

Lecturers in higher professional education on students' resilience against misleading information



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Lecturers in higher professional education on students' resilience against misleading information

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Summary

This research report is centred on one question: How do lecturers in higher professional education perceive their students' digital resilience against disinformation and misinformation, and what they need to strengthen this resilience? The impetus for this research stems from growing concerns regarding the influence of disinformation and misinformation on social media, evolving media usage, the rise of generative AI, and the reading skills of young people declining.

For this study, sixteen lecturers from The Hague University of Applied Sciences were interviewed in a semi-structured manner, spread across various study programs. This was preceded by an orientation phase involving approximately twenty expert interviews and a literature review. The report is structured around four sub-questions.

The first sub-question concerns the context of disinformation and misinformation. We examine three perspectives: technological developments surrounding social media and AI, the geopolitical context of international conflicts and targeted disinformation campaigns, and the societal context in which distrust towards the government, science, and journalism plays a significant role.

The second sub-question concerns what lecturers observe among their students. Lecturers have serious concerns about the lack of critical reflection on information sources, the uncritical use of AI for assignments, passive and one-sided news consumption via social media, and increasing division and polarization in the classroom. Students also appear susceptible to influencers delivering simplistic messages. Still, lecturers do not observe large groups of students actively spreading disinformation or becoming completely absorbed in conspiracy thinking.

In the third sub-question, we address interventions that can increase students' digital resilience. There is no shortage of available teaching materials, but materials alone are not sufficient. Lecturers indicate that interventions only work if they are carefully guided. A particular obstacle is conducting conversations about polarized topics, such as the conflict in Gaza: discussions quickly become hostile, and lecturers indicate that they need more support in this regard.

The fourth sub-question focuses on how educational institutions can structurally support lecturers in increasing digital resilience. Lecturers too often feel isolated. They need professional development in conversational skills and AI literacy, as well as a clear direction from their institution. This report concludes that lecturers are genuinely concerned about the resilience of their students to disinformation, but that individual efforts are insufficient. Many initiatives already exist, but an integrated approach is still lacking, both at the institutional level and in the transition to secondary education.

Please note that this report has been published in two versions. The first, in the original, Dutch language version, has country-specific references that have occasionally been altered or removed for the second, English-language version, which seeks to provide a more internationally-focused examination of the topic.

Introduction and context

1.

Introduction and context

How resilient are students in higher professional education in the Netherlands (HBO) against misleading information? They grow and study up in an era where they are constantly online. They are exposed to a great deal via digital platforms such as TikTok, Instagram, and YouTube. They make extensive use of Chat GPT and other AI tools. These students will soon enter the workforce; many of them will work for or with the public sector. They are also young citizens who are often eligible to vote and help determine the future of our country. How susceptible are they to disinformation, misinformation, conspiracy theories, and the increasing hardening of the media landscape and politics?

A relatively large amount of research exists on the digital competencies of primary and secondary school students and their skills in news literacy and media literacy, but there is relatively little information available about that knowledge and skills at the HBO (Higher Professional Education) level. HBO is a sector that trains around 440,000 students annually for the labor market. Many of these students will later work for, or with, the public sector. The role of lecturers in their development is critical. At the HBO level, students must also be able to engage critically with information, but to what extent is this possible in this digital era of social media and AI?

This research was conducted with the aid of funds from the Jean Monnet Chair for the European Impact research group, a contribution from The Hague University of Applied Sciences for the 'Digital Future' theme, and a grant from Netwerk Mediawijsheid. We completed the research with support from the Public Governance research group. Within this framework, we investigated the impact of dis- and misinformation on public professionals. For this purpose, we chose to focus initially on lecturers in higher professional education who educate students—the professionals and citizens of the future.

1.1 Target group for this research

The target group we have in mind for this research is, on the one hand, lecturers in higher professional education (HBO) who are struggling with the impact of misleading information on their students due to the influence of social media and AI. Still, we have policymakers in higher professional education in mind. For, as this report shows, lecturers cannot increase students' resilience on their own; they need structural support to do so.

1.2 Reading guide

This report is structured as follows. In Chapter 2, we discuss the objectives, the research question, and the research method. In Chapter 3, we address the first sub-question regarding the context of and perspectives on dis- and misinformation. In Chapter 4, we address the second sub-question concerning the signals from lecturers in higher professional education regarding what they observe and hear from students about misleading information. Chapter 5 deals with possible solutions and interventions. Chapter 6 deals with facilitating solutions. In Chapter 7, we summarize the research and the key conclusions.

More information about the conversations with experts, the distribution of the interviews with lecturers across the study programs, and the questions for the semi-structured interviews can be found in the appendices.

Objectives, research question, method

2.

Objectives, research question, method

In this chapter, we discuss the research objectives, the main and sub-questions, and the methods. We also address our positioning as researchers.

2.1 Objectives

The objective of this research is to analyze how lecturers in higher professional education view students' resilience against misleading information and their own ability to make students resilient. This should lead to recommendations and practical tips on how higher professional education can make its students more resilient and strengthen digital literacy, media literacy, and critical information skills.

2.2 Research questions

The main question of this research is:

How do lecturers in higher professional education perceive their students' digital resilience against dis- and misinformation, and what do they need to strengthen this resilience?

The sub-questions are:

1. Which technological, political, and social perspectives are relevant to understanding the context of dis- and misinformation?

This question is answered through literature research, conversations with experts, and interviews with lecturers. It includes explaining the context in which HBO students operate: the dynamics on digital platforms and social media channels, AI tools such as ChatGPT, polarization, the impact of influencers, and what is known about the media behavior of young people.

2. What do lecturers at universities of applied sciences observe regarding their students' use of information and critical skills in relation to misleading information?

This question focuses on concrete observations by lecturers: what behavior do they encounter, what conversations do they have, and what are they concerned about? It encompasses the use of information for news consumption, assignments, and the use of AI.

3. According to lecturers and experts, which interventions can measurably increase the digital resilience of HBO students?

This question investigates what resources lecturers need to effectively fulfill their role. This includes pedagogical and didactic skills, their own media literacy, a course of action during difficult conversations, and support from the educational institution.

4. How can higher professional education institutions facilitate lecturers to make this possible?

This question combines lecturers' insights with existing literature and expert knowledge regarding effective interventions. It searches for practical recommendations, such as curriculum interventions, tools, lesson packages, training, and a structural and holistic approach.

2.3 Method

The research we conducted consists of two phases. In the first phase, we **refined our understanding of the topic of disinformation with input from experts in the field**; in phase 2, we conducted semi-structured interviews with lecturers at The Hague University of Applied Sciences. The choice to interview lecturers stems from the fact that the research was originally focused on the perspective of professionals in the public sector, for which we initially chose a case study close to home: the university where we ourselves work. We assume that, through their experience, lecturers are capable of critically reflecting on the role of misleading information in education, and particularly among their students. At the same time, the question remains to what extent lecturers understand the lived world of their students, and what they do and do not pick up. As we discuss in the conclusion, it is logical for follow-up research to also include the perspective of students.

Phase 1

In the first phase (September 2024–February 2025) of our research, we spoke with approximately twenty experts in the field of disinformation. They were researchers, policymakers, and politicians operating at the national and European levels. We combined the insights from the conversations with experts with a literature review, using not only academic sources but also reports from think tanks and policymakers.

Phase 2

The Hague University of Applied Sciences was selected as a case study for the research into lecturers. The Hague University of Applied Sciences is an institution with a diverse and international student population of more than 25,000 students, and offers study programmes in many different disciplines. Furthermore, it is relevant that The Hague University of Applied Sciences identifies digitalisation as one of the three core transitions of our time in its educational vision (2023). Therefore, The Hague University of Applied Sciences defines digitalisation and AI in education as a **primary objective**.

In its educational vision (2023), The Hague University of Applied Sciences **prescribes the education of** "critically thinking and learning global citizens" who can contribute to a sustainable and just world. Three societal transitions are mentioned in this context: digitalization, sustainability, and justice. Within the digitalization theme, explicit attention is called to the risks and opportunities of digital technology. Students must learn to utilize the possibilities of AI and digitalization, but also to reflect critically on these technologies.

For our research, we interviewed sixteen respondents working in various faculties and study programmes from April through July 2025. We recruited these respondents through our own networks at the university of applied sciences and via a call on the university's intranet page. This resulted in a distribution of study programme lecturers working in both Dutch-language and English-language programmes, ranging from Public Administration to Communication, European Studies, ICT, and Nutrition and Dietetics. An overview of the distribution of the respondents can be found in Appendix B.

We conducted semi-structured interviews with these respondents based on a topic list. During these interviews, we asked questions about definitions of dis- and misinformation, the influence of social media and AI, inquired about practical examples that arose in teaching practice, asked what lecturers are most concerned about, and asked what lecturers believe they need to contribute to student resilience. We recorded these interviews and used Amberscript to **transcribe the recordings**. We then manually edited and corrected the transcripts. Finally, we coded these transcripts in Atlas.ti.

To increase internal validity and reliability, we discussed the results of the interviews and had earlier versions of this report read and commented on by other researchers. Subsequently, we had the nearly finished version read by the respondents and further refined the results and conclusions based on their feedback. Additionally, we presented this version to experts we spoke with during earlier phases of our research.

Based on the literature and the interviews, we have attempted to categorize the insights from theory and the results of the interviews based on three perspectives: the geopolitical aspects of disinformation; the societal context of trust, distrust, and polarization; and the technological context of digital platforms, algorithms, and AI applications. These perspectives provide insight into the challenges this presents for the educational practice of higher professional education students and what is needed to strengthen critical information skills and media literacy.

2.4 Positioning

As researchers into misleading information and professionals at universities of applied sciences, we do not view our subject from a neutral standpoint. Our interest in dis- and misinformation stems in part from the course *Advocacy: Strategy and Governance*, which we teach in the second year of the Public Administration program. In this course, students are required to lobby for measures to make young people more digitally resilient. For this course, we also collaborated with The Netherlands Institute for Sound and Vision (Beeld &

Geluid), where students attended workshops on news literacy. Based on our own experiences, we are concerned about the level of students' reading, writing, and information processing.

Our own position colors our research. Within our own circle, we also see examples of people who have been strongly influenced by disinformation and misinformation, and this concerns us. The conversations we have had as researchers with experts, and the theory we have studied, have further contributed to a more nuanced picture. It is important that we are also aware of our own **privileged circumstances**. As lecturer-researchers with a comfortable financial and societal position, in which we have benefited from social services and higher education, we are convinced of the importance of a well-functioning democratic constitutional state. In our teaching, we strive to train students to become critical and participating citizens. We have great confidence in the government, but we also see where things go wrong. In The Hague, we see harrowing conditions involving the homeless and exploited migrant workers; in the Netherlands, we see the far-reaching power of lobbyists; we have witnessed the government's failure in the childcare benefits scandal in Groningen; and globally, we are concerned about the growing power of Big Tech. All these insights and experiences determine our own position regarding the issue of dis- and misinformation.

Context and perspectives

3.

Context and perspectives

In this section, we answer the initial sub-question:

Which technological, political, and social perspectives are relevant to understanding the context of dis- and misinformation?

First, we establish the definitions of key concepts. Then, we examine technological, geopolitical, and societal perspectives. Regarding the technological perspective, we discuss the importance of digital platforms and the rise of generative AI. For the political perspective, we address both the geopolitical context in which dis- and misinformation is spread and measures to combat misleading information or increase resilience against it. For the societal and social perspective, we discuss societal trust and distrust, polarization, and the phenomenon of epistemological distrust in knowledge institutions.

3.1 Definitions

The academic discussion surrounding dis- and misinformation touches upon fundamental epistemological questions: what is reliable knowledge and why? According to Fallis (2015), reliable knowledge should be found in science, through libraries, through public institutions, and through quality journalism. As we will see later, **trust in these institutions is eroding**.

In this paper, we use the terms disinformation and misinformation as concepts related to information that can mislead people. Deception has existed throughout history and can also be part of propaganda or advertising. Moreover, information transmission always involves framing, whereby certain aspects of reality are selected and made more prominent (Entman, 1993). Misinformation is inaccurate information and is the result of errors, carelessness, or an unconscious bias (Fallis, 2015). Disinformation is a form of misinformation involving intentional deception. This can lead to direct harm, but also to the erosion of trust in information. When disinformation is used for a political agenda, it is part of propaganda. In this case, a political movement or form of government is glorified, and opponents are vilified (Van der Linden, 2023).

When it comes to resilience, we use the definition from Netwerk Mediawijsheid:

“People who are resilient against disinformation have (1) the awareness that disinformation exists and why, (2) they have the knowledge to recognize disinformation (to a certain extent) (both in terms of content and the manner of its creation and dissemination) and (3) they possess a course of action that enables them to respond competently to disinformation (on the one hand acting based on information literacy, such as actively seeking out reliable sources and on the other hand acting based on (social) responsibility, such as not spreading it further, ignoring it, reporting it, contradicting it, warning others and so on)” (Netwerk Mediawijsheid 2023, pp. 6-7).

Resilience within this context is the awareness that disinformation exists, the ability to recognize it, and a course of action to respond adequately to it.

3.2 The technological perspective

From a technological perspective, we examine the influence of digital platforms and the rise of generative AI. Research shows that young people use their smartphones and digital platforms as their primary source for news, information, and social contacts. 78% of young people indicate that they **stay informed about current events via social media** (Schut et al., 2024). The digital platforms of big tech companies are primarily aimed at maximizing profit, meaning that algorithms are programmed to **keep users engaged on the platform as much as possible**. Emotionally charged content (which is often part of disinformation campaigns) therefore receives more attention than neutral and nuanced reporting. Research by journalists and researchers, as well as whistleblowers, shows that large companies like Meta and X have taken relatively little action against misleading and harmful content because it conflicts with their fundamental business model (Passchier, 2024).

A report by Netwerk Mediawijsheid (2023) states that young people often overestimate their digital skills. There is a paradox here where they have great confidence in digital technology **but limited ability to evaluate information on digital platforms**. This makes them vulnerable to misleading information. The rise of the influencer industry is also relevant to students, as these influencers are frequently role models. There are countless influencers who promise untold riches when it comes to bitcoin, sell dubious wellness products, and/or spread conspiracy theories (Hund, 2024). The rise of generative AI such as Chat GPT is also visible among students. Generative AI has also thoroughly changed the disinformation ecosystem (Lopez- Borrüll, Opezosa, 2025). With AI, creating deep fakes has become very easy (Van der Sloot, 2024). Deep fakes are widely used in geopolitical conflicts. The influence of big tech companies on information provision and the use of generative AI raises questions and concerns among many citizens and public organizations regarding the impact on information provision, the quality of public debate, and the critical information literacy of citizens. These developments **illustrate the importance of lecturers in higher professional education to teach students how to navigate a digital information ecosystem where it is becoming increasingly difficult to distinguish truth from deception**.

3.3 The geopolitical perspective

The geopolitical and administrative context is highly relevant to the context of disinformation and misinformation, as international conflicts and political tensions become visible in the news, public debate, and, of course, in education. The international character of universities of applied sciences, due to both international students and students with a migration background, means that conflicts both far and near also have an impact on education. For lecturers at universities of applied sciences, this means that international conflicts enter the classroom directly through the diverse backgrounds of their students.

According to the authors of *The Disinformation Age* (2021), democracies around the world are increasingly facing disinformation. **These countries are rife with the deliberate spread of falsehoods**, attacks on minority rights, press freedom, and the rule of law. This threatens the authority of public institutions and political stability. It manifests itself in lying politicians, attacks on scientific evidence of climate change, the use of conspiracy theories, and the fabrication of stories to ignite conflicts. The authors argue that this is not only related to social media, but to a years-long erosion and vilification of public institutions, which, according to them, is also linked to the rise of neoliberalism. On an international level, we see Russian disinformation campaigns surrounding the war in Ukraine, disinformation regarding the Israel-Gaza conflict, and a massive increase in disinformation emanating from the White House since President Trump's second term. European and national elections are also targets of disinformation campaigns, although the impact in the Netherlands appears to be relatively limited.

At the European level, disinformation is combated through the Digital Services Act and the Code of Practice on Disinformation. This fight is politically sensitive, and particularly from the US, it is **a culture war inflection point** portrayed as censorship and an attack on freedom of speech. Additionally, media literacy is promoted through the European Digital Media Observatory and educational programs. In the Netherlands, this translates into activities by BENEDMO (a Dutch-Flemish partnership) and the Netwerk Mediawijsheid. As mentioned earlier, this research is also supported by these organizations.

3.4 The societal perspective

From a societal perspective, much converges on the influence of digital technology and the geopolitical context. Research shows that, contrary to popular belief, there is relatively little polarization in the Netherlands and that social cohesion in the Netherlands is relatively high compared to other countries (Muis, 2024; Bakker et al., 2025). It also appears that 94% of Dutch youth have a positive or positively critical attitude towards Dutch news media. At the same time, there are groups within the Dutch population that have disengaged and have little to no trust in public institutions (Cuperus & De Voogd, 2021). Furthermore, studies by the Utrecht Data School (2021, 2023) and reports from intelligence services indicate that polarization in the media (both on television and the internet), combined with dissatisfaction, can lead to violent protests, threats against politicians, and radicalization (NCTV, 2022). Influencers also play an increasingly important role in this (Baker 2022; Demeru, 2022). In the Netherlands, distrust of the government is closely linked to the

childcare benefits scandal, the farmers' protests against the nitrogen policy, the outlook on migration, and the role of the government in combating COVID-19.

The sociologist Jaron Harambam (2020) argues that the distrust is also epistemic in nature. In doing so, he identifies the government, science, and journalism as 'epistemic institutions'. For a long time, they enjoyed considerable authority as producers of knowledge, but this trust is under severe pressure. Globally, this is also linked to the rise of autocratic regimes and populist leaders (Kruk, 2024). Harambam argues that much of this distrust, for example regarding the influence of the pharmaceutical industry or powerful corporate lobbies, is justified.

Distrust can also lead to conspiracy theories. Harambam argues that we must be careful not to dismiss conspiracy theorists as **unintelligent or foolish**. Instead, he uses the term epistemic dissent. It often involves groups of people who, for whatever reason, do not feel heard or appreciated, or do not feel treated fairly or justly by institutions and governments (Van den Bos, 2023). The algorithms of digital platforms can create a trap in which they primarily encounter messages that confirm their worldview. Conspiracy theories give meaning and can lead to a sense of connection and solidarity. At the same time, conspiracy theories are not harmless, certainly not when they are used politically to pit groups against each other or to legitimize violence.

3.5 Conclusion

From the perspective of digital technology and media, the perspective of geopolitics and governance, and the societal perspective, we have examined the context of disinformation and misinformation. This is relevant to answering the first sub-question: Which technological, political, and social perspectives are relevant to understanding the context of disinformation and misinformation? The use of digital platforms and generative AI by young people for news and information is problematic because these platforms are by no means beyond reproach and make young people vulnerable to deception. They encounter disinformation and misinformation regarding international and national political conflicts. The role of deep fakes makes it increasingly difficult to distinguish what is real from what is fake. And although young people are generally positive or positively critical of news media and polarization is not as bad as feared in practice, we do see that there are plenty of groups that are highly distrustful of public institutions, and thus also of knowledge institutions such as universities of applied sciences. In the next chapter, we will discuss whether that epistemic distrust is also visible in the interviews we conducted.

Signals from lecturers

4.

Signals from lecturers at universities of applied sciences

The insights from the theory can help to better understand the practice of lecturers at universities of applied sciences. In this chapter, we address the second sub-question:

What do lecturers at universities of applied sciences observe regarding their students' use of information and critical skills in relation to misleading information?

We structure these questions according to the same perspectives with which we outlined the context of dis- and misinformation: the perspective of (1) technology and media, (2) the perspective of geopolitics, and the (3) socio-cultural perspective. Naturally, these perspectives overlap, but they help to structure the wealth of information from the interviews. In this chapter, the perspectives of the sixteen lecturers from The Hague University of Applied Sciences are central. We will answer the research question using their stories, also using quotations to illustrate their stories.

4.1 Technology and media

Technology and digital media are ubiquitous in the lives of young people. Students make extensive use of their smartphones, social media, and AI, and this has significant consequences for the information they receive, their news intake, and how they handle assignments for their studies. The interviews reveal that lecturers are therefore concerned about their susceptibility to dis- and misinformation.

4.1.1 Students, news and social media

First of all, lecturers are concerned that a lot of news and information reaches students via social media such as Instagram, TikTok, and Snapchat, but that students themselves rarely engage in critical self-searching for information. Furthermore, many lecturers are aware of social media algorithms and the mechanisms primarily aimed at keeping users engaged for as long as possible. After all, the algorithms determine what people see. Especially if that means users are exposed to a lot of polarizing content. Lecturers are concerned about relatively passive media usage, and the amount of information students take in this way. A European Studies lecturer says: "I'm concerned the most about their ability to sort what they should trust and what they should, and to really properly think for themselves. And I don't blame them for it. Look at how much information they're bombed with" (lecturer ES01).

Another lecturer adds: "I teach journalism and media and then what I'm very surprised to see is that even students who choose journalism and media... they don't read any newspapers or any mainstream journalism platforms. ... they follow their feed...on TikTok or Instagram" (lecturer ICM02). The observations regarding students' media use align with recent studies on the media use of young people and the way they consume news (Schut, Costera Meijer, Lauf, 2024; Netwerk Mediawijsheid, 2023). It reveals that many young people often obtain their news and information directly from social media.

According to lecturers, students sometimes overestimate their own ability to handle the information presented to them and are often insufficiently critical of the sources. One of the lecturers explains: "They think they are media literate because, for example, they have God knows what NOS news on Instagram and that's it. (...). What I see is, on the one hand, an awful lot of information—not even misinformation, but a lack of information and a lack of interest in what is actually happening in the world around me, outside my own gut, my navel, and what is immediately connected to it." (lecturer ICM01). These concerns also align with the conclusions of the WRR Report *Attention to Media* (2024). In this report, the researchers identify an impoverishment of news offerings and the increasing power of Big Tech. This comes at the expense of the quality of information provision, and that has consequences for the quality of public debate.

4.1.2 Artificial intelligence as a source of disinformation and misinformation

As for AI, it appears that almost all lecturers are actively engaged with this. They are concerned about the influence of Generative AI such as Chat GPT, both in deepfakes and the use of AI in the classroom. According to them, students can be susceptible to disinformation campaigns that use AI to fabricate and spread misleading information. Additionally, AI-generated responses can also be a source of misinformation.

An ICT lecturer is aware of the power of deepfakes and discusses this as well: “I think you should show students what can all be fake. About generative AI with videos, with images with deepfake voices. Yes, that voice generation is also exceptionally fast, you know. So that goes very fast. I once showed a deepfake of Putin in class showing him surrendering” (ICT lecturer O1). Other lecturers point out that AI makes use of sources on the internet, including disinformation: “AI itself also takes information from what is already on the internet, for example, and there is disinformation on that too. And AI does the same, it also takes a lot of information without giving credit for it” (lecturer ES03).

Many lecturers emphasize the uncritical way in which students use AI. One lecturer says: “In the situation you are studying in now, that [critical thinking] is hardly necessary anymore, because you type two words into chat GPT and it all comes back and then it’s done” (lecturer BO02). This lecturer also states that education is **not yet structurally prepared for this issue**. Another lecturer says that the problem is broader than AI, but that students are reading or checking sources less and less, but mainly making use of what is provided to them: “I think that even if it is not about getting information from AI, simply reading a source is just not normal anymore. (...) I do think it becomes very problematic if you are never used to checking sources again” (lecturer ES03).

Still, lecturers report that AI can also help with checking sources and conducting critical conversations. However, concerns generally prevail that AI will render students even less capable of critical reading and writing.

4.2 The socio-cultural dimension

From the perspective of the socio-cultural dimension, we discuss the role of trust and distrust of lecturers and students towards public institutions, the media, and knowledge institutions, division in the classroom, and the role of influencers. What is the role of misleading information here?

4.2.1 Trust and distrust

Trust and distrust are themes that regularly emerge in the interviews. Many lecturers state that there are reasons to distrust the government, whether it is justified or not. In doing so, they also cite examples from their private lives of friends or family who are very critical of the government or believe in conspiracy theories. The childcare benefits scandal and the coronavirus pandemic are frequently mentioned as reasons for this distrust. One of the lecturers is also critical of the handling of the coronavirus in the Netherlands: “Regarding [vaccines and corona], I find it a bit lazy to use the term conspiracy theory, because if you really dive into the data, you do see that there are negative health effects from those vaccines. Yes, that is not disinformation” (lecturer IB01). He argues that the use of the term conspiracy theory or disinformation can be used to silence people or as a way to avoid real and substantive conversation.

Lecturers also state that, from an international perspective, **criticism of governments can be valuable**. Autocratic regimes sometimes label critical information about their functioning as disinformation in order to stifle dissent. A lecturer of International Public Policy and Leadership cites examples of American propaganda and disinformation during the Cold War, and later, the so-called evidence that justified the war in Iraq.

In conversations with students, lecturers state that some students are sometimes also very critical of the media and journalism: “There’s really a lot of distrust against journalists. So, a lot of people think, well, you know, these people are out there to get us and to lie to us, so they don’t trust the media at all. (...) It’s not it’s certainly not perfect. But then when they come up with alternatives. So, I had students that said, oh yeah, I found these alternative news sites that show this and this and that. But then you get into like type, conspiracy theories and you might see some of these alternative news sites pick up some of these stories or interpret the

news or saying: the government is lying to us and there's this hoax or whatever, which could be true. This is what's tricky, because the role of a journalist is to be critical and to look at what's going on. And if, you know, the government is doing something that's illegal...that's the role of the journalist." (lecturer ICM02). Although a healthy critical attitude towards journalism is good, excessive distrust can therefore result in trusting questionable websites with conspiracy theories.

Students at The Hague University of Applied Sciences come from a wide variety of socioeconomic and cultural backgrounds. That informs their level of trust in public institutions: "If you hear from your father or mother: 'Yeah, you know, that cabinet, they're bunglers...' well, you might look at it differently than if you hear at home: 'Well, I think everything they're doing is really great.' I do think that the context in which you grow up is simply very decisive for how receptive you are" (lecturer COM01). Distrust of the government can reinforce susceptibility to disinformation and conspiracy thinking, and misleading information can subsequently reinforce that distrust further. **Productive conversations are then complicated by that self-fulfilling cycle of distrust.** It is not always easy to have conversations about this. A lecturer notes that it is difficult not to be accused as a lecturer themselves: "I teach a lot about politics, so that certainly has a significant impact on the European Union. Specifically, there is also disinformation, and I find it quite difficult because when it gets political, you are quite quickly accused of not being objective enough, not neutral enough to incorporate your own opinion" (lecturer ES03). This European Studies lecturer explains that she regularly encounters students with conspiracy theories about NATO and the European Union. She indicates that she considers a critical perspective important, but that it is sometimes very difficult to have a truly good-faith and critical conversation about conspiracy theories that she labels as incorrect and untrue from the perspective of her field.

If we link these results to the theory and distrust of epistemic institutions, we see that distrust of the government and the media, as described by Harambam (2020), is particularly prevalent among lecturers and students at universities of applied sciences. The interviews do not create the impression that students distrust the government or the media en masse, but rather that they encounter this distrust with some regularity. Lecturers appreciate a critical attitude and healthy skepticism, but this should not turn into **extreme, unsubstantiated** distrust. Still, some lecturers are themselves critical of the functioning of government and journalism. Within this context, some argue that the combating of disinformation by governments can actually lead to the (appearance of) censorship, which can further erode trust in public institutions. Furthermore, it is difficult for lecturers to subsequently engage in an open conversation about conspiracy theories.

4.2.2 Division in the class

Lecturers state that, partly due to the influence of smartphones and social media, their students are sometimes less inclined to socialize with their classmates and occasionally withdraw into a bubble of like-minded individuals. This is **not a fully new development**, but it seems as though social media and digital devices are accelerating these processes. A Public Administration lecturer says: "So precisely because we do have a bit of a political identity as a Public Administration programme, we have a lot of those kinds of conversations with our students and among students themselves, and it is becoming increasingly difficult to facilitate and steer that dialogue. You do indeed see in some years that they simply don't want anything to do with each other. Then you still have that polarization that you actually see in society as well, right in your classroom" (lecturer BO02). The nutrition and dietetics lecturer says something similar: "What I see in the class now is that, look, they aren't necessarily forced to work together, so they aren't going to do that either. So, everyone has their own corner in the classroom. The sporty girls seek each other out. And sporty boys too, vegetarians and vegans. They have their own little group, and you have people who follow a specific diet very strictly" (lecturer VD01). Both lecturers, therefore, see how students are distancing themselves from one another in a completely different context.

4.2.3 Susceptible to influencers

The research also reveals that **students' attitudes and beliefs** are susceptible to influencers. The controversial influencer Andrew Tate is frequently mentioned in this context. One of the International Business lecturers notes that male students are very enthusiastic about Tate, while many female students are annoyed by this. He attempts to discuss this in class. He also observes the appeal of influencers who claim they can get rich through online trading. Additionally, the Nutrition and Dietetics lecturer observes that his students are

susceptible to the glamour of health influencers who who make unrealistic promises regarding diets: "...this is the perfect diet to go through life with. To become happy, to feel better. And they [the students] are very much influenced by that. And it is all just a bit. It is presented online as slightly sexier than the reality of the books about carbohydrates and those about fats" (lecturer VD01). From this, students appear susceptible to the appealing stories and the allure of the influencers they admire.

4.2.4 Conspiracy theories

Lecturers do not very regularly encounter students who actively engage in conspiracy theories, but it does happen. One of the lecturers says about this: "Conspiracy theories – we live in bubbles and as you retreat from reality, your ability to have an alternative viewpoint becomes narrower and narrower. And within that bubble, you'll be amazed at what you can end up believing ...we are all equally vulnerable" (lecturer LAW01). A well-known conspiracy theory is that Princess Diana's death was a premeditated plan, or that it was staged. This emerges during the reactions of one of the students after a presentation: "So, one of the students had given a presentation about Princess Diana. And then, at the end, another student asked, who was fishing a bit for "yes, how do you think Diana died and who was involved?" (lecturer BO02). In many interviews, COVID and vaccination are mentioned as an event that has exposed a lot of distrust. "Two or three students [out of a class of 30] have interesting thoughts or theories related to news and to media. ... I had one ...he completely denied Covid" (lecturer ES02). Another factor to consider in the interaction between lecturers and students is that students might encounter more conspiracy theories on social media but not share them with their lecturers.

4.3 The geopolitical and administrative perspective

The geopolitical and administrative perspective of disinformation is highly relevant when it comes to targeted disinformation campaigns by, for example, Russia, international conflicts such as Ukraine and Gaza, but also the role of disinformation spread by the White House. The role of the European Union is also part of disinformation campaigns and conspiracies. To what extent do students encounter this?

4.3.1 International students, media and government

International students sometimes exhibit a more critical attitude towards the media and government institutions. These students also can identify positively with a particular regime. Concepts such as disinformation can be misused, particularly in countries with autocratic regimes: "That whole anti-disinformation discourse actually comes from liberal democracies, with well-functioning Western democracies where it has a completely different meaning. So, I have become very wary of governments that set up those anti-disinformation campaigns and policies because I see that it can be misused very easily" (lecturer IPPL 01). It shows how important it is to handle concepts carefully, and that context and nuance are critical.

4.3.2 The European Union

When it comes to the European Union, many lecturers are in favor of more support and funding for media literacy. However, a number of lecturers are skeptical about the EU's attempt to combat disinformation because this could lead to censorship. Additionally, several lecturers state that the European Union itself is also subject to conspiracy theories and mistrust: "The EU is already subject to so much skepticism and hate and, ironically, the EU is a target of a lot of disinformation. If the EU tries to present itself as an arbiter of truth, that's not going to help" (lecturer ES01). EU transparency is important, states another lecturer: "But also here at the European Union, it is an important part. And there was just a debate about Von der Leyen's corona text messages as well. Yes, as the EU, you must also practice full transparency and openness as an antidote" (lecturer COM02).

That applies to a lesser extent to the war in Ukraine. The Trump presidency and disinformation from the US are also mentioned: "... because of the political situation of the moment, one of them being Trump being out there in the world praising Putin, or saying that Zelenskyy is the one that started the war, or attacking educational institutions. This is not just in the US but also in Europe...in Dutch news, Dutch newspapers, online you see a lot of this reflected ... it has an impact on our society as well" (lecturer ES02).

It is striking, however, that it does not appear that students or lecturers are strongly concerned with the impact of disinformation campaigns from Russia. One possible explanation could be that these campaigns are not as strong as in areas with large Russian populations, such as the Baltic states, or because it is less transparent when this is the case. In the Netherlands, pro-Russian sentiments seem to be limited. Still, it is known that these campaigns often focus on polarizing topics surrounding migration or climate change, or the LGBTI community. In any case, this topic is not commonly raised for discussion in the classroom.

4.3.3 Gaza

Looking at the international, European, and Dutch dimensions, it is striking that the Israel-Gaza conflict comes up in many interviews. Lecturers are aware that this conflict is also an information war in which disinformation and misinformation on social media are helping to shape student perspectives. This conflict is polarizing at both the international and national levels. At many universities, this has led to building occupations and demonstrations. At The Hague University of Applied Sciences, this has remained relatively limited, but that does not mean that the subject of Gaza is not on people's minds.

For example, an International Business lecturer states: “The debate regarding the war in the Middle East, in Gaza and so on, there is of course a lot of misinformation and incorrect photos and such, and things that aren't framed incorrectly. And strangely enough, almost all students are susceptible to that. So yes. I am actually very worried about that and that” (lecturer IB01). Another lecturer recounts that a discussion about Israel and Palestine degenerated into a student accusing Muslims of being the cause of the world's problems. What various lecturers recognize is that in sensitive conflicts, it is increasingly less about the facts and the historical context, but that emotions take precedence. That is why one of the lecturers states that he prefers not to discuss this in class: “I'm very reluctant to have any discussion about Israel-Palestine in class. Yeah, mostly because it tends to escalate and I have to create a safe environment for everybody. But it can also escalate in ways that make it an unsafe environment for me, because it's very clear that the ideological, um, uh, sort of determinations of the students are so fixed that if I talk about that topic at all” (lecturer ES01). It is difficult to have a nuanced conversation, and the large amount of disinformation, misinformation, and antisemitic conspiracy theories do not make it any easier.

4.4 Conclusion

As front-line observers, what do lecturers at universities of applied sciences observe regarding their students' use of information and critical skills in relation to misleading information?

It can be argued that lecturers are primarily concerned about students' ability to critically engage with information, news, and AI. Students obtain a great deal of news from social media, are often satisfied with the initial results from search engines and use AI tools like Chat GPT too uncritically. In this way, students are susceptible to disinformation and misinformation. With the rise of AI, synthetic images, and generated texts, it is becoming increasingly difficult to distinguish between real and fake.

The research reveals three key socio-cultural aspects that influence vulnerability to disinformation. First, lecturers regularly observe distrust among students towards the government, media, and journalism. This distrust often has legitimate roots—lecturers cite the childcare benefits scandal and COVID-19—but can lead to the embrace of alternative news sources containing conspiracy theories. Students come from diverse socio-economic and cultural backgrounds, which partly determines their trust in public institutions. Lecturers struggle to conduct critical conversations about this without being accused of a lack of objectivity themselves. Second, lecturers observe increasing division in classrooms. Students retreat into bubbles of like-minded individuals and are less inclined to socialize with classmates outside their group. Smartphones and social media appear to accelerate these processes. Third, students appear susceptible to influencers such as Andrew Tate and finfluencers who promise quick wealth, or health influencers with misleading claims about diets. Although conspiracy theories are not widespread, lecturers do encounter them—ranging from stories about Princess Diana to COVID denial. The epistemic distrust that Harambam describes is also visible in the higher professional education context, but the extent to which this plays a role likely depends on the student's background.

Geopolitical tensions are also visible in the classroom. In this regard, it is also relevant to include the perspective of international students. The interviews reveal that distrust towards the EU occurs regularly. Furthermore, discussions about geopolitical conflicts such as Gaza can create hostility in the classroom, with emotions superseding facts as lecturers struggle with their role as moderators.

The interviews show that lecturers in higher professional education are not confronted daily with students sharing disinformation and misinformation they have consumed in the classroom; lecturers assume that students aren't sharing it with them. Taken altogether, lecturers are seriously concerned about students' habits and skills that make them vulnerable to disinformation and misinformation. This exploratory study into how lecturers in higher professional education perceive students' resilience against misleading information therefore presents a nuanced, and worrisome, picture.

Solutions and interventions

5.

Solutions and interventions

According to lecturers, students are insufficiently resilient to disinformation and misinformation. What can be done to increase that resilience? In this chapter, we address the third sub-question: *Which interventions, according to lecturers and experts, can effectively increase the digital resilience of higher professional education students?* In this chapter, we draw on literature research, conversations with experts, and interviews with lecturers. Resilience against disinformation involves awareness, knowledge, and a course of action (Netwerk Mediawijsheid, 2023). Below, we discuss relevant knowledge sources for higher professional education and further address what lecturers consider to be important preconditions for increasing students' awareness and knowledge. This should lead to a course of action that they should be able to apply both during and after their studies.

5.1 Abundance of teaching material available

From the government, civil society organizations, the education sector, and journalism, there is more than enough educational material available, ranging from lesson packages to serious games. At the EU level, there are various initiatives and subsidies for combating disinformation. Much material is available from the Mediawijsheid network, with Beeld en Geluid as one of its partners. The government offers websites such as [Isdatechzo.nl](https://www.isdatechzo.nl), and news media like NOS op 3 also pay attention to dis- and misinformation. Utrecht University develops teaching materials via [terinfo.nl](https://www.terinfo.nl) to facilitate the conversation about terrorism and international conflicts. Relevant books on this subject also appear regularly, such as *Wat is nou waar? (What Is True?)* (2025) by Rik Peels and Jeroen de Ridder.

Much has been written about how people can learn to think critically. In their book *Wat is nou waar? (2025)*, philosophers Rik Peels and Jeroen de Ridder present seven rules for "thinking clearly in confusing times." Examples include 'Know your thinking,' 'Trust critically,' 'De-bubble your views,' and 'Organize doubt.' Those lessons are highly relevant not only for students but also for lecturers and administrators.

Also, the psychological insights of Sander van der Linden, a researcher in Cambridge and author of the book *Foolproof (2023)* are relevant. Van der Linden argues that it is possible to combat misinformation and disinformation through pre-bunking, whereby people are prepared for misinformation and become more critical of its sources. The analogy he uses here is that of vaccination; with a small amount of dis/misinformation, people become resilient against larger amounts of manipulative information. In collaboration with development collective DROG, he developed the *Bad News Game*, which is also used by some lecturers in higher professional education to teach students about dis- and misinformation. In this game, students learn to step into the shoes of someone who devises and spreads disinformation. Meanwhile, there are also newer games like Cat Park and Harmony Square that show how disinformation touches upon manipulation and polarization.

But tools like a game cannot simply be deployed just like that either, says a lecturer who uses the Bad News Game in education: "Then you have to explain very clearly what you are doing, why you are doing it, what the principles, what the dynamics are. So which technique are you using now? Whether it is trolling or whatever. So don't just unleash the student blindly, but give a very good introduction, let them loose in such a way, let them observe very carefully for themselves. What is actually happening to me? (...) . But the learning lies, of course, in unmasking the various techniques being used. I think this is a very good tool if you use it in the right way" (lecturer ICM01). Proper framing of tools is therefore essential to effectively deploying them.

5.2 Use caution with terms like disinformation and conspiracy theories.

When it comes to a meaningful conversation about misleading information and important concepts, it is important for lecturers to proceed carefully.

In advance, we informed lecturers of the definitions we use for disinformation, misinformation, and conspiracy theories. We asked lecturers to reflect on this. Some provided their own examples, such as family members

who believed in conspiracy theories or disinformation and misinformation. The interviews revealed that many lecturers were critical of this and also noted that these terms (including the term 'conspiracy theory') could be used to marginalize people. Some indicated that governments can also use this term to combat opponents. Furthermore, it was clear to them that framing is also frequently at play in the media.

What we also saw was a critical reflection on government, media, and journalism. Consider the childcare benefits scandal, which caused a great deal of distrust, but also, in an international context, how the Iraq War was 'sold' or how the CIA used propaganda during the Cold War, or how people sometimes have a very one-sided media menu (e.g., only *de Volkskrant*, being disparaging of 'right-wing' media like *de Telegraaf*), which means their own frame of reference is sometimes limited. Some lecturers also referred to their own fields of study and how these concepts were relevant to their teaching, for example regarding public management, communication, and journalism. They also indicated that framing is an important part of news and politics. For instance, a lecturer in International Public Policy and Leadership: "What we must guard against is saying: this is the truth, and this is good, and that is evil. I think it is important to teach students to always view things from multiple perspectives. From multiple bases in general, actually. And yes, look, framing is unavoidable" (lecturer IPPL01). A discussion about misleading information therefore also requires a great deal of preparation and expertise from the lecturer.

5.3 Open attitude and good conversation in the classroom

According to many lecturers, having an open conversation is important but also often difficult. How do you conduct conversations about misleading information in the classroom? The interviews reveal that many lecturers have few or no conversations about this. When asked how they themselves were able to conduct the conversation with students, many stated that an open attitude and as little bias as possible are important. This requires trust, including in the classroom, and good conversational skills on the part of lecturers, according to the respondents. One of the lecturers state: "In certain classes... you ask, where did you get your information? ... We talked about not so much about what is true, but what feels true to them" (lecturer ES02). According to her, considering the feelings and perspective of students is very important for conducting this conversation properly.

An ICT lecturer states that it is very likely that students encounter a wide range of content on the internet and form their opinions about it, but that they think twice before sharing this with a lecturer: "I don't think they fully show that. I think there really are certain opinions they just don't express to a lecturer. After all, the lecturer has a different role and often assesses you. So very often they don't really show what they think about things" (lecturer ICT01). There is a hierarchical relationship between lecturer and student; a lecturer is going to assess students, so it might not be comfortable for a student to share things that might not fit with a lecturer's worldview.

Some lecturers actively try to initiate conversation, for example about influencers. The International Business lecturer says: "An important skill is being able to engage in a truly open conversation, and that is often lacking" (lecturer IB01). He observes that lecturers sometimes enter a conversation colored by unconscious bias, and that they speak too much from within their own 'bubble', making it more difficult to engage in dialogue with students. He views the failure to engage in meaningful conversations as one of the dangers of misinformation. This lecturer also tries to engage in discussions about, for example, the influence of Andrew Tate, by using a statistical rating system to have students express how much they agree with a particular statement and then discussing the results.

5.4 Information about AI

We cannot continue with the way we teach. It's going to have to be revolutionized [due to AI]. You have to get with the program, or the program will get you, and we're going to end up with stupid students" (lecturer LAW01).

In addition to the discussion on misleading information in general, the discussion on the use of generative AI is important because this technology is used very widely, frequently contains errors, and is also very easy to deploy to generate misleading information (Van der Sloot, 2024). How can students be made resilient against misleading information originating from AI?

It can be seen in the interviews that the use of generative AI in the classroom, particularly Chat GPT, is forcing lecturers to rethink education and assessment, especially regarding the skills students might neglect if they let Chat GPT generate pieces or use it as a search engine. This is currently often a major taboo. Students use AI but are far from always transparent about it. A lecturer in International Communication Management compares the conversation about AI to a discussion about sex education: “So we are going to ask the kids : do you do anything with AI? (...). Yes ma’am, yes, I was just using Chat GPT recently. Ah, gotcha! Okay, then we let them continue talking about it. Okay? Well, interesting. Tell me, I want to learn from you. So that openness. And then we find out that they do a lot with AI. But it is just like with sex education: everyone does it, but they don’t do it safely. They don’t do it right, they don’t talk about it, but it is still a taboo and that is why, I think, it is dangerous” (lecturer ICM01). According to her, it is precisely by having the conversation and not immediately judging students that you can make progress.

5.5 Conclusion

According to lecturers and experts, which interventions can effectively increase the digital resilience of higher professional education students? Digital resilience requires awareness, knowledge, and a course of action. This chapter shows that there is no shortage of available teaching materials: from the *Bad News Game* to books such as *Wat is nou waar?* and websites like isdatechzo.nl. However, material alone is not sufficient. Lecturers indicate that interventions only work if they are carefully guided. For instance, the use of educational resources requires a proper introduction, reflection, and explanation of the techniques students encounter. Regarding awareness, it is important that lecturers handle concepts such as disinformation and conspiracy theory with caution. Lecturers point out that these terms can also be used to marginalize people, and that critical thinking also means that students learn to recognize framing, including by governments and the media. Pre-bunking, as described by Van der Linden, can be a way to increase awareness. Open discussion in the classroom is necessary for knowledge and a perspective for action. Lecturers indicate that students do not always share their views due to the hierarchical relationship with the lecturer. It is also quite possible that students are afraid of the reactions of their fellow students. This calls for sensitive conversational skills and an attitude in which lecturers acknowledge their own biases. The same applies to the discussion about generative AI: students use tools like ChatGPT widely but rarely do so transparently and rarely critically. Effective lecturer interventions therefore consist of suitable material with guided reflection and open conversations. Without these preconditions, the impact remains limited.

6.

Support for lecturers

In the previous chapter, we examined possible solutions and interventions. How lecturers can be supported in this in practice is central to this chapter. Consequently, this chapter contains recommendations for the future. Therefore, in this chapter, we address the final sub-question: *How can higher professional education institutions facilitate lecturers to make this possible?* We begin by examining the situation in secondary education, then discuss recommendations from the Media Literacy Network, and explore what higher professional education lecturers themselves say in the interviews. Based on this, we present conclusions and recommendations.

6.1 No structural attention to disinformation in secondary education

To gain a better understanding of necessary actions, it is useful to look at secondary education. In any case, for most Dutch students in higher professional education (HBO), it holds true that they have completed secondary school, and sometimes secondary vocational education (MBO). When we look at what Dutch students acquire regarding media literacy, digital literacy, and critical information skills, the picture is not entirely favorable. Unlike for Flemish students, competencies in this area are hardly, if at all, included in learning objectives in secondary education. While Dutch educational organizations are working on new core objectives regarding citizenship and digital literacy, the link between media literacy and disinformation is not explicitly made here. (SLO, 2025). Combined with the fact that research by Netwerk Mediawijsheid (2023) shows that many young people often overestimate their own digital competencies. Since the reading skills of Dutch schoolchildren have also been declining for years, there is ample reason for concern. (Meelissen et al., 2023).

Furthermore, a British study of 7,000 schools shows that 40% of lecturers hear from students that they encounter conspiracy theories that are spread, whether intentionally or unintentionally (Jerome et al., 2024). This study reveals that many of lecturers' interventions are ineffective because they lack sufficient knowledge and skills to deal with this. Although this British study cannot be directly applied to Dutch circumstances, the interviews show that many lecturers do not feel sufficiently equipped to discuss disinformation, misinformation, and conspiracy theories, especially if this could lead to heated classroom debates. At the same time, there is a lack of a coordinated approach to address this structurally.

6.2 Need for more coordination

Due to the lack of a structural approach to disinformation and media literacy within the context of social media and AI, the News Literacy manifesto was initiated by The Netherlands Institute for Sound and Vision. This is intended to draw attention to the importance of knowledge, awareness, and skills regarding journalism, news, and citizenship within the context of digital platforms and social media. The manifesto states that it is important for journalism, education, science, government, and civil society to collaborate much more closely. Currently, there are too many isolated interventions, but according to the authors, a systematic approach and a shared vision are necessary for a stronger democracy. A field scan of scientific insights regarding news literacy shows that it is furthermore important not to focus solely on the danger of misinformation and disinformation, as this can lead to a cynical view of the media landscape, causing people to become even more distrustful (Schut, 2025). It is precisely important to develop a healthy relationship with news and journalism, and to be able to weigh sources against one another.

6.3 What lecturers themselves say about this

The interviews revealed that some lecturers felt personally responsible for facilitating effective classroom discussions regarding misleading information or had to figure out for themselves how to handle the situation. They feel a lack of clear guidance from the study program or the university of applied sciences. In practice, several of them argue, universities of applied sciences should take more responsibility for this institutionally. The crisis regarding the authority of public institutions, journalism, and knowledge institutions is profound and requires more structural measures.

They indicate that it cannot be expected of them to handle all of this independently, but that they also see a role for governments in stimulating and funding media literacy, news literacy, and more on a meta-level, critical skills. A lecturer says about this: “I notice that during difficult conversations or tense discussions, I feel that universities of applied sciences and universities facilitate this too little. (...) If, so to speak, you look away as an institution—well, well—then you can’t do that, you can’t say: as an organization we find this very important, but you as a lecturer, you get to go and solve it in front of the class. Because that is where it gets tense and that is where you suddenly really get those opinions thrown at you. So yes, you get to solve it in the classroom, and we just continue with our work. That simply isn’t possible. Yes, maybe that isn’t the case, but that is how it is. That is how I feel.” (lecturer VD01).

Another lecturer advocates for more continuing education on misleading information and the role of AI in education. Taken together, the general sentiment from the interviews is that too little is currently happening at a structural level.

6.4 Conclusion

How can higher professional education institutions facilitate lecturers to make this possible? What is clear, in any case, is that no coordinated, targeted actions are being taken to structurally address dis- and misinformation in secondary education, meaning it depends solely on how lecturers of Dutch, history, social studies, or other subjects address the topic. This also means that universities of applied sciences cannot assume that their students are equipped with sufficient knowledge, awareness, and skills to be resilient against digital deception. Given the large amounts of dis- and misinformation on digital platforms, which are sometimes politically motivated or used for profit, there is much to be said for ensuring, at the institutional level, that digital resilience is given a more prominent place in higher professional education, and that, in addition, greater attention to dis- and misinformation, and its combating, should be advocated in primary and secondary education. We are therefore pleased to adopt the recommendations of the News literacy manifesto for a broad approach.

Based on this research, we recommend structurally embedding resilience against disinformation and misinformation in the higher professional education curriculum. This means that study programmes formulate concrete learning outcomes regarding critical information skills, media literacy, and AI literacy, and integrate these into existing courses rather than offering them as standalone components. To achieve this, dialogue is needed between higher professional education administrators and programme managers regarding the urgency of this theme and the necessary resources.

In addition, lecturers have a need for professional development: training in conducting difficult conversations about sensitive topics, critically evaluating AI tools, and pedagogical skills to engage students without alienating them. To meet this need, it is important that administrators allocate time and funds for this. Ultimately, it is not just about media literacy, but about the critical thinking skills of students in higher education. Finally, alignment between universities of applied sciences and primary, secondary, and vocational education is important. What are students already learning there about media literacy and information skills? Where are the gaps? By aligning with what pre-university programs are already doing, universities of applied sciences can build on an existing foundation and contribute to a continuous learning pathway in the field of digital resilience.

Conclusion

7.

Conclusion

In this report, we investigated how lecturers in higher professional education perceive their students' digital resilience against dis- and misinformation, and what they need to strengthen this resilience. In this conclusion, we address the answer to the main research question and make suggestions for further research.

The main question of this research was: *How do lecturers in higher professional education perceive the digital resilience of their students against dis- and misinformation, and what do they need to strengthen this resilience?*

As indicated earlier, this study is exploratory and based on sixteen interviews with lecturers from a single university of applied sciences. The findings provide insight into how lecturers at The Hague University of Applied Sciences perceive student resilience but are not readily generalizable to the entire higher professional education sector. The Hague University of Applied Sciences is located in the Randstad and has a very diverse student population. This impacts the study—is the diversity represented in the study sample reflective of the larger population? Therefore, follow-up research is needed involving multiple institutions and incorporating the voice of the students themselves. The patterns we identify here, such as uncritical engagement with AI, passive media use, and epistemic distrust, do recur in the literature.

Lecturers at universities of applied sciences are concerned about students' resilience, but the picture is nuanced. They do not see a mass of students actively spreading dis- and misinformation or completely absorbed in conspiracy thinking. What they do observe are structural shortcomings in the way students handle information. Students are insufficiently critical of sources, are easily influenced by influencers with simplistic messages, use AI tools without critical reflection, and possess limited skills to distinguish reliable from unreliable information.

This vulnerability is not an individual failure of students but is fueled by multiple factors. Social media algorithms are designed to hold attention through emotional content. Disinformation and misinformation about geopolitical conflicts can also enter the classroom. And students have legitimate reasons to be critical of public institutions, but this critical attitude sometimes escalates into unfounded distrust.

To strengthen students' resilience, lecturers need three things. First, pedagogical support. Lecturers must be equipped with training in conversational skills to conduct difficult conversations without being biased or alienating students. They need knowledge about the responsible use of AI tools and the functioning of disinformation campaigns.

Secondly, this subject requires support from educational institutions. Universities of applied sciences must develop a clear vision on how to address the challenge of dis- and misinformation. This means structurally embedding media literacy and critical information skills in curricula with concrete learning outcomes. It also means giving lecturers the time and space for this work, rather than leaving it solely to individual lecturers.

Thirdly, broader cooperation is needed. Alignment with earlier educational levels prevents gaps and ensures a continuous learning pathway. Connection with initiatives at European and national levels can facilitate the exchange of knowledge, access to materials, and financial support.

The crisis of trust in epistemic institutions is profound and calls for more than superficial interventions. Individual lecturers cannot and must not bear this challenge alone. It requires structural measures in which universities of applied sciences take responsibility, professionalize lecturers, and seek collaboration with partners in education, journalism, and civil society organizations. Only in this way can we equip students as critical citizens and professionals capable of navigating an information environment where truth and deception are becoming increasingly difficult to distinguish.

Follow-up research

This exploratory research can be further expanded to gain a more complete picture of the role of dis- and misinformation and digital resilience in higher professional education. Follow-up research should focus on multiple universities of applied sciences and also include the perspectives and experiences of students themselves. How do they perceive their own skills in dealing with online information? Where do they get their news from and how critical are they of sources? How do they use AI tools such as ChatGPT and how do they assess the reliability of the output? Through interviews and surveys among students, we can better understand which factors influence their resilience, where their needs lie, and how education can respond to this. This would provide lecturers and policymakers with concrete tools to develop targeted interventions that align with the students' lived experiences.

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Appendix A: Conversations with experts

During the orientation phase of our research, we spoke with about twenty researchers and policymakers at international, European, and national levels. Below you will find the topic list with questions.

1.4 Questions for the conversations

1.4.1 General questions

1. What is your role/position?
2. What do you understand by disinformation?
3. What do you think of the current situation in the Netherlands regarding disinformation?
 - i. Is disinformation penetrating the Dutch population more?
 - ii. Has disinformation become a greater threat to democracy?
 - iii. What is the state of the resilience of public professionals against disinformation?
4. What worries you most?
5. What is your organization already doing? Which agencies are involved?
6. What role do you think big tech plays ?
7. In your view, what are the most important measures (both technological and non-technological) that can be taken in the coming years to counter the threats and strengthen the resilience of Dutch society? Who is responsible for what in this regard?
8. In your view, how can it be prevented that potential measures come at the expense of important societal values such as freedom of expression or freedom of the press?

1.4.2 Skills of public professionals

1. To what extent do public professionals have to deal with disinformation?
2. What skills must public professionals possess when dealing with disinformation?
 - i. Recognizing disinformation/conspiracy theories
 - ii. Direct interaction with citizens who believe in disinformation.
 - iii. Debunking disinformation.
3. Which measures do you consider most effective?
4. Who is responsible for what in this regard? Which parties are best equipped to handle this?
5. What, in your opinion, is an example of a good practice?

1.4.3 Conclusion

6. Do you have any further comments, in addition to everything we have discussed?
7. Do you have any advice on which expert we should still speak to about this subject?

Appendix B: Interviews

In the period April–June 2025, we conducted semi-structured interviews with lecturers at The Hague University of Applied Sciences from the following study programmes:

- ICT (1)
- Architecture (1)
- International and European Law (1)
- Public Administration (2)
- European Studies (3)
- Communication Science (2)
- International Communication Management (2)
- International Public Policy and Leadership (2)
- Nutrition and dietetics (1)
- International Business (1)
- Integrated Safety Science (1)

1.5 Questions for the semi-structured interviews

During the interviews, depending on how the conversation went, a large part of these questions came up:

1.5.1 General questions

1. For which program do you work?
2. What do you understand by disinformation, misinformation, and conspiracy theories?
3. What is the impact of disinformation, misinformation, and conspiracy theories on your work as a lecturer?
4. Can you tell me more about your experience with these topics in conversations or (digital) discussions with students?
5. What developments do you see in this area?
6. To what extent do you think distrust in public institutions plays a role in this?
7. What worries you most?

1.5.2 Measures against disinformation

1. What knowledge and skills do you and your colleagues need to be more resilient against the impact of disinformation and misinformation?
2. In your view, what measures should be taken to counter the threats posed by disinformation/misinformation?
3. What role do you see for AI tools to detect disinformation?
4. Who is responsible for what in this regard? Which parties are best equipped to handle this?
5. What role do you think the European Union could play in this, when it comes to measures, initiatives, or subsidies?
6. What, in your opinion, is an example of a good practice?

1.5.3 Conclusion

1. Do you have any further comments, in addition to everything we have discussed?
2. Do you have any advice on which lecturers we should speak to about this subject?