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People believe misinformation is a threat because they assume others are gullible

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Abstract

Alarmist narratives about the flow of misinformation and its negative consequences have gained traction in recent years. If these fears are to some extent warranted, the scientific literature suggests that many of them are exaggerated. Why are people so worried about misinformation? In two pre-registered surveys conducted in the United Kingdom ($N_{study\_1} = 300$, $N_{study\_2} = 300$) and replicated in the United States ($N_{study\_1} = 302$, $N_{study\_2} = 299$), we investigated the psychological factors associated with perceived danger of misinformation and how it contributes to the popularity of alarmist narratives on misinformation. We find that the strongest, and most reliable, predictor of perceived danger of misinformation is the third-person effect (i.e. the perception that others are more vulnerable to misinformation than the self) and, in particular, the belief that "distant" others (as opposed to family and friends) are vulnerable to misinformation. The belief that societal problems have simple solutions and clear causes was consistently, but weakly, associated with perceived danger of online misinformation. Other factors, like negative attitudes toward new technologies and higher sensitivity to threats, were inconsistently, and weakly, associated with perceived danger of online misinformation. Finally, we found that participants who report being more worried about misinformation are more willing to like and share alarmist narratives on misinformation. Our findings suggest that fears about misinformation tap into our tendency to view other people as gullible.

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Introduction

The news media is awash with alarmist headlines about the effects and prevalence of misinformation (Blake, 2018; Borchers, 2016; Grice, 2017; Schwartz, 2018). The common narrative implies that the Internet and social media in particular, by facilitating the production and diffusion of information, have weakened the role of traditional gatekeepers and exacerbated our current information disorder. The truth does not matter to people anymore (Saslow, 2018), lies spread faster than the truth (Fox, 2018), people can't tell falsehoods from the truth (Borchers, 2016), and technological advances such as deepfakes and micro-targeting have made mass persuasion easier than ever (Viner, 2016). However, in contrast to these alarmist and pessimistic narratives, the scientific literature is more nuanced (e.g. Nyhan, 2020). Many of these narratives have been labeled as "moral panics" (Altay et al., 2023; Anderson, 2021; Carlson, 2020; Jungherr and Schroeder, 2021; Mitchelstein et al., 2020), or "techno panics," which reappear cyclically with the emergence of new technologies (Orben, 2020). These narratives are successful: in the United States, 90% of people believe that social media facilitate the spread of misinformation (Knight Foundation, 2022), and on average people across the world report being more worried about misinformation than about sexism, racism, terrorism, climate change, online fraud, or online bullying (Knuutila et al., 2022; Lloyd's Register Foundation World Risk Poll, 2020; Mitchell et al., 2019). These fears are not totally unfounded, especially considering that people worry the most about misinformation coming from powerful actors such as elected politicians (Newman et al., 2021), and that in many countries, these powerful actors do play a central role in the spread of misinformation (Ricard and Medeiros, 2020). Still, most of these narratives are excessively alarmist in the sense that they greatly exaggerate the prevalence (e.g. "Misinformation on Facebook got six times more clicks than factual news during the 2020 election, study says") and impact of misinformation (e.g. "COVID Misinformation is Killing People"; for a review, see Altay et al., 2023). Moreover, expressed fear about misinformation seems to be largely unrelated to objective risks posed by misinformation; for instance, fear about misinformation is unrelated to press freedom and misinformation prevalence at the country level (Knuutila et al., 2022).

A growing body of research is pointing at the deleterious effect of these alarmist narratives on misinformation (Altay et al., 2020; Hoes et al., 2022; Jungherr and Rauchfleisch, 2022; Lee, 2021; Nisbet et al., 2021; Nyhan, 2020; Van Duyn and Collier, 2019) and has tried to correct them (Lyons et al., 2020). For instance, alarmist narratives about deepfakes, common in the popular press, have been found to increase skepticism in both true and fake videos (Ternovski et al., 2022). More broadly, if alarmist narratives on misinformation were to successfully increase the perceived prevalence of misinformation (which remains to be proven), they could lead to narrower media diets, less trust in the media (Shapiro, 2020), and reduce the sharing of reliable news on social media (Yang

and Horning, 2020). For instance, the term "fake news" has been used to delegitimize reliable news outlets and to dismiss their news coverage as deeply flawed (Farhall et al., 2019). One online experiment showed that exposure to elite discourse about fake news leads to lower trust in the media and less belief in true news (Van Duyn and Collier, 2019). Moreover, exposure to content covering misinformation has been shown to reduce people's trust in the news (Hoes et al., 2022). Similarly, excessive public attention on misinformation is suspected to erode satisfaction with democracy by making electoral processes appear less fair and just (Jungherr and Rauchfleisch, 2022; Nisbet et al., 2021).

Yet, very little attention has been paid to *why* people are so worried about misinformation and why alarmist narratives are so popular. While the news media and politicians have largely alimented these fears in recent years, the success of alarmist narratives cannot be explained solely by such top-down influence. On social media, people willingly share alarmist narratives about the prevalence and effects of misinformation on social media. At best, the media can set the agenda and frame how people think of a problem (Barberá et al., 2019; Lazarsfeld et al., 1948), but they are unlikely to create these fears from scratch and dictate people's attitudes about it (Katz and Lazarsfeld, 1955; Livingstone, 2019). Instead, it is more likely that the media and politicians fuel pre-existing concerns about misinformation in the population (Orben, 2020).

To understand why people are so worried about misinformation, and ultimately why alarmist narratives on misinformation have gained so much traction, we draw on the field of cultural evolution (Acerbi, 2020). Cultural Attraction Theory, in particular, puts a special emphasis on the intuitive cognitive mechanisms contributing to the cultural success of ideas and beliefs (Sperber, 1996). A central component of the theory is that general cognitive preferences make some ideas and beliefs more likely to be successful than others, as they are more appealing, attention-grabbing, and memorable. For instance, humans have cognitive systems dedicated to the processing of faces, which makes masks, caricatures, portraits, and made-up faces very attention-grabbing, and explains why they are so common across cultures (Sperber and Hirschfeld, 2004). Similarly, it has been hypothesized that anti-vaccination beliefs tap into our intuitive sense of disgust, which alerts us about the introduction of even small doses of contaminants (Miton and Mercier, 2015). In the same way, we try to explain the success of the belief that "online misinformation is a threat" (irrespective of its accuracy) by investigating broad cognitive preferences that may make this belief particularly plausible to some people, and motivate them to share it.

In the first survey, we investigate five psychological factors that we hypothesized to be associated with perceived danger of misinformation. These factors are not exhaustive—we did not include group-level factors such as political orientation, nor individual-level factors such as personality traits—as we focused on psychological factors consistent with our framework. Below, we explain our reasoning for each factor, with supporting literature on cultural evolution and media studies. In the second survey, we examine whether perceived danger of misinformation contributes to the cultural success of alarmist headlines on misinformation. More specifically, we investigate whether people who are more worried about misinformation are also more likely to share and like alarmist headlines. In sum, the first survey focuses on the psychological factors associated with perceived danger of misinformation, while the second survey investigates

whether these fears contribute to the success of alarmist narratives on misinformation. In particular, the second survey links attitudes (i.e. perceived danger of misinformation) to behaviors—sharing and liking alarmist headlines on social media. This second step is necessary to understand why alarmist narratives appear to be so prevalent in public discourse. Indeed, it could be that the people who are the most worried about misinformation are also the least likely to share news on social media, and thus their attitudes would never translate into publicly visible behaviors.

The pre-registered surveys were initially conducted among UK participants and then replicated among US participants. In the sections below, we present our theoretical framework and outline five factors that we hypothesized to be associated with perceived danger of online misinformation.

A general negative bias toward new technologies

Throughout history, people have been concerned about the effects of new technologies, including books, movies, music, the radio, cars, television, computers, or video games (Orben, 2020). These concerns are often exaggerated and many of them have been labeled as "moral panics" (Orben, 2020). A classic example is Orson Welles' radio drama *The War of the Worlds*. It was assumed that millions of US Americans suffered from mass hysteria after hearing on the radio that Martians were invading Earth. Despite being unfounded (Schwartz, 2015), this claim was probably successful because it tapped into our tendency to attribute negative causal effects to new technologies and to see other people as gullible. Today, numerous alarmist narratives on misinformation have a technological component, whether it is the Internet, social media, or other kinds of new technologies such as deepfakes (e.g. "You thought fake news was bad? Deep fakes are where truth goes to die"; Schwartz, 2018). We thus predicted that people holding more negative views about new technologies would be more worried about misinformation:

> H_1: Perceived danger of misinformation will be positively associated with negative attitudes toward new technologies.

Preference for simple explanations

The outcomes of collective human behavior are difficult to understand. Why did Trump win the 2016 election? Why did the United Kingdom leave the European Community? What is driving the rise of populism across the globe? Explaining vaccine hesitancy, or any other puzzling social phenomenon, as an effect of "fake news" or "misinformation" is very appealing to the human mind: the real causal factors are complex, not intuitive, and hard to lay out, while the brevity and intuitiveness of monocausal explanations make them easier to understand, spread, and remember (Keil, 2003; Lombrozo, 2016). Many alarmist narratives on misinformation are simplistic; they identify clear culprits and simple solutions to complex problems with no clear cause and no clear solution (e.g. "Fake news handed Brexiteers the referendum—and now they have no idea what they are

doing"; Grice, 2017). We thus predicted that people who are more likely to think that complex societal problems have simple solutions and clear causes would be more worried about misinformation. Previous work has shown that a belief in simple solutions for complex societal problems is strongly associated with believing in various conspiracy theories (Van Prooijen and Douglas, 2017; Van Prooijen et al., 2015). In particular, belief in simple solutions for complex societal problems is hypothesized to be a cognitive antecedent of conspiracy beliefs (Pantazi et al., 2022):

> H_2: Perceived danger of misinformation will be positively associated with the belief that societal problems have simple solutions and clear causes.

The appeal of threat-related information

Many alarmist narratives on misinformation closely resemble threat-related rumors: they warn people about dangers causing great harm, often based on circumstantial evidence (e.g. "Fake news is killing us. How can we stop it?"; Yoder, 2020). As a rule, it is less costly to at least consider such warnings, even if they might turn out to be false, than to ignore them, as they might turn out to be real (Haselton et al., 2015). In such uncertain situations, there is a strong asymmetry in the costs of false positives compared to false negatives: ignoring a real threat can be fatal while over-detecting threats is only so costly. It's best to have a smoke detector over-detecting smoke rather than a smoke detector that under-detects smoke.

People have a strong appetite for threat-related narratives, being particularly attentive to them, finding them more plausible, remembering them better, and being more willing to share them (Blaine and Boyer, 2018). We thus predicted that people who are more sensitive to threat, measured by the extent to which participants believe that we live in a "dangerous world," would be more worried about misinformation. Previous work has found that a belief that we live in a "dangerous world" is associated with higher intergroup prejudice, the endorsement of negative stereotypes (Cook et al., 2018), or gun ownership (Stroebe et al., 2017):

> H_3: Perceived danger of misinformation will be positively associated with the belief that we live in a dangerous world.

Overestimation of gullibility

Finally, we may overestimate the reach and the effect of misinformation, and thus be worried about it, if we believe that humans are gullible (e.g. "A harsh truth about fake news: Some people are super gullible"; Borchers, 2016). This belief has two dimensions. On one hand, we may believe that everyone, including ourselves, is generally gullible (H_4 below). On the other hand, we may believe that other people are more gullible than we are (H_5 below, see also "third-person effect," Jang and Kim, 2018; Ştefăniță et al., 2018; Yoo et al., 2022), that is, that others are more easily swayed and manipulated than we are (in particular by false information). The third-person effect stems from a general

tendency to downplay one's susceptibility to socially undesirable messages (such as fake news) and overstate one's receptivity to socially desirable messages (such as educational content)—likely for self-enhancement and reputation management considerations (Gunther, 1995; Scharrer and Leone, 2008). This perceptual gap has been demonstrated in the context of political ads (Golan et al., 2008) or news stories (Price et al., 1997; Schweisberger et al., 2014).

Crucially for our hypothesis, there is some interpersonal variability regarding the third-person effect, as some people overestimate to a greater extent how susceptible to social influence others are (compared to themselves). People who view others as more susceptible to social influence than themselves are more likely to judge fake news on social media as socially undesirable (Yang and Horning, 2020). In turn, they are more motivated to take action to limit the harmful media effects and protect others (Shah et al., 1999).

The third-person effect is exacerbated for outgroup members (Corbu et al., 2020) and is a good candidate to explain why, for instance, narratives about the influence of misinformation in the election of Trump in 2016 are so popular among Democrats (e.g. 'A new study suggests fake news might have won Donald Trump the 2016 election'; Blake, 2018). The third-person effect is well established regarding the influence of fake news and misinformation (Corbu et al., 2020; Jang and Kim, 2018; Ştefăniță et al., 2018; Yoo et al., 2022). For instance, a survey from the Pew Research Center (Barthel et al., 2016) has shown that while 88% of Americans reported that fake news has caused confusion about current events, 84% of them reported being very confident or somewhat confident in their ability to identify fake news:

H_4: Perceived danger of misinformation will be negatively associated with confidence that people in general, friends and family, and themselves, are able to identify misinformation.

H_5: Perceived danger of misinformation will be positively associated with the third-person effect, that is, the tendency to be more confident that oneself, compared with others, is able to identify misinformation.

The success of alarmist narratives on misinformation

In a second online survey, we investigated whether perceived danger of misinformation contributes to the cultural success of alarmist narratives on misinformation. In particular, we measured how willing participants would be to like and share alarmist headlines on misinformation. We predicted that participants perceiving online misinformation as more dangerous would also be more likely to share (H_6) and like (H_7) the alarmist headlines:

H_6: Participants perceiving online misinformation as more dangerous will be more willing to share alarmist headlines on misinformation.

H_7: Participants perceiving online misinformation as more dangerous will be more willing to like alarmist headlines on misinformation.

Survey 1

In the first survey, we investigated the psychological factors associated with perceived danger of misinformation. We tested whether perceived danger of online misinformation was associated with negative attitudes toward new technologies (H_1); the belief that societal problems have simple solutions and clear causes (H_2); the belief that we live in a dangerous world (H_3); perceived susceptibility of the self, close others, and distant others, to misinformation (H_4); and the third-person effect (H_5).

Method

Participants. On 14 February 2022, we recruited 303 participants in the United Kingdom via Prolific Academic (an online crowdsourcing platform with higher data quality than Mturk; Peer et al., 2017) and excluded three participants who failed the attention check, leaving 300 participants (147 women, M_{age} = 37.79, SD_{age} = 12.84, $\text{median}_{\text{education}}$ = bachelor's degree). For the replication, on 24 February 2022, we recruited 302 participants (148 women, M_{age} = 33.25, SD_{age} = 11.96, $\text{median}_{\text{education}}$ = bachelor's degree) in the United States via Prolific Academic. Both samples were balanced in terms of gender, and participants were paid £.38. (i.e. £7.60/hour for an estimated completion time of 3 minutes). Our pre-registered power analyses suggest that we had enough participants to reliably detect small effects ($f^2 = 0.05$) given an alpha level of 5% and a power of 95%.

Design and procedure. After completing a consent form, participants were asked to report their age, gender, and level of education. Then, they were presented with 16 questions divided in five blocks: (1) perceived danger of misinformation, (2) attitudes toward new technologies, (3) belief that societal problems have simple solutions and clear causes, (4) belief that we live in a dangerous world, and (5) confidence in their abilities, friends' and family's abilities, and people's abilities, to spot misinformation. The presentation order of the blocks was randomized together with the questions inside the blocks (except in block (5), where the presentation order of the questions was not randomized because it is standard in the literature on the third-person effect to first ask about the self and finish with distant others). One question was displayed per page. An attention check was presented in the last block of the survey.

Materials. Perceived danger of misinformation was measured with three questions ($\alpha_{UK} = .73$, $\alpha_{US} = .77$):

> "How much of a problem do you think made-up news and information are in the country today?" (1 [not a problem at all], 2 [a small problem], 3 [a moderately big problem], 4 [a very big problem], NA [don't know]), from Mitchell et al. (2019).
>
> "In your opinion, is the existence of news or information that misrepresent reality or is even false a problem for democracy in general?" (1 [no, definitely not], 2 [no, not really], 3 [yes, to some extent], 4 [yes, definitely], NA [don't know]), from European Commission (2018).

How much of a threat do you believe 'fake news' is to our society?" (1 [not much of a threat], 2 [a somewhat serious threat], 3 [a very serious threat], NA [don't know]), from Shapiro (2020).

For all the statements below, participants were asked, "To what extent do you agree with the following statement?" (1 [strongly disagree], 2 [disagree], 3 [slightly disagree], 4 [neither agree nor disagree], 5 [slightly agree], 6 [agree], 7 [strongly agree]).

Negative attitudes toward new technologies ($\alpha_{UK} = .52$, $\alpha_{US} = .55$) were measured with three statements adapted from Khasawneh (2018) and Tomczyk et al. (2021):

"I am fearful that someone is using technology to watch and listen to everything that I do"

"I am afraid of new technologies because one day it will make us (humans) obsolete"

"I think that digital technologies have positively changed our lives" [reverse coded]

Belief that societal problems have simple solutions and clear causes was measured with four statements ($\alpha_{UK} = .69$, $\alpha_{US} = .73$) adapted from Pantazi et al. (2022) and Van Prooijen (2017):

"With the right policies, most problems in society are easy to solve"

"Most societal problems have a clear cause and a clear solution"

"Most societal problems are too complex to know for sure what the right policy is" [reverse coded]

"For most societal problems it is clear how they have originated"

Belief in a dangerous world was measured with three statements ($\alpha_{UK} = .61$, $\alpha_{US} = .68$) adapted from Ackerman et al. (2018) and Altemeyer (1988):

"There are many dangerous people in our society who will attack someone out of pure meanness, for no reason at all"

"Any day now, chaos and anarchy could erupt around us. All signs are pointing to it"

"If a person takes a few sensible precautions, nothing bad will happen. We do not live in a dangerous world" [reverse coded]

Confidence in their abilities, friends' and family's abilities, and people's abilities to spot misinformation was measured with three statements ($\alpha_{UK} = .54$, $\alpha_{US} = .53$) adapted from Corbu et al. (2020) and the European Commission (2018):

"I am able to identify news or information that misrepresent reality or is even false"

"My friends and family are able to identify news or information that misrepresent reality or is even false"

"People in general are able to identify news or information that misrepresent reality or is even false"

For the last block, we reversed-coded all answers to have a measure of perceived difficulty to spot misinformation instead of perceived ability to spot misinformation. The general perceived difficulty to spot misinformation (H_4) was computed as the sum of answers to three questions. The third-person effect (H_5) was computed as the difference between self-perception and others-perception, that is, "perception of the self" – (("close others" + "distant others") / 2). In Online SI section 2, we show that our results are robust to alternative implementations of the third-person effect.

Results and discussion

First, we report the correlations between perceived danger of misinformation and our independent variables. In the United Kingdom, we found that negative attitudes toward new technologies, belief that societal problems have simple solutions and clear causes, belief that we live in a dangerous world, perceived difficulty to spot misinformation, and the third-person effect were all positively correlated with perceived danger of misinformation. In the United States, belief that societal problems have simple solutions and clear causes, perceived difficulty to spot misinformation, and the third-person effect were significantly correlated with perceived danger of misinformation, but not negative attitudes toward new technologies or belief that we live in a dangerous world. The correlations are reported in column 2 and 4 of Table 1. In the UK and the US, the correlation between perceived danger of misinformation and belief that societal problems have simple solutions and clear causes was primarily driven by agreement with the statement, "For most societal problems it is clear how they have originated" (r_{UK}=.12, r_{US}=.18). In both countries, agreement with the statement, "Any day now, chaos and anarchy could erupt around us. All signs are pointing to it." was correlated with perceived danger of misinformation (r_{UK}=.16, r_{US}=.14). In Online SI section 3, we report the results for each individual item.

Second, we report how well each variable predicts perceived danger of misinformation with a linear regression including the five predictors. In the United Kingdom, negative attitudes toward new technologies and the third-person effect were associated with higher perceived danger of misinformation (R^2=.10). In the United States, the belief that societal problems have simple solutions and clear causes, and the third-person effect, were associated with higher perceived danger of misinformation (R^2=.10). The betas are reported in column 3 and 5 of Table 1.

Overall, we find inconsistent support for H_1 across the two countries. In the United Kingdom, negative attitudes toward new technology were associated with perceived danger of misinformation, but in the United States, the association was extremely weak (r=.01) and non-significant. We find moderate support for H_2, with weak associations

Table 1. In columns 2 and 4, we report the Spearman correlation coefficients (*r*) with perceived danger of misinformation. In columns 3 and 5, we report the betas (*b*) of a linear regression including the five predictors.

	United Kingdom		United States	
Negative attitudes toward new technologies	$r = .16^{**}$	$b = .08^{*}$	$r = .01$	$b = .01$
Societal problems have simple solutions and clear causes	$r = .13^{*}$	$b = .05^{\dagger}$	$r = .14^{*}$	$b = .08^{**}$
We live in a dangerous world	$r = .17^{**}$	$b = .02$	$r = .10^{\dagger}$	$b = .05^{\dagger}$
Perceived difficulty to spot misinformation	$r = .14^{*}$	$b = .03$	$r = .14^{*}$	$b = .07^{\dagger}$
Third-person effect	$r = .28^{***}$	$b = .10^{***}$	$r = .30^{***}$	$b = .07^{**}$

$^{\dagger}p < .10$, $^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$

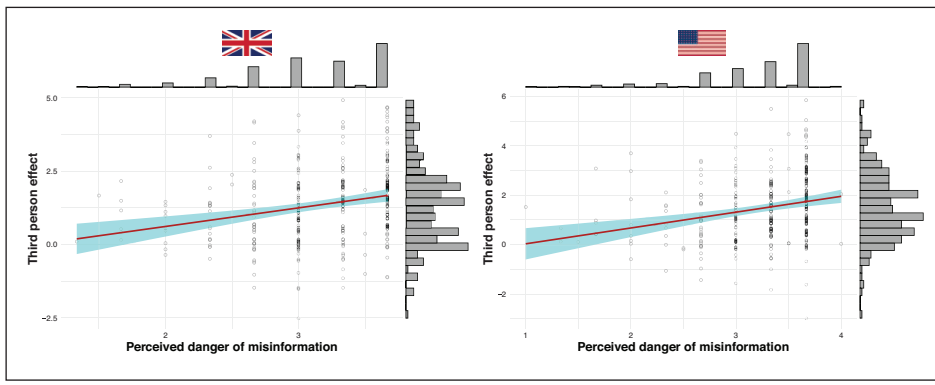

Figure 1. Correlations between the third-person effect and perceived danger of misinformation. The cyan-shaded area represents the 95% confidence intervals. The top histograms represent the distribution of perceived danger of online misinformation (higher score indicates higher perceived danger), while histograms on the right represent the distribution of the third-person effect scores (higher score indicates more pronounced third-person effect). In the United States, we removed from the visualization (but not the predicted correlation) one data point with a –6 third-person effect score, and a 3.5 perceived danger of misinformation score.

between the belief that societal problems have simple solutions and clear causes, and perceived danger of online misinformation. We find inconsistent support for H_3, as the belief that we live in a dangerous world was not a significant predictor of perceived danger of misinformation in the regressions, but the correlation was significant in the United Kingdom. We find limited support for H_4, with significant correlations between perceived difficulty to spot misinformation and perceived danger of online misinformation, but these associations almost disappeared in the regressions. Finally, we find strong support for H_5, with participants exhibiting a stronger third-person effect being more worried about misinformation (see Figure 1).

Table 2. Perceived ability of the self, friends and family, and people in general, to identify news or information that misrepresent reality or is even false (7-point Likert-type scale). We report the mean (SD) and the median answer. Higher scores correspond to greater perceived abilities to identify misinformation.

	United Kingdom	United States
Self	5.14 (1.07) Slightly agree	5.13 (1.18) Slightly agree
My friends and family	4.18 (1.65) Neither agree nor disagree	4.17 (1.30) Neither agree nor disagree
People in general	3.47 (1.30) Slightly disagree	3.27 (1.31) Slightly disagree

Exploratory analyses on the third-person effect

We have seen that the third-person effect is, in both the United Kingdom and the United States, the strongest predictor of perceived danger of misinformation. Here, we investigate what is driving this association by looking at the correlations between the individual components of the third-person effect (susceptibility of the self, close others, and distant others) and perceived danger of misinformation. We find that the association is mainly driven by the perceived inability of distant others to spot misinformation. Lower confidence in distant others' ability to spot misinformation was associated with higher perceived danger of misinformation (UK: $r = .26$; US: $r = .30$), while close others' ability to spot misinformation was not significantly associated with perceived danger of online misinformation (UK: $r = .10$; US: $r = .07$). Finally, higher confidence in one's ability to spot misinformation was also associated with higher perceived danger of misinformation (UK: $r = .14$; US: $r = .16$). In Online SI section 2, we provide more details about these correlations, and in Table 2, we report the descriptive statistics of perceived ability to spot misinformation.

Survey 2

The first survey showed that the third-person effect is the strongest predictor of fears about misinformation. Do these attitudes have behavioral consequences? In the second survey, we investigated whether interpersonal differences in perceived danger of misinformation contribute to the cultural success of alarmist narratives on misinformation.

Participants were exposed to alarmist headlines about misinformation and were asked how likely they would be to share it and like it on social media. We predicted that participants higher in perceived danger of online misinformation would be more likely to share (H_6) and like (H_7) the alarmist headlines.

Method

Participants. Based on a pre-registered power analysis, on 16 March 2022, we recruited 300 participants in the United Kingdom via Prolific Academic (147 women, $M_{age} = 38.86$,

SD_{age} = 12.82, $median_{education}$ = bachelor's degree). For the replication, on 4 April 2022, we recruited 299 participants (144 women, M_{age} = 35.37, SD_{age} = 16.88, $median_{education}$ = bachelor's degree) in the United States via Prolific Academic. Both samples were balanced in terms of gender, and participants were paid £.38 (i.e. £7.60/hour for an estimated completion time of 3 minutes). Our pre-registered power analyses suggest that we had enough participants to reliably detect small effects ($f^2 = 0.05$) given an alpha level of 5% and a power of 95%.

Design and procedure. After completing a consent form, participants were asked to report their age, gender, and level of education. Then, they were presented with three questions about perceived danger of misinformation ($\alpha_{UK} = .75$, $\alpha_{US} = .78$). Finally, they indicated how likely they would be to like and share four alarmist headlines on misinformation. In total, we used eight headlines, but participants were randomly assigned to a set of four headlines. The sets were created to be balanced and not repetitive. The presentation order of the headlines was randomized. One headline was displayed per page. An attention check was present in the last block of the survey.

Materials. The headlines were selected on prominent news outlets' Facebook page, and many of them were chosen because they have been criticized to be overly alarmist by researchers (e.g. https://twitter.com/JoeUscinski/status/1398274503571017731). The use of headlines instead of full articles is very common in the literature on misinformation (Altay et al., 2020; Arechar et al., 2022; Bryanov and Vziatysheva, 2021; Mosleh et al., 2020) and reflects the fact that many news articles are shared on social media without being read, because of their headlines (Gabielkov et al., 2016). For each headline, participants answered the following questions on a 6 point-Likert-type scale (1 [very unlikely], 2 [unlikely], 3 [slightly unlikely], 4 [slightly likely], 5 [likely], 6 [very likely]):

How likely would you be to *like* this post on social media?

How likely would you be to *share* this post on social media?

The alarmist headlines were presented in a Facebook format (see Figure 2). The full list of headlines is available on OSF.

Results and discussion

We ran linear mixed-effect models with participants as random effects. Figure 3 offers a visual representation of the results. In the United Kingdom, we found that perceived danger of misinformation was associated with a higher willingness to like ($b = .41$ [.24, .79]; $R^2 = .48$) and share the alarmist headlines ($b = .49$ [.23, .74]; $R^2 = .49$). In Online SI, we show that this holds true for each individual question of the perceived danger of misinformation scale. In the United States, we found that perceived danger of misinformation was associated with a higher willingness to like ($b = .51$ [.23, .79]; $R^2 = .45$) and share the alarmist headlines ($b = .59$ [.32, .85]; $R^2 = .48$). This holds true for each individual

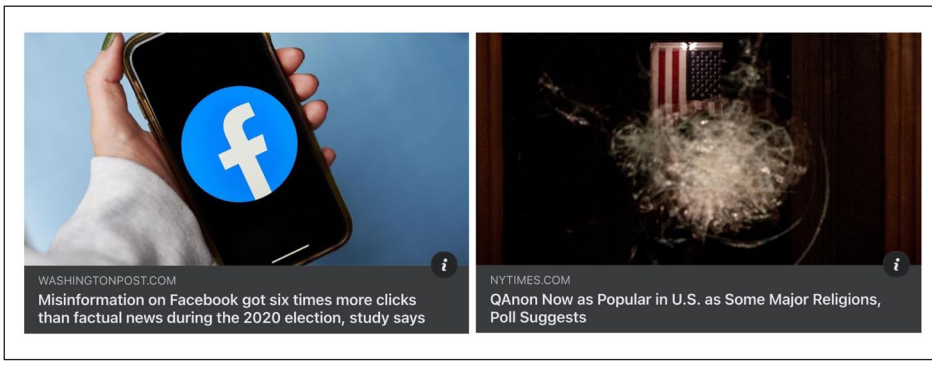

Figure 2. Two headlines used in Survey 2, as they were presented to the participants.

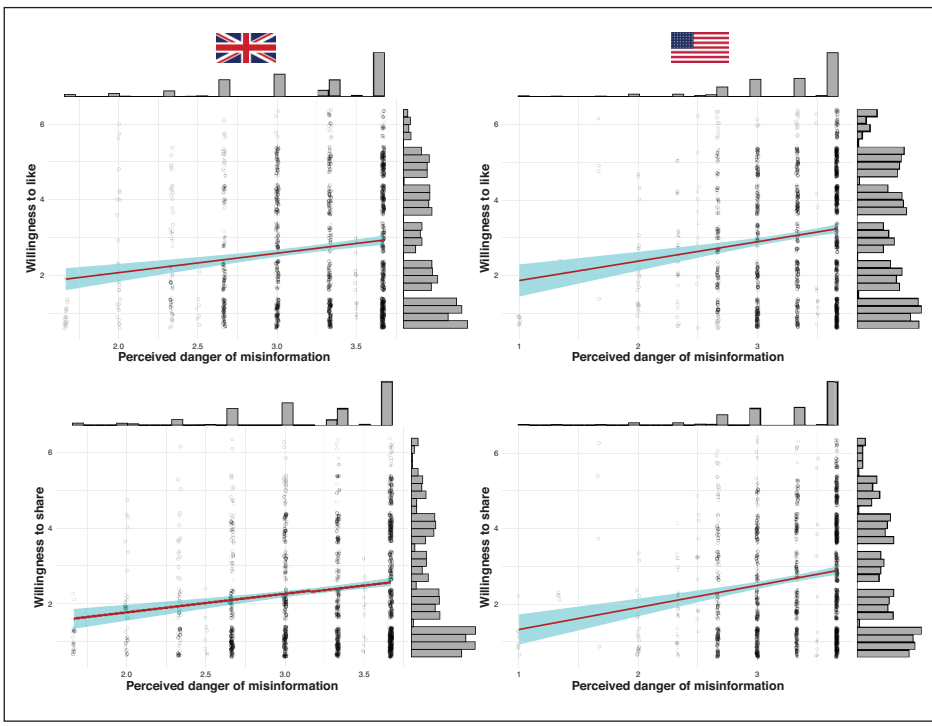

Figure 3. Correlations between willingness to like/share the headlines and perceived danger of misinformation. The cyan shaded area represents the 95% confidence intervals.

question of the perceived danger of misinformation scale (except for one *p*-value failing to reach statistical significance at .0523, see Online SI).

Overall, we find that participants who perceive the danger of online misinformation to be higher are more likely to like and share alarmist narratives on misinformation, offering support for H_6 and H_7.

Conclusion

Many alarmist narratives about the prevalence and impact of misinformation, such as its influence on major political events, are greatly exaggerated. Yet, little is known about what makes these narratives so popular. Drawing on the literature on cultural evolution and media studies, we investigated some of the factors that make these narratives appealing, and that motivates us to share them on social media. Our pre-registered surveys were initially conducted among UK participants ($N_{study\_1} = 300$, $N_{study\_2} = 300$) and replicated among US participants ($N_{study\_1} = 302$, $N_{study\_2} = 299$). First, we explored the psychological factors associated with perceived danger of misinformation. Of the five factors that we tested, we found that the strongest, and most reliable, predictor of perceived danger of misinformation was the perception that others are more vulnerable to misinformation than the self ("third-person effect"). Within the third-person effect, the strongest predictor of perceived danger of online misinformation was the perceived vulnerability of "people in general," followed by self-perceived invulnerability to misinformation—while the perceived vulnerability of family and friends was not significantly associated with perceived danger of misinformation. The belief that societal problems have simple solutions and clear causes was consistently, but weakly, associated with perceived danger of misinformation. Other factors, like negative attitudes toward new technologies and the belief that we live in a dangerous world, were inconsistently, and weakly, associated with perceived danger of misinformation. Second, we examined the association between perceived danger of misinformation and the success of alarmist narratives on social media. We found that participants who reported being more worried about misinformation were also more willing to like and share alarmist narratives on misinformation.

Our results should be interpreted with three limitations in mind. First, we did not investigate an exhaustive list of factors that could be associated with perceived danger of misinformation. We focused on individual-level factors for which we had solid theoretical ground to expect an effect. Second, we only measured participants' willingness to share and like alarmist headlines, not actual behaviors. Even if some data suggest that the two are correlated (Mosleh et al., 2020), very few people, when given the opportunity to share the headlines they said they wanted to share, actually share them on social media (Henry et al., 2020). Third, our reliance on non-representative samples does not allow us to meaningfully detect heterogeneous effects (such as the effect of age or education). Fourth, we relied on UK and US samples, two countries where concerns about misinformation are high, so it would be interesting to replicate our findings in countries where concerns about misinformation are lower (e.g. Slovakia; Knuutila et al., 2022; Newman et al., 2020). Moreover, our findings may not generalize in countries with low levels of affective polarization (such as Germany or Canada) or with high levels of trust in the news (such as Finland or Portugal), since both the United Kingdom and the United States have relatively high levels of affective polarization (Boxell et al., 2020) and low levels of trust in the news (Newman et al., 2022). But it's important to note that our findings hold in a country with strong public broadcast service (the United Kingdom) and in a country with weak public broadcast service (the United States).

In line with previous findings in the literature on the third-person effect of misinformation (Corbu et al., 2020; Jang and Kim, 2018; Ştefăniță et al., 2018; Yoo et al., 2022), we found clear evidence that people think that others, and in particular distant others, are more vulnerable to misinformation than themselves. In our surveys, 77% of participants believed that people in general were more vulnerable to misinformation than themselves, and only 18% believed that they were more vulnerable to misinformation than people in general. This should not necessarily be taken as evidence that our participants are biased or overconfident, as some of those who report being less vulnerable than others are correct in their assessment (Lyons, 2022). However, the pessimistic perceptions of our participants about the ability of other people to spot misinformation may not be fully justified. At least three reasons suggest that some more optimism may be warranted. First, on average people are good at identifying fake news in surveys (Acerbi et al., 2022; Arechar et al., 2022)—in fact, people are more likely to recognize false news as false than to recognize true news as true (Batailler et al., 2022; Bryanov and Vziatysheva, 2021). Second, people generally distrust hyperpartisan and fake news sources, and as a result largely avoid consuming misinformation (Allen et al., 2020; Guess et al., 2019; Pennycook and Rand, 2019). Third, humans are endowed with a suit of cognitive mechanisms allowing them to evaluate communicated information (Mercier, 2020; Sperber et al., 2010), and are able, even from a young age, to reject information coming from incompetent or malevolent sources (Harris, 2012).

The third-person effect may have both negative and positive societal outcomes. On one hand, the third-person effect may fuel a demand for harmful regulations, as people who display a stronger perceptual gap in undesirable media effects are more likely to support censorship (e.g. Olshansky and Landrum, 2020; although meta-analytical evidence suggest that the effect size is small at best, Feng and Guo, 2012). On the other hand, the third-person effect motivates actions to protect vulnerable others (Barnidge and Rojas, 2014; Lim, 2017), which may include the correction of misinformation (Koo et al., 2021).

Alarmist narratives could help raise awareness about misinformation and have various kinds of societal benefits despite being overly alarmist. For instance, they might help hold social media companies accountable, incentivizing them to intensify their efforts to reduce the visibility of misinformation and to make their data more broadly available to researchers. Alarmist narratives might also motivate people to correct misinformation when they see it, and to take active measures to counter it. However, these benefits are conditioned by the level of public awareness of misinformation and the prevalence of misinformation. Once the population is aware of the problem, as it seems to be the case, the benefits of alarmist narratives should diminish. And while fear about misinformation and alarmist narratives are justified in countries where misinformation prevalence is high, they could do more harm than good in countries where misinformation prevalence is low. For instance, they could divert our attention and resources from the real causes of the current information disorder (Wardle and Derakhshan, 2017), such as lack of trust in institutions and high partisan animosity (Osmundsen et al., 2021; Zimmermann and Kohring, 2020). They may also be used to justify regulations with anti-democratic consequences such as reducing freedom of speech or silencing political dissidents.

Finally, alarmist narratives about misinformation risk making people more skeptical of everything they see online (Hoes et al., 2022; Shapiro, 2020; Ternovski et al., 2022; Van Duyn and Collier, 2019; Yang and Horning, 2020). At first glance, it may appear like a beneficial outcome: the Internet and social media appear to be full of falsehoods, so more skepticism is what we need. Yet, in Western democratic countries, people mostly turn to news sources with strong standards of credibility and largely disregard fake news or hyperpartisan sources (see, for example, Altay et al., 2022). Thus, in practice, this skepticism risks overly affecting the news media, as opposed to fake news or hyperpartisan sources (Altay, 2022). Similar arguments have been made regarding the risk of media literacy trainings fueling cynicism toward the news media (boyd, 2017).

The finding that worries about misinformation tap into our tendency to view other people as gullible could help address some of their negative effects. For instance, while it is important to raise awareness about misinformation, it may also be necessary to communicate to the public the scientific evidence that misinformation is less widespread than they think and that its effects are more nuanced than often assumed (Lyons et al., 2020; Nisbet et al., 2021). Moreover, correcting the perception that "people in general" are more gullible than oneself could help sustain support for democracy, as the legitimacy of democratic decisions should decrease as a function of the perceived irrationality of (other) people (Stafford, 2022; for a similar argument, see Karpf, 2019). For instance, people who think that misinformation has stronger effects on others as opposed to oneself are more likely to be dissatisfied with the American electoral democracy (Nisbet et al., 2021). Finally, correcting overly alarmist perceptions of misinformation, most notably by dispelling the myth of widespread gullibility, may help improve the quality of our information ecosystem by increasing trust in the news media.

Authors' note

Alberto Acerbi is also affiliated to University of Trento, Italy.

Data availability

Data, scripts, and pre-registrations are available at: https://osf.io/q4pj8/

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The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Ethics

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Supplemental material

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