Media and information literacy

Lessons from interventions
around the world

Africa Check
Sorting fact from fiction

chequeado

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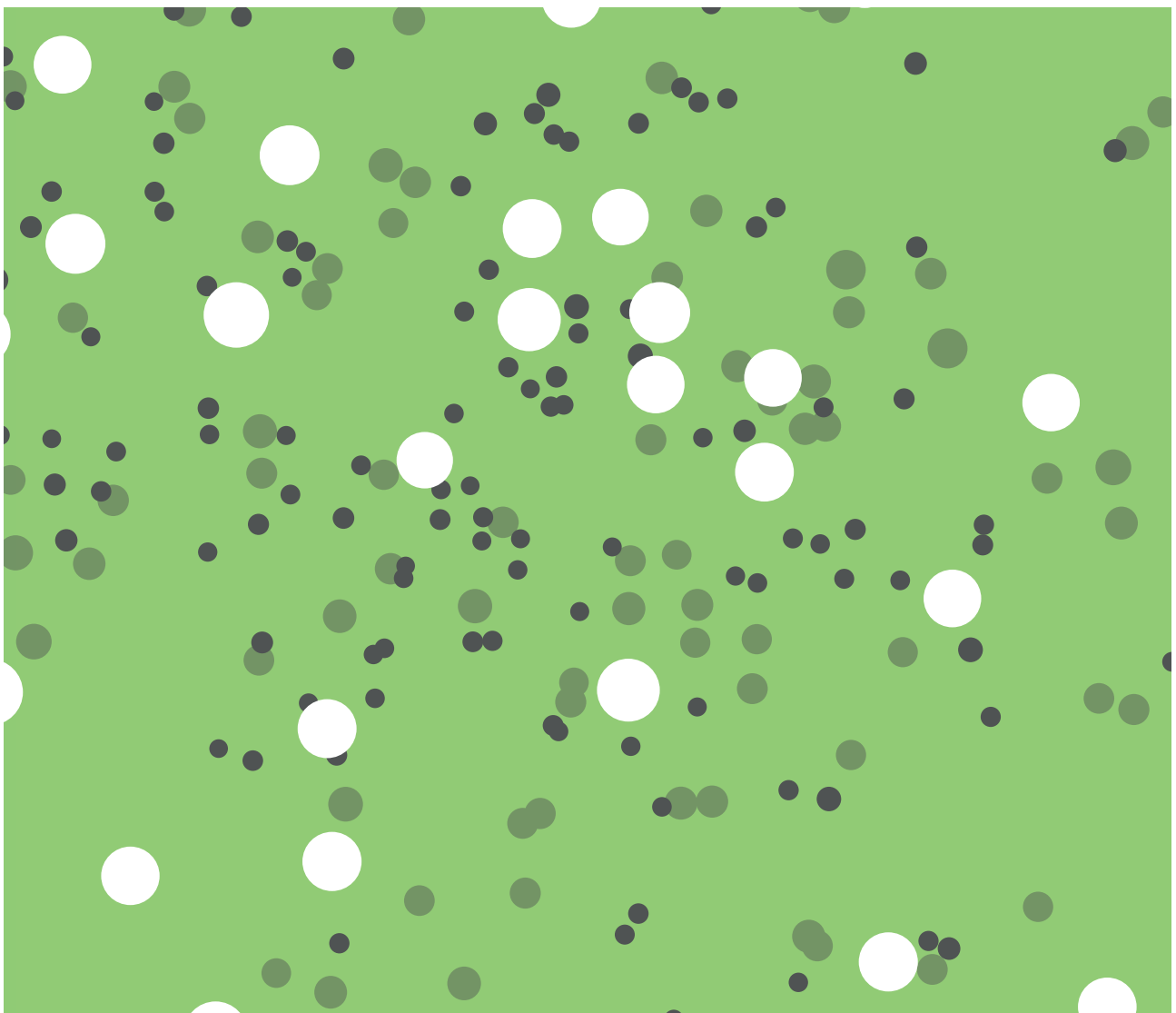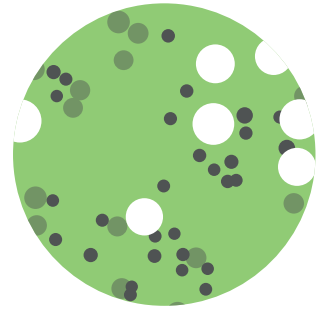
About this briefing

Misinformation causes real harm to people's lives, health, finances and to democracy. We need good evidence on how to tackle it. This briefing is part of a research programme set up by Africa Check, Chequeado and Full Fact to find that evidence and make it useful to fact checkers globally.

In this briefing, the research team at the **Africa Centre for Evidence** and Full Fact Researcher **Dr. Dora-Olivia Vicol** look at evidence on the effectiveness of media and information literacy programmes around the world, with a particular focus on Africa, South America and the UK.

We would like to thank Dr. Matthew Oxman and Dr. Mike Caulfield for their comments on the briefing.

We welcome feedback and comments at **research@fullfact.org**

Luminate
Building stronger societies

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Summary

This briefing explores one question: how effective are media and information literacy programmes in Africa, South America, the UK, and elsewhere in enabling people to identify misinformation?

Overall, we find that media and information literacy programmes show great promise. Interventions with young and adult participants, including long-term classroom training or just short trainings online, were all able to improve audiences' ability to think more critically about the information they encounter.

We are still far from finding a formula that works in every case. Differences in the populations, issues, styles of intervention and methods of evaluation adopted make it hard to generalise about a single most effective strategy. That said, one conclusion is that media and information literacy interventions can equip fact checkers, educators and civil society partners with another means of fighting bad information.

- A meta-analysis of 51 interventions indicates that media and information literacy initiatives increased participants' knowledge, criticism and awareness of the influence of the media.

- Interventions with more sessions had stronger positive effects, while those that tried to teach multiple lessons in fewer sessions performed worse.

- Media and information literacy interventions can take many forms, from classroom interventions with children to podcasts and online training for adults, and even newsroom-style games harnessing the power of play.

- We need more evidence to assess the outcomes of these interventions over time. One study reviewed here indicates that knowledge is retained a year later. We would need a larger sample of studies to confirm this finding.

- We also need more research to determine how the lessons imparted in media trainings translate into real world behaviours.

- Overall however, the diversity of participants, interventions and topics investigated suggest that fact checkers can widen their fight against misinformation by teaching audiences how spot and resist misinformation, and work with others in the education sector to do so.

We reviewed a total of six studies; two of them meta-analyses. They were mainly original studies, reviews and surveys published in peer-reviewed journals, as well as reports from non-partisan organisations. Study populations included students, teachers, parents and the general population in Uganda, Argentina, UK and elsewhere. We acknowledge that this is not an exhaustive literature review and look forward to refining this area of inquiry with input from stakeholders.

The growing field of media and information literacy

Media and information literacy is broadly understood as a set of competencies that empower citizens to access, evaluate, and use information critically.[1] In practice, this covers knowledge and technical skills, but also includes general attitudes needed to recognise reliable information, retrieve it, and produce it in an ethical manner – this recognises that audiences are not only consumers, but also content makers.[2] Many people around the world have not acquired these competencies, in school or since. On the simplest level, media and information literacy can make the difference between decisions based on sound evidence, and decisions based on poorly informed opinions that can harm personal health, social cohesion, and democracy.

Programmes aiming to promote media and information literacy have gradually cropped up over the past four decades. As far back as the 1980s, the United Nations Educational, Scientific and Cultural Organization (UNESCO) identified the need for the public to be trained to critically evaluate the media, and not just view it as a matter of private individual enjoyment. The International Symposium on Media Education in 1982 proposed the first formal definition of this concept, paving the way for a decades-long search for adequate educational and policy interventions.[3] By 2013, UNESCO had developed a Global Alliance for Partnerships on Media and Information Literacy (GAPMIL), which provides resources for teachers, broadcasters and policymakers. The same year, the organisation published a Global Assessment Framework, drawing attention to the fact that media and information literacy is simultaneously an outcome of individual competencies, market supply, and government investments in education and literacy policy.

Despite the global consensus on the importance of media literacy however, there is a wide variety of policy frameworks, and even more diversity at the level of practical implementation. In some countries, media literacy is a formal policy objective enshrined in legislation, and embedded in national curricula.[4] This is the case of the UK for instance, where since the 2003 Communications Act, the regulator for TV, radio and on-demand video, Ofcom, has been tasked with researching and promoting media literacy. It is also the case in some parts of Latin America where some countries, such as Colombia, take an active approach to cultivating digital skills in schools.

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1   UNESCO, 'Global Media and Information Literacy Assessment Framework: Country Readiness and Competencies' (Paris: UNESCO, 2013), 29.

2   UNESCO, 57.

3   Adnan Altun, 'An Overview of Unesco Activities in Connection with Media Literacy (1977-2009)' 2 October 2012), milunesco. unaoc.org/mil-articles/an-overview-of-unesco-activities-in-connection-with-media-literacy-1977-2009.

4   Julio-César Mateus, Pablo Andrada and María-Teresa Quiroz, Media Education in Latin America, 2019, 2–5, **doi.org/10.4324/9780429244469**.

It is important to acknowledge that policy interventions do not necessarily guarantee increased media and information literacy. Despite a relatively long-standing government interest, a recent survey of British school children found that only 2% of them could accurately identify all false statements in a practice test of tweets – even though half (50%) worried about it, and a third (30%) talked about "fake news" to their families.[5]

Similarly, government interest in equipping citizens with the ability to operate a computer does not necessarily improve their ability to think critically about the information they come across. For instance, a review of media and information literacy policies in Latin America concludes that despite state-sponsored initiatives of improving access to digital hardware, the region still suffers from a high level of media concentration and political economic instability, which affects the supply of reliable information.

A second limitation comes from the absence of media and information literacy policies altogether at the national or state level. Many of the initiatives that do exist in Africa, for instance, are driven by the Pan-African Alliance on Media and Information Literacy (PAMIL). Established in 2013 by concerned academics, NGOs and education industry consortia, PAMIL was set up precisely to fill a gap in national policies.

This briefing reviews some of the key media and information literacy interventions across these regions. Given the size of the literature, and the wide diversity of populations, interventions, and methods of assessment, it is not intended to act as an exhaustive review. What this briefing does, rather, is pursue two objectives. First, it illustrates why, despite a number of limitations, media and information literacy interventions are worth considering as a proactive investment in reliable information. Second, it gives readers a sense of the wide range of possibilities through which fact checkers around the world can draw young and adult audiences into the fight against bad information.

General evidence

A meta-analytic review which assessed the effects of 51 interventions found that overall, **media literacy projects were effective in raising awareness of the harm from misinformation, regardless of participants' age, the topic, and whether interventions were conducted in school, communities or labs**.[6]

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5   National Literacy Trust, 'Fake News and Critical Literacy: The Final Report of the Commission on Fake News and the Teaching of Critical Literacy in Schools Compiled by the National Literacy Trust' (London: APPG on Literacy, 2018).

6   Se-Hoon Jeong, Hyunyi Cho and Yoori Hwang, 'Media Literacy Interventions: A Meta-Analytic Review', *Journal of Communication* 62, no. 3 (2012): 454–472.

The studies examined were based in the US, Australia, Canada, the Netherlands and Tanzania. The topics addressed included alcohol, tobacco, violence, body image and social issues. Some programmes were delivered by teachers to students, students trained on how to coach their peers, or even researchers playing the role of an instructor. Settings varied from classrooms to labs, and interventions ranged from those that simply taught participants to recognise certain media tactics, to those that asked them to apply the tactics by producing media content.

One finding that emerges clearly from this review is that overall, educational interventions have a positive effect on audiences' ability to recognise misinformation. The studies were found to increase participants' knowledge, criticism, and awareness of the influence of the media, while also lowering the extent to which they believed media narratives to truly reflect reality – which the authors call "realism". There were also "behaviour-related outcomes". Media literacy interventions were found to reduce behaviours deemed risky or "antisocial" that are sometimes promoted through media messages, such as youth smoking, as well as to make the audience more critical of such behaviours, and better able to avoid them in practice.

It is important to note that some interventions worked better than others. **Studies which included more teaching sessions reported larger effects. Interestingly, studies that sought to do more, by coaching participants on multiple aspects of media literacy such as content, medium, grammar and structure, were less effective**.[7] Finally, we should be careful not to overstate the extent to which lessons learnt during interventions translate in different practices, and persist over time. The lived context of believing in misinformation is more complex than the variables assessed in experimental interventions.[8]

We are far from being able to identify the optimal intervention structure. However, the finding that there was no variance in effectiveness between different agents, settings, ages, levels of involvement, topics, countries or publication statuses, gives us good reason to take media literacy interventions seriously.

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7   Jeong, Cho and Hwang, 8.

8   Yvonne MacPherson, 'The Truth about Health Misinformation: It's Not Just about Fact Checking', BBC, 17 December 2018, **bbc.co.uk/blogs/mediaactioninsight/entries/d86fcdde-5420-4973-99bf-59136a3bc222**.

Lessons from country-specific interventions

Teacher-led interventions with school children, podcasts for parents UGANDA

A study run in central Uganda by the Informed Health Choices group evaluated an educational programme designed to help school children and their parents make informed health care decisions. The study involved a sample of 120 schools, comprising more than 10,000 pupils in total. One in two schools was assigned to an experimental intervention.

Every week for nine weeks, children in this group received 80 minute lessons which walked them through a series of critical thinking tactics, such as doubting treatments based only on anecdotal evidence. There were twelve tactics covered in total. These were supplemented with a textbook in comic book format, an exercise book, a poster and a song. In addition, over 600 parents recruited from participating schools were drawn into the experiment. Parents in the intervention group listened to a podcast developed in conjunction with local journalists, and were given a summary checklist, while those in the control group only listened to general public service announcements about health. A plain language glossary for health research terms was also developed to facilitate learning.

Tests administered at the end of the experiment suggested that, overall, the intervention had been successful in raising awareness of health misinformation. Presented with a series of multiple choice questions designed to replicate real life health choices, 69% of the students in the intervention group passed, by getting at least half the answer right, compared to only 27% in the control condition. Similar results emerged from testing parents' learning.[9] A total of 71% of adults who listened to the tailored podcast passed the multiple choice test, compared to 38% in the control group.[10]

The success of the trial in Uganda has led the authors to commission its translation into additional languages, despite some limitations. Firstly, the tests did not assess how the programme affected decision making per se, but what students had learnt. Real-life decisions about whether or not to follow a recommended health treatment are not only a matter of having the right knowledge.[11] They are also a matter of being able to summon the time, energy and resources to access adequate treatment, or

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9   Allen Nsangi et al., 'Effects of the Informed Health Choices Primary School Intervention on the Ability of Children in Uganda to Assess the Reliability of Claims about Treatment Effects: A Cluster-Randomised Controlled Trial', *The Lancet* 390, no. 10092 (22 July 2017): 374–88, **doi.org/10.1016/S0140-6736(17)31226-6**.

10 Daniel Semakula et al., 'Effects of the Informed Health Choices Podcast on the Ability of Parents of Primary School Children in Uganda to Assess Claims about Treatment Effects: A Randomised Controlled Trial', *The Lancet* 390, no. 10092 (22 July 2017): 389–98, **doi.org/10.1016/S0140-6736(17)31225-4**.

11 W. James Potter and Chan L. Thai, 'Reviewing Media Literacy Intervention Studies for Validity', *Review of Communication Research* 7 (2019): 38–66.

even the courage to stand up to those who recommend unproven cures. Indeed, while educational interventions have been widely shown to increase knowledge, effects on behaviour are under researched.[12]

Overall however, there is mounting evidence that media and information literacy initiatives targeting health misinformation can work. One review looked at 24 papers which assessed the effectiveness of programmes designed to improve understanding of health concepts. It found that at least when it came to short term assessments, these programmes improved people's knowledge and skills – though effects on confidence, attitude and behaviour were uncertain.[13] Encouragingly, in the case of the Ugandan project discussed here, a second test administered to the children a year after the experiment found that those in the intervention group still had a higher pass rate than those in the control group.[14] At the time of writing, no data was published on any follow up testing of parents.

Short online trainings can help adults spot checkable claims ARGENTINA

An experiment conducted in Argentina tested whether a 15 minute online training session would improve people's ability to determine if statements contained checkable facts.[15] A total of 3,357 adults, principally recruited from Argentinian fact checker Chequeado's audience, were asked to do this with a set of statements drawn from a fictional political speech. A subset of participants in the experimental condition received training and were provided with a practice set of 16 standalone statements. Every time they answered, they received direct feedback and explanations for why the particular statement was, or was not, a checkable claim. They were then asked to read a short fictional political speech on the topic of energy, and rate which of its total of eight claims could be fact checked.

The training had a small but statistically significant effect on participants' ability to identify if statements contained checkable facts. Overall, controlling for the effects of gender, age, profession and political affiliation, participants in the experimental condition scored 4% higher than those in the control condition.

It is important to note, as the authors do, that the effects observed were small. Even without any additional training, participants in the control group correctly identified

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12 Leila Cusack et al., 'Educational Interventions to Improve People's Understanding of Key Concepts in Assessing the Effects of Health Interventions: A Systematic Review', *Systematic Reviews* 7, no. 1 (2 May 2018): 68, **doi.org/10.1186/s13643-018-0719-4**.

13 Cusack et al.

14 Allen Nsangi et al., 'Effects of the Informed Health Choices Primary School Intervention on the Ability of Children in Uganda to Assess the Reliability of Claims about Treatment Effects, One-Year Follow-up: A Cluster-Randomised Trial', *Research Square*, no. Preprint (2019), **doi.org/10.21203/rs.2.12516/v2+**].

15 Ariel Merpert et al., 'Is That Even Checkable? An Experimental Study in Identifying Checkable Statements in Political Discourse', *Communication Research Reports* 35, no. 1 (2018): 48–57.

69% of claims – with certain demographic variations. Men scored 2% higher than women, under-25s scored 10% higher than participants over 66. Similar differences were found for participants who were university-educated and active in a profession that involved a higher level of data handling.[16] It is also likely that, given how most participants were followers of Chequeado, they may already have had a level of awareness about how claims operate. It would be interesting to compare their scores with those of a general audience, and test whether simply following a fact checking organisation improves the public's awareness of facticity. Similarly, participants' scores were lower when they had to identify checkable claims in context, compared to when they saw claims in isolation. Another direction for research could be to test people's ability to apply lessons to real-life contexts.

If there is one finding that emerges from this study, it is that online interventions are worth considering. The fact that the training proposed was fairly simple and only took 15 minutes of readers' time is particularly interesting. Adults may not necessarily need the structure of classroom environments. As this study indicates, education may also come in small doses of online training, which can be integrated in their everyday media consumption practices.

Spotting misinformation through play UNITED KINGDOM

A news literacy intervention delivered by the Guardian Foundation, National Literacy Trust and PSHE Association, encouraged 9-11 year old British students to think critically about media content by simulating a newsroom environment. Workshops asked students to take on the role of editors and put themselves in the position of selecting which types of information they trusted enough to share with a wider audience. Workshops were delivered to over 2,400 students from 42 schools. All the schools involved were in areas of economic disadvantage.

An encouraging picture was painted by tests administered before and after the workshop. As many as 70% of students reported thinking about the importance of fact checking after the workshop, compared to 52% before. Similarly, the workshops appeared to increase confidence in students' ability to assess the quality of news. A third of students (33%) reported finding it difficult to tell if a news story was trustworthy after the workshop, compared to almost half (49%) before.

The study raises the possibility of educating through simulation. Notably, it shows that educational interventions can contribute to a culture of valuing accuracy. Following implementation in their own schools, an overwhelming majority of teachers involved (95%) said that they would recommend the workshop to their peers. We do not yet know how many schools took up the model. Since the project published its materials online however, over 3,500 media literacy materials and 750 teaching units were downloaded.

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16 We cover the relation between demographics and belief in more depth in our briefing **Who believes and shares misinformation**.

There is also evidence that games can educate adults. An online browser game designed with a general audience in mind, set out to teach common tactics of deception by requiring players to take on the role of a fake news reporter.[17] The goal of the game, which took approximately 15 minutes to complete, was to "prebunk" – preemptively familiarise participants to misinformation techniques, in the hope of instilling cognitive immunity when exposed to real misinformation.

Applied to a large but self-selecting sample of 14,000 participants, the study found that the game made a significant contribution to players' ability to spot inaccurate news. Tested before and after, with questions that asked them to rate the reliability of tweets and headlines, participants were significantly better at identifying unreliable information after playing. Notably, the authors observed the highest effects for participants who were also most likely to be vulnerable to false news in the first phase. In line with the meta-analysis introduced earlier, no significant differences were found in terms of political ideology, age, level of education and gender.

The study raises the important question of whether using game-style interventions might help to generate interest in media literacy. There is a risk that skills learned in the game are used inappropriately, although the risk is low. While the game shows that it is relatively easy to produce and spread misinformation, this is not just a matter of ability, but also of motivation. It is unlikely that players would suddenly acquire the incentive to share misinformation, along with the skills to spot it.

Conclusion and recommendations

Thinking across the evidence, there is good reason to consider proactive interventions in media and information literacy as a complement to fact checkers' work of correcting inaccurate claims. The meta-analyses and individual studies reviewed here make it clear that audiences around the world can become more critical of the media, and better at spotting inaccurate information. Children and adults, connected to the internet or relying on broadcast, print or peer-to-peer communication, are all stakeholders in the fight for better information.

There is still a lot we do not know. The long-term effect of interventions remains one of the most difficult outcomes to evaluate. Just one of the studies we reviewed in this briefing examined attitudes to information after a year – with positive results for school children. It is also important to remember that teaching audiences how to identify reliable information does not necessarily translate into different behaviours in practice. We are still some way away from knowing exactly how to best stimulate and assess media literacy. Despite the existence of a UNESCO Global Framework, practical interventions operate with different definitions, indicators and methods of evaluation.

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17 Jon Roozenbeek and Sander van der Linden, 'Fake News Game Confers Psychological Resistance against Online Misinformation', *Palgrave Communications* 5, no. 1 (2019): 12.

One recommendation we can make however, is that despite the limitations and unknowns, media and information literacy interventions offer new avenues for action and partnerships across education, the public sector, and civil society. They are worth testing, for at least three reasons.

First of all, **it is encouraging to learn that media and information literacy interventions can work regardless of participants' age, gender, geography and level of education**. This was a key finding of the meta-analysis, as well as of some of the individual interventions reviewed in this paper.

Secondly, it is inspiring to learn that **education is not confined to the structures of classrooms**. The type of long-term educational project that requires coordinated collaboration with schools is just one end of the media and information literacy spectrum. Evidence from Argentina and the UK indicates that even brief training sessions of 15 minutes can improve media literacy to some extent.

Thirdly, we might want to **consider the power of play**. Games which simulate the dynamics of busy newsrooms can build critical thinking skills and an ability to assess misinformation. Notably, in contrast to the rigidities of policy discourse, which portrays media and information literacy as a global imperative, newsroom-style games may just give audiences a softer, playful means of approaching misinformation.

How we selected the studies

This briefing is informed by two strands of literature: primary research and critical reviews. Two meta-analyses of media and information literacy interventions and, respectively, interventions in healthcare information, were selected to provide an overview of the potential of educating audiences. To illustrate how media and information literacy interventions might be run and tested in practice, we then consulted two control trials (in Uganda and Argentina), and two cohort studies (in the UK) – the latter measured before and after effects, but did not include a control group, so care must be taken not to overstate their effects.

All sources were retrieved from Google Scholar, followed by recommendations from expert reviewers. With a view to ensure impartiality, our search prioritised pieces published in peer-reviewed journals, but was widened to include publications by regulators. Though arguably less academic, this heterogeneity of sources reflects the range of actors involved in identifying media and information literacy solutions.

Given the scope of this briefing, it must be noted that this is not an exhaustive literature review, but a discussion of a range of interventions, chosen to illustrate diversity. Rather than advocating for one particular type of intervention, the studies discussed here provide readers with a sense of what is possible. Further research will no doubt get us closer to establishing the type of media and information literacy intervention best suited for the needs of fact checkers around the world.

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