely.

- **Keep it simple.** The facts should be simple (if possible), pithy, concrete, and plausible, and they should “fit” with the story. Avoid scientific jargon or complex technical language.
- **Explain the fallacy when appropriate.** At times, it may be useful to explain how a myth misleads, which can help people see the inconsistencies in a false narrative. The explanation should describe why the information was thought to be correct initially, why it is now clear that it is wrong, and why the alternative is correct.
- **Do not waste time and space noting the source of the false information** because research suggests that corrections are not more effective if people know where the false claim came from.
- **Make sure the source of the correct information is credible and reputable, as well as primary when possible.** The source used in the correction must be perceived as credible and reputable by individuals across the political spectrum; primary sources (e.g., original documents) are preferable.
- **Think about using visual rating scales of truthfulness** because these may be more effective than simple corrective statements.
- **Include nudges about the value of accurate information.** Incorporating accuracy nudges (e.g., “most people want to receive accurate information”) into debunking or fact-checking messages can empower people to increase the accuracy of the information they receive and share.

Timing

- **Correct falsehoods promptly.** Organizations should respond quickly to false narratives to ensure that they do not go unchallenged and to help reduce their spread.

Media literacy

When to use it

- **Deploy proactively, not reactively.** Media literacy training will be the most effective against malign influence if individuals receive it before exposure. However, its focus on improving critical thinking still makes it helpful when applied post-exposure.
- **Deploy alongside other interventions.** Media literacy interventions have been found to make corrections (i.e., debunking and fact-checking) more effective.

How to describe it

- **Media literacy is a skillset to help people distinguish good information from bad information.** Emphasize that high-quality information does exist and that media literacy is a tool to help individuals find it. Encourage skepticism of information, not cynicism.
- **Media literacy is a framework.** Media literacy is a way of assessing data that will improve critical thinking skills, improve the person’s ability to evaluate information, and reduce vulnerability to manipulation.
- **Media literacy is apolitical and topic neutral.** Media literacy encourages skepticism of information sources across the political spectrum. Its lessons are applicable across a wide range of topics.
- **Media literacy is an individual’s responsibility.** Emphasize that it is an individual’s responsibility to accurately evaluate information. Describing it as a civic duty has proven effective.

- **Media literacy increases critical thinking skills.** Do not worry about whether a training conforms to the specific tenets of media, information, or digital literacy. Focus more on increasing critical thinking skills and providing concrete tools to participants.

How to design it

Structure

- **Lean toward in-person trainings if possible.** The benefits of in-person trainings are more significant and will last longer, but remote trainings are a good second option.
- **For in-person training:**
 - **Remove existing hierarchies.** Emphasize the importance of diverse perspectives and encourage all participants to speak up.
 - **Encourage curiosity.** Urge individuals to question things. Provide opportunities for them to question the facilitators during the training itself.
 - **Use experts and peers.** Both experts and peers can effectively deliver training. Try conducting trainings with each and proceed with what seems to work best.
 - **Practice simplicity.** Keep it simple. Including too many components can overwhelm participants and make an entire training less effective.
- **For remote training:**
 - **Include concrete tips.** Providing as few as four concrete tips can make people more effective at identifying false narratives.

- **Focus on accuracy.** Tweets, tips, and public service announcements that emphasize the accuracy of headlines are particularly effective.
- **Reuse what works.** Recycle content that has been proven to work well, such as Facebook's Tips to Spot False News.⁴
- **Engage your audience.** Incorporate exercises, short quizzes, and other interactive components into any self-guided training. Consider using free online games, such as Fakey, BBC's iReporter, Factitious, and NewsFeed Defenders.

Content

- **Update materials frequently.** Trainings need to be relevant to the lives of participants to be helpful.
- **Consider your audience.** Avoid messaging that singles out individuals for behavior or beliefs. Try to make individuals feel like part of a community.
- **Tailor if necessary.** Although media literacy is topic neutral, modifying interventions can be beneficial. For example, if working to counter false narratives about where to seek help in a disaster, use concrete tips from relevant experts.

Timing

- **Repetition is key.** Different types of media literacy training should be repeated at different intervals, but repetition will be needed in all cases.
 - In-person training should be repeated approximately every two years.
 - Remote self-guided training should be repeated frequently, ideally four times a year.

⁴ The tips can be found here, at the bottom of the article: <https://about.fb.com/news/2018/06/inside-feed-how-people-help-fight-false-news/>.

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