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Fake news and participatory propaganda

Stephan Lewandowsky

Abstract

There is much widespread concern about “fake news” and other forms of misinformation, and how they can undermine democracies. Recent research has begun to focus on how fake news and misinformation is spread, and the factors that determine whether information is widely shared by users, thereby going viral. Here I explore why people believe and share information that they know to be false, a phenomenon known as participatory propaganda, and how this can give rise to cascades of misinformation in which ultimately many actors are unwitting participants. I review the limited literature on participatory propaganda and sketch some possible countermeasures to this relatively new phenomenon.

Everybody worries about “fake news”. In every member state of the European Union, at least half of respondents in a recent large survey ($N \approx 27,000$) say they come across fake news once a week or more (Directorate-General for Communication, 2018). Similarly, in the US, 89% of adults indicated that they come across made-up news intended to mislead the public at least sometimes (Mitchell, Gottfried, Stocking, Walker, & Fedeli, 2019). There is abundant evidence that misinformation can have adverse consequences for individuals and societies as a whole (Lewandowsky, Ecker, & Cook, 2017; Lewandowsky, Ecker, Seifert, Schwarz, & Cook, 2012). Public awareness of those adverse consequences is high, with more than eight out of ten EU citizens identifying fake news as a problem for democracy in general (Directorate-General for Communication, 2018). Accordingly, concern about fake news has become a focal point of policy discussions, with the European Union about to announce various legislative initiatives such as the Digital Services Act that seek to provide greater accountability of social media platforms, which have been identified as a major vector of misinformation (Kozyreva, Lewandowsky, & Hertwig, 2020). Public opinion seems supportive of legislative measures, with eight out of ten Americans believing that steps should be taken to restrict fake news (Mitchell et al., 2019) and with four out of ten EU citizens assigning responsibility to national authorities (Directorate-General for Communication, 2018).

The widespread public concern about misinformation gives rise to a conundrum because misinformation does not multiply and spread on its own – it is spread by people who choose to spread it. Without active support from members of the public, much misinformation would likely remain a fringe phenomenon. An illustrative example of the path from fringe to mainstream involves the “pizzagate” conspiracy theory of 2016. This theory originated with a tweet that linked presidential candidate Hillary Clinton to a pedophilia ring operating out of the basement of a pizza parlor in Washington, DC. The first occurrence of the #pizzagate hashtag has been traced to a trolling account that often tweeted pro-Nazi content and was ultimately suspended by Twitter (Metaxas & Finn, 2019). The hashtag was then actively retweeted by accounts based mainly in the Czech Republic, Cyprus, and Vietnam (Fisher, Cox, & Hermann, 2016). The theory was actively promoted by right-wing influencers, including the son of President Trump’s former National Security Adviser. The conspiracy theory quickly migrated from Twitter onto Reddit and far-right sites such as 4Chan, where it became linked with a specific pizza parlor. Eventually, discussion on a dedicated subreddit (r/pizzagate) began to reveal private information about employees at the pizza parlor and stores nearby. Approximately a month after the theory first appeared, an armed individual entered the pizza parlor and fired shots inside in search of a (non-existent) basement (Fisher et al., 2016). By late December 2016, some six weeks after the first tweet, 46% of Trump voters considered the pizzagate conspiracy theory to be true (Frankovic, 2016).

Pizzagate is a particularly prominent example of how conspiracy theories and other misinformation can move from the fringe into mainstream public discourse (boyd, 2017). Several important issues arise from pizzagate that deserve to be explored. The first issue relates to the architecture of social media and how it facilitates the spread of misinformation and conspiracy theories. These consequences of the online ecosystem have been examined in detail elsewhere (e.g., Kozyreva et al., 2020; Lorenz-Spreen, Lewandowsky, Sunstein, & Hertwig, 2020) and, without wishing to downplay their importance, I set them aside for the remaining discussion.

The second issue, which I focus on here, relates to the psychological and cognitive variables that drive people’s engagement with information that is prima facie unlikely (would a political party really run a child sex ring out of a downtown pizza parlor?), unsubstantiated by any evidence (other than Democratic staffers ordering or eating pizza), and easily disproven (there was no basement). Why do people believe, and more importantly in the present context, why do they share such information? And who are the people who share low-quality information? Are there any individual characteristics that predict who might share low-quality information? Finally, how can we describe and understand people’s engagement and sharing of low-quality information at a macro level? How do strategic actors and political-manipulation entrepreneurs interface with the public?

Human attention and misinformation

Journalists have long known that “if it bleeds, it leads”. People seek out news that is predominantly negative (Soroka, Fournier, & Nir, 2019) or awe-inspiring (Berger & Milkman, 2012), and they preferentially share messages couched in moral-emotional language (Brady, Wills, Jost, Tucker, & Van Bavel, 2017). Digital media amplify the role of emotion because the degree of moral outrage elicited by reports online is considerably greater than for encounters in person or in conventional media (Crockett, 2017). By design or otherwise, false content exploits this attentional bias: Misinformation on Facebook during the 2016 US presidential campaign was particularly likely to provoke voter outrage (Bakir & McStay, 2018) and fake news titles have been found to be substantially more negative in tone, and display more negative emotions such as disgust and anger, than real news titles (Paschen, 2019).

One factor determining sharing therefore lies in the nature of the material being created in the first place. This affords an opportunity for malicious content creators to design misleading or false material that is likely to be shared because it exploits these attentional biases. The intentions of content creators may therefore differ from those of users who subsequently share the content. Users may sincerely believe content that they find alarming, or they may be unsure what to think and hope to prompt discussion or commentary from others by sharing (e.g., because if it were true it would be interesting; Altay, de Araujo, & Mercier, 2020).¹

Online reputation and sharing

At first glance, recent research has repeatedly shown that only relatively few people actually share fake news (Grinberg, Joseph, Friedland, Swire-Thompson, & Lazer, 2019; Guess, Nagler, & Tucker, 2019). For example, during the US Presidential campaign in 2016, only 0.1% of Twitter users, known as “superspreaders”, were responsible for 80% of retweets of fake news (Grinberg et al., 2019). This figure likely represents an underestimate because much of the relevant research on fake news has been confined to tracking the sharing of weblinks to a limited set of fake news websites (Kozyreva et al., 2020). It is likely that the number of people who share misleading or false content is considerably greater if all possible sources were considered.

Unfortunately this is not readily traceable because automatic content classification is imperfect.

Nonetheless, it is clear that the majority of people do not share misleading content. Indeed, the majority of people indicate that they do not share any content at all (Roozenbeek & van der Linden, 2020). One reason

people generally seek to avoid sharing of low-quality information is because they do not wish to jeopardize their reputation (Altay, Hacquin, & Mercier, 2020; Waruwu, Tandoc, Duffy, Kim, & Ling, 2020). When people are asked how much they would need to be paid to share fake news from their personal account, somewhere between 40% and 50% of participants insisted on payment of \$1,000 or more, with only around 20% indicating willingness to share for free (Altay et al., 2020). Users also report being embarrassed when they shared news that others in their group discovered to be false (Waruwu et al., 2020). This response appears well-calibrated to the fact that sharing of a single fake news story (out of four in total) causes a dramatic decline in trust in the source (Altay et al., 2020).

The desire to preserve one's reputation thus provides a major safeguard against the sharing of low-quality information. There are, however, several factors that can undermine that safeguard. Those factors range from the purely cognitive to the political.

Information load, cognitive capacity, and decision quality

The increasing abundance of information online has measurable consequences: Whereas in 2013 the most popular "hashtags" on Twitter remained popular for 17.5 hours, by 2016 a hashtag's life in the limelight had dropped to 11.9 hours (Lorenz-Spreen, Mønsted, Hövel, & Lehmann, 2019). The same declining half-life was observed for Google queries and movie ticket sales (Lorenz-Spreen et al., 2019). If one takes these measures to be a proxy for the "attentional load" of the global public, such that people have to divide and shift their attention increasingly rapidly between different sources, then it is unsurprising that at least some people become susceptible to fake news and begin to share it. There is much evidence that information overload makes it harder for people to make good decisions about what to look at, spend time on, what to believe, and what to share (Hills, 2019; Hills, Noguchi, & Gibbert, 2013). To illustrate, whereas traditional news consumption entailed relatively few decisions (e.g., which newspaper to buy or subscribe to), we now face a multitude of online micro-decisions for every article that we choose to read from a scattered array of sources. Although this potentially increases the diversity of our news diet, it also multiplies the opportunities for error and renders careful examination of the trustworthiness of a source increasingly difficult. Information overload can also contribute to polarization and dysfunctional disagreement between well-meaning and rational actors (Pothos et al., 2021). That is, despite their good-faith efforts, overload may prevent actors from forming compatible representations of complex problems: The complexity mandates a simplification of representations, which

necessarily introduces the potential for conflict and incompatibilities between actors that may result in persistent disagreement (Pothis et al., 2021).

An obvious corollary to the adverse consequences of information overload are the observed effects of individual differences in various measures of cognitive capacity. Belief in fake news – and intention to share – has been associated with insufficient analytic reasoning and deliberation (Pennycook & Rand, 2019), and the ability to resist false information after it has been corrected is correlated with working memory capacity (Brydges, Gignac, & Ecker, 2018). Moreover, a consistent finding in the literature is that older individuals are more likely to consume and share fake news (Grinberg et al., 2019; Guess, Nyhan, & Reifler, 2020c; Guess et al., 2019; Guess, Aslett, Tucker, Bonneau, & Nagler, 2021). This finding is particularly troubling in light of the fact that, at least in the United States, older citizens are more likely to vote than any other age group (Brashier & Schacter, 2020). All these findings point to the important role of cognitive skill or analytic capacity in enabling people to resist sharing fake news.²

A further metacognitive skill that has been linked to the spreading of fake news is the calibration between self-perceived ability and actual ability to discern between true and false information. A recent large-scale study of American news consumers ($N \approx 15,000$) found that the vast majority of people overestimate their ability to differentiate between legitimate and false headlines. The greater the extent of overestimation, the more likely people were to visit fake news sites and share false content (Lyons, Montgomery, Guess, Nyhan, & Reifler, 2021). Over-claiming of knowledge has also been associated with preferences for right-wing populist parties (van Kessel, Sajuria, & Van Hauwaert, 2020) and anti-establishment voting (van Prooijen & Krouwel, 2020). It turns out that in addition to over-claiming of knowledge, the consumption and sharing of fake news is also preferentially associated with right-wing or conservative political views.

Conservatism

The cognitive and psychological differences between liberals and conservatives have been subject to a large body of research (for a recent review, see Jost, 2017). Research attention has recently also turned to differences in susceptibility to fake news or other low-quality information between partisans of different stripes. One line of research has involved carefully curated stimuli that presented “bullshit”; that is, utterances designed to impress but generated without any concern for the truth (Pennycook, Cheyne, Barr, Koehler, & Fugelsang, 2015). For example, Sterling, Jost, and Pennycook (2016) randomly generated sentences from a set of buzzwords, yielding

syntactically correct but meaningless stimuli such as “we are in the midst of a self-aware blossoming of being that will align us with the nexus itself” or “consciousness is the growth of coherence, and of us”. People who were more inclined to endorse neoliberal economics were found to be more likely to rate these statements as profound. A similar association was reported by Pfattheicher and Schindler (2016) involving general conservatism, and Fessler, Pisor, and Holbrook (2017) found that more conservative participants exhibited greater credulity for (false) information about potential hazards. For example, conservatives were more likely to believe that kale contains thallium than liberals (there is no good evidence that it does).

Another line of research has focused on big-data analyses in the “real world”, by examining consumption and sharing behavior on various social media platforms, such as Twitter (Grinberg et al., 2019; Nikolov, Flammini, & Menczer, 2021) and Facebook (Guess et al., 2019; Guess et al., 2021), or by tracking browsing behavior over extended periods (Guess et al., 2020b; Guess et al., 2020c). Virtually all of those studies have focused on American audiences. The consistent finding that has emerged from this research program is that conservatives are more susceptible to consumption and sharing of misinformation. To illustrate, a recent large-scale study presented participants with 20 of the most popular news stories harvested from social media every two weeks across a period of nearly six months. The statements could be unambiguously classified as true or false. It was found that conservatives are more likely to hold misconceptions than liberals, and are also somewhat less likely to believe in factual statements (Garrett & Bond, 2021). Although these data present a fairly unambiguous picture, with conservatives sharing more false information than liberals, there is evidence that intensity of partisanship contributes to the sharing of false information at the other end of the political spectrum as well (Nikolov et al., 2021).

I now turn to a closer examination of the motives and mechanisms underlying the sharing of false information. Although the data just reviewed showed that belief in false information (e.g., Garrett & Bond, 2021) and sharing of fake news (e.g., Grinberg et al., 2019) go hand in hand and are associated with a common driver – in this instance conservatism – other results, mainly from experimental studies, suggest that belief can be decoupled from sharing intentions (Pennycook & Rand, 2021). For example, in a large online experiment, Pennycook, McPhetres, Zhang, Lu, and Rand (2020) presented participants with COVID-19 related headlines that were true or false. When asked about accuracy, participants were able to differentiate between true and false headlines, but when asked about their sharing intention, veracity of the headline had little impact. In another study (Pennycook et al., 2021), 16% of shares of false news headlines occurred despite the headline being identified as inaccurate. Although this figure may appear relatively modest, when scaled up to the information ecosystem as a whole, the

purposeful sharing of false information significantly contributes to deterioration of information quality online, in particular because other users may amplify the cascade by sharing the false information unwittingly. Why, then, do some people knowingly share false information? I address this question through the lens of “participatory propaganda” (e.g., Asmolov, 2018; Wanless & Berk, 2017).

Participatory propaganda

Digital media have obliterated the distinction between “propagandist” (e.g., organs of a totalitarian government) and the target audience. Instead of public opinion being manipulated by direct one-way communication, perceptions are now also shaped by co-opting community members, willingly or unwittingly, in shaping perceptions, cognitions, and behaviors of the target audience (Wanless & Berk, 2017). It is the opportunistic involvement of community members that characterizes participatory propaganda and identifies it as a distinct object of study. Existing research has identified several interesting threads, mainly through case studies. I review some of this research here, but the paucity of existing data is also opening up numerous avenues for future empirical research.

The digital tactics of strategic actors

A core aspect of participatory propaganda is that it can only unfold after the disinformation ecosystem has been seeded by strategic actors in pursuit of a campaign. These strategic actors may range from individuals (e.g., Donald Trump’s use of Twitter to divert public attention; Lewandowsky, Jetter, & Ecker, 2020a) to state-sponsored actors relying on an assortment of computational-propaganda tools. Wanless and Berk (2017) identified six digital tactics that strategic actors can use to seed and shape a participatory propaganda cascade.

- (1) Micro-targeting of an audience through selective advertising on social media to maximize the match between a persuasive message and its intended target audience (Matz, Kosinski, Nave, & Stillwell, 2017).
- (2) Design of provocative content that evokes outrage or creates emotive memes that are more readily shared (Brady & Crockett, 2019; Spring, Cameron, & Cikara, 2018).
- (3) Exploiting the existence, or encouraging the formation, of echo chambers. Echo chambers refer to informational silos of partisans, with little cross-party exchange of information (Guess, Nyhan, & Reifler, 2020c).³

(4) Gaming of search results (Metaxas, 2009; Metaxas & DeStefano, 2005), for example by cross-linking false information on different sites, using automated “botnets”, or exploiting of data voids (Golebiewski & boyd, 2019).

(5) Encouraging followers to share information or engage in other participatory forms of manipulation. The Chinese government frequently exhorts users to repost information, sometimes even offering rewards for shares (Repnikova & Fang, 2018).

(6) Use of mainstream media, for example by creating trends on social media (via hashtags and so on) that are then picked up and reported by mainstream media. The inauthenticity of the original information is typically lost once mainstream media report about trends on social media.

Use of one or several of these digital tactics permits strategic actors to seed a cascade of participatory propaganda. Once started, cascades can be monitored by online tools that afford further opportunity to strategic actors for shaping and fine-tuning (Wanless & Berk, 2017). The small literature on participatory propaganda has focused mainly on how the audience, which includes the media and the public at large, respond and get involved in strategically seeded information cascades.

Involvement of the media in participatory propaganda

I begin by considering the unwitting involvement of major media, which have been shown to be susceptible to manipulation by strategic actors, notwithstanding their express commitment to resist such manipulation.

Specifically, it has been shown that leading American media (New York Times and ABC Headline News) adjusted their coverage in response to (frequently) misleading utterances by Donald Trump during his presidency. Much has been written about Trump’s masterful use of Twitter (e.g., Enli, 2017; Lee & Xu, 2018). Of particular relevance here is a recent text corpus analysis that explored potential associations between leading mainstream media coverage in the US and Donald Trump’s tweets. The study showed that Trump’s tweets demonstrably diverted media attention away from issues that were damaging to the president (Lewandowsky et al., 2020a).

Beyond affecting media coverage, Trump’s misleading or false statements, often but not exclusively communicated on Twitter, tended to trigger supportive information cascades on social media propagated by his millions of followers, culminating in the violent insurrection on 6 January 2021 that was motivated by Trump’s fabricated claim that his reelection had been “stolen” from him. Although this claim was shown to be false by virtually all mainstream media in the US and dismissed by the courts, it was able to gather pace on social media

(Kirk & Schill, 2021; Munn, 2021). In the five months following the 6 January insurrection, across 23 surveys an average of 72% of Republicans and 78% of Trump voters denied that Biden was the legitimate winner of the election, with no sign of a downward trend (Jacobson, 2021).

When expressive responding trumps perception

The participatory adherence to misinformation among followers of Donald Trump can be traced back to the very early days of his presidency, when White House officials falsely claimed that more people attended Trump's inauguration than any other previously. This claim was readily falsifiable by a range of evidence, including public transport data (ridership of the Washington, DC, Metro system) and photographs of the crowds present on the National Mall during the inauguration. Nonetheless, the Trump administration stuck to the claim and it soon became a polarizing issue. Schaffner and Luks (2018) conducted a study within two days of the controversy erupting that explored the impact of the administration's claim. Participants were presented with two side-by-side photographs of the inaugurations of Barack Obama in 2009 and Donald Trump in 2017 and were asked to choose the photo that had more people in it. The photographs were unlabeled, and the differences in crowd size so unambiguous, that it was virtually impossible for honest responses to be incorrect. Accordingly, among non-voters and Clinton voters, only 3% and 2% of respondents, respectively, chose the incorrect picture. Among Trump voters, by contrast, this proportion was 15% overall. When responses were broken down further by level of respondents' education, the error rate rose to 26% among highly educated Trump voters, compared to 1% for highly educated Clinton voters. For participants with low education, the gap between Trump (11%) and Clinton (2%) voters was considerably smaller. Given that the evidence was unequivocal and the task trivial, Schaffner and Luks (2018) interpreted these results as revealing "expressive responding" of partisans. More highly educated respondents were more likely to recognize the unlabeled pictures, thus providing an incentive to express their support for Trump in this controversy. Instead of genuinely believing a misconception, partisans effectively chose to participate in propaganda on behalf of their leader, even if in this instance the audience was merely an unknown experimenter.

The study by Schaffner and Luks (2018) provides a striking visualization of partisans' willingness to set aside unambiguous perceptual evidence in favor of participating in the promulgation of a politically concordant falsehood. The proportion of people who were willing to do this meshes well with the proportion of knowing shares of false headlines observed by Pennycook et al. (2021). The moment people share information online that they know to be false, they become a willing agent in in the participatory propaganda ecosystem.

The hallmarks of participatory propaganda

Several state actors have been identified as strategic actors that often rely on triggering participatory propaganda. Foremost among them are the Russian (Paul & Matthews, 2016) and Chinese (King, Pan, & Roberts, 2014; Roberts, 2018) governments. It has been estimated that the Chinese government posts around 450 million social media comments per year (King, Pan, & Roberts, 2017), much of it posted by a “50-cent army” of operatives who are paid to disseminate messages on the regime’s behalf. A notable aspect of those messages is that they frequently involve distraction rather than attempts to persuade (King et al., 2017): Speech that is considered inconvenient or dangerous by a regime or other strategic actors is drowned out rather than being banned or confronted outright (Applebaum, 2019). Asmolov (2019, p. 13) expressed this mechanism particularly well:

“propaganda has become less interested in changing people’s opinion about a specific object or in convincing people that it is either truth or fiction. The main purpose of 21st century propaganda is to increase the scope of participation in relation to the object of propaganda. In a digital environment relying on user participation, propaganda is a technology of power that drives the socialization of conflicts and a tool for increasing the scope of contagion. While participation in political debates is often considered to be an important feature of democracy, propaganda allows us to define the structure and form of participation in a way that serves only those who generate propaganda, and minimizing the constructive outcomes of participation.”

Crucial to the success of this new form of propaganda is the opportunistic participation by users who willingly spread information that supports their political views, regardless of whether or not they know it to be false (Starbird, 2019). It is this “entanglement of sincere activists, journalists, and [misleading] information operations” (Wilson & Starbird, 2020, p. 6) that contributes to the success of participatory propaganda. Several hallmarks of participatory propaganda and its success have been identified.

Obscuring origin and existence

Public participation in the sharing, and also shaping (e.g., via quoted Tweets), of disinformation obscures the origin and intent of the original source. “Fake news” remains a work of fiction until the audience mistakes it for real news (Tandoc, Lim, & Ling, 2018), and cascades of misinformation can contain any number of combinations of beliefs about the veracity of the information (Giglietto, Iannelli, Valeriani, & Rossi, 2019). As

the cascade unfolds, chances are that an increasing proportion of users involved are unaware of the falsehood of the information they share. The mixture of news, entertainment, and personal information that characterizes most social-media feeds makes it particularly difficult to discern the intention behind any given piece of information (Starbird, Arif, & Wilson, 2019).

As a result, participatory propaganda not only obscures the origins of strategic disinformation campaigns but it may also obscure their very presence. Starbird et al. (2019) reports a case-study of strategic computational propaganda in which existing online communities surrounding the #BlackLivesMatter movement became unwitting hosts of a Russian state-sponsored influence operation.

The coveted authentic users

Over time, information that is entrenched in a participatory propaganda cascade becomes “internalized”. That is, “external cultural artifacts are integrated into the cognitive process and help to define our human relationship with reality” (Asmolov, 2019, p. 14). For example, “likes” on social media become ingrained into our views of the information we encounter, and eventually the strategic origins of the information are completely lost and the cascades are sustained by the unwitting involvement of “authentic” users. Authentic and unwitting users are the most coveted audience for strategic actors (Wanless & Berk, 2019), in part because platforms have begun to remove inauthentic accounts more aggressively.

The unwitting involvement of authentic users also serves to provides “social proof” of the information via consensus effects. People’s attitudes towards controversial material are in part shaped by their perceptions of the social consensus among other readers (e.g., Lewandowsky, Cook, Fay, & Gignac, 2019a). The more people think that other readers agree on a position, the more likely they are to be swayed in that direction, irrespective of the particular content being circulated (Lewandowsky et al., 2019a). Successful participatory propaganda cascades can therefore send powerful social signals that help shape public perception through (false and strategically orchestrated) perceptions of consensus.

Conflict in perpetuity

Participatory propaganda is characterized by two further attributes: First, it is almost perpetual. Most campaigns are launched by strategic actors long before an election or other target events (Wanless & Berk, 2021). Second, all participatory propaganda cascades are inevitably conflictual (Asmolov, 2019). The objective nearly always is to polarize and enhance conflict, rather than to persuade.

Conclusions

Participatory propaganda has only recently been identified as a distinct form of propaganda that deserves to be studied in its own right. The literature on this concept is still in its infancy and is dominated by case-studies and conceptual analyses. Although these analyses have provided a rough first sketch of the terrain, much empirical work remains to be done to turn this sketch into an accurate map. Embarking on this empirical journey is an urgent task because of the applied implications of the issues just reviewed. Text box 20.1 provides an example of how participatory propaganda can be studied in the classroom.

Text box 20.1

A demonstration experiment

Some of the phenomena described in this chapter are difficult to demonstrate in the “classroom”, whether it is a virtual meeting place or a physical space, because they are observable mainly at scale and involve a relatively small proportion of people. I suggest instead to use a version of a message-framing study reported by Altay and Mercier (2020), which shows that people’s willingness to share identical information online can be dramatically affected by the way it is framed. This text box provides all necessary details to set up a simplified classroom experiment.

Although the original study investigated six different messages in as many conditions, I suggest using only two messages that were found to differ maximally in eliciting sharing intentions.

Materials

The materials involve information about the safety of vaccines, an issue that is highly topical at the time of this writing. The messages for this experiment present identical statistics about the medical consensus on vaccinations but using two different frames:

- “90% of medical scientists think that vaccines are safe.”
- “10% of medical scientists don’t think that vaccines are safe.”

Setting aside the possibility of ambiguity (“don’t know” responses), both messages convey an identical statistic, namely the scientific consensus on vaccinations which is known to be a powerful communication tool to assuage public concern about vaccine safety (van der Linden, Clarke, & Maibach, 2015). Nonetheless, Altay

and Mercier (2020) found that the positive framing (“90% ...”) elicited far greater willingness to share the message on social media ($M = 3.87$ on a five-point scale) than the negative framing (“10% ...”; $M = 2.03$).

Power and participants

The effect size for the between-groups comparison between these two messages computed from Altay and Mercier’s Table 1 was $d = 1.56$, computed using GPower (Mayr, Erdfelder, Buchner, & Faul, 2007). To detect an effect of that size with a power of .90 and $\alpha = .05$ (using a two-tailed t-test) would require ten participants in each group. To detect an effect that is half the size as that reported by Altay and Mercier would require $n = 36$ per group.

Procedure

Participants are randomly assigned to read one or the other statement, before answering the question “How likely would you be to pass along this statement to other people.” Responses are collected on a five-point Likert scale ranging from 1 (very unlikely to pass along) to 5 (very likely to pass along). Self-reports of sharing intention (using a ternary scale no/maybe/yes) have been shown to correlate well ($r = .44$) with actual sharing on Twitter (Mosleh, Pennycook, & Rand, 2020).

Analysis plan

The analysis consists of a simple between-groups t-test on the numeric responses to the single item. Each participant contributes one observation to the analysis.

Applied implications

At least two questions arise from the issues just reviewed. First, how relevant is the phenomenon of participatory propaganda to society as a whole? Second, assuming they are relevant, how can it be counteracted? Concerning the first question, most recent big-data analyses of online information diets consistently, and at first glance encouragingly, concluded that misinformation constitutes only a small share of overall news consumption in the US (Allen, Howland, Mobius, Rothschild, & Watts, 2020; Grinberg et al., 2019; Guess et al., 2020b; Guess et al., 2020c; Guess et al., 2019; Guess et al., 2021). However, those conclusions are all based on analysis of a limited number of websites that are known purveyors of fake news or other low-quality information. Any consumption or sharing of news on those sites is therefore a fairly unambiguous marker of

misinformation. While this limited focus provides methodological rigor and avoids fuzzy boundaries between “true” and “false” information, it also necessarily ignores other sources of misinformation, thus providing only a lower-bound estimate of people’s misinformation exposure (Kozyreva et al., 2020). Evidence that the scale of the problem may be bigger than is apparent from analyses that focus on fake-news websites was provided in a study by Vargo, Guo, and Amazeen (2018), which showed that, although fake news did not dominate the media landscape (during 2014–2016), it was closely intertwined with American partisan media (e.g., Fox News); each influenced the other’s agendas across a wide range of topics, including the economy, education, the environment, international relations, religion, taxes, and unemployment. Thus, fake news sources may not feature prominently in people’s news diet, but it can nonetheless set political agendas and determine media coverage. Participatory propaganda plays an integral part in this process, as illustrated by the “Pizzagate” affair discussed at the outset.

A further cautionary element arises from theoretical research showing how motivated minorities can significantly destabilize a majority of actors in informational networks (Galam, 2002; Juul & Porter, 2019; Lewandowsky, Pilditch, Madsen, Oreskes, & Risbey, 2019b). For example, in an agent-based simulation, Lewandowsky et al. (2019b) showed that an evidence-resistant minority (i.e., science “deniers”) can delay the formation of a scientific consensus and, when given disproportionate prominence in the media, can prevent the public from recognizing the existence of a scientific consensus. Taken together, the available evidence warrants concern about the effects of misinformation, spread via participatory propaganda, in democratic societies.

In light of this concern, what countermeasures can be implemented? A considered treatment of this question is beyond the scope of this chapter; in-depth explorations of those issues can be found in Kozyreva et al. (2020) and Lewandowsky et al. (2020b). Nonetheless, it is worth providing a thumbnail sketch of available options.

Epstein et al. (2021) investigated a toolkit of options to enhance the accuracy of people’s sharing decisions.

They found that four interventions decreased the sharing of false information about COVID-19:

- A “long evaluation” treatment, consisting of judging the accuracy of eight non-COVID-related headlines (half of which were true, half false), with feedback provided after each judgment.
- An “importance” treatment, consisting of asking participants “How important is it to you that you share only news articles on social media (such as Facebook and Twitter) if they are accurate?”
- A “tips” treatment consisting of four simple digital literacy tips, taken from an intervention developed by Facebook (Guess et al., 2020a).

- A combination of the “tips” treatment and providing normative information, namely that eight out of ten past survey respondents said it was “very important” or “extremely important” to share only accurate news online, and that this was true of both Democrats and Republicans.

Another approach is known as inoculation (Lewandowsky & van der Linden, 2021). It involves people being informed about specific rhetorical techniques by which they might be misled before being exposed to them. Similar to a vaccine, this treatment is thought to develop “cognitive antibodies” which help people detect persuasive messages that seek to mislead them.

Although these interventions are readily available and can potentially be deployed at scale, they cannot by themselves be sufficient to reform an infrastructure that is built on the commodification of human attention (Lewandowsky et al., 2017). Instead, what is needed is a change in the infrastructure itself, either through platform initiatives or, where necessary, regulation (Lewandowsky et al., 2020b). Encouragingly, it has been shown that even seemingly trivial changes to platform features can have far-reaching consequences. For example, in India in 2018, false rumours about child kidnappers shared via WhatsApp’s unlimited forward facility were implicated in at least 16 mob lynchings, leading to the killings of 29 innocent people (Dixit & Mac, 2018). In response, WhatsApp introduced several small changes to their app, including the identification of forwarded messages as being forwarded (whereas previously they appeared to originate with the person who last forwarded them), and curtailing the number of recipients a message could be forwarded to at the same time (thereby slowing large cascades of messages). These relatively small changes may have contributed to the cessation of lynch killings in India since 2018 (de Freitas Melo, Vieira, Garimella, de Melo, & Benevenuto, 2019).

Summary

- There has been much public concern worldwide over misinformation and “fake news” spreading online, in particular on social media.
- But misinformation does not spread on its own, it is spread by people who choose to spread it.
- Most misinformation is spread by relatively few people – so-called “superspreaders”.
- Why do some people share information that they know to be false, thereby engaging in “participatory propaganda”?
- One cognitive factor that may facilitate sharing of low-quality information is cognitive overload arising from the oversupply of information sources.

- Another factor is political conservatism, which has repeatedly been found to be associated with sharing of misinformation.
- Participatory propaganda cascades are pernicious because the public's involvement obscures the origin and intent of the original source, and because users may eventually unwittingly but authentically believe the false information.

Further reading

A broader and more complete theoretical account of what drives sharing online has been provided by Van Bavel et al. (2021). The broader background of how human cognition interacts with online technology was explored by Kozyreva et al. (2020) and Lorenz-Spreen et al. (2020). Anyone interested in the policy implications of the tension between human cognition and online technologies can consult the extensive report for the European Commission provided by Lewandowsky et al. (2020b).

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Notes

1 Other attributes of the message, such as its authoritativeness or markers of popularity, play no apparent role in self-reported sharing intentions (Buchanan, 2020).

2 Although cognitive capacity is known to decline with age, the observed association between advanced age and increased fake-news consumption arguably cannot be explained by cognitive decline alone. Other factors such as social goals and insufficient digital literacy may also play a role (Brashier & Schacter, 2020).

3 The nature of echo chambers, in particular whether they are the result of algorithmic streaming of newsfeeds or emerge from users' self-selected aggregation, is a matter of intense academic debate (Stewart et al., 2019).