

Online Appendix

The Attention-Information Tradeoff

by Marta Serra-Garcia (UC San Diego)

Table of Contents

A Sender Experiment: Additional Information	4
A.1 Professionals: Implementation	4
A.2 Professionals: Instructions	5
A.3 Research Articles	6
A.4 Sender Materials: Example	7
A.5 Sender Summaries: Examples	10
B Receiver Experiments: Additional Information	12
B.1 Overview and Procedures	12
B.2 Instructions	14
B.3 Knowledge Questions	20
C Sender Behavior: Additional Results	29
C.1 Pre-registered Analyses	29
C.2 Sender Incentives & Punctuation	33
C.3 Sender Incentives & Reporting of Sample and Implications	35
C.4 Knowledge Content in Summaries	39
C.5 Summary-Level Tradeoffs and Heterogeneity	41
D Online Attention to Research Articles	42
D.1 Data and Coding	42
D.2 Findings	42
E Receiver Behavior: Additional Results	45
E.1 Receiver Knowledge When Exposed to Summaries	45
E.2 Receiver Clicks and Knowledge	56
E.3 Receiver Beliefs & Intentions	62
E.4 Heterogeneity in Click Rates and Knowledge	66
E.5 Sharing Beliefs: Experimental Evidence	69
E.6 Donation Decisions: Experimental Evidence	74
F LLM: Details and Additional Results	76

F.1 LLM as Sender	76
F.2 LLM as Coder	86
G Text Coding: Instructions for Coders	88

A Sender Experiment: Additional Information

A.1 Professionals: Implementation

Recruitment. To recruit senders, the research team searched among freelancer under the category “Social Media Copy” or the category “Research & Summaries”, restricting freelancers to be based in the US, Canada, and the UK. Then, freelancers were contacted via a direct message if their posted price for a writing job, that was similar to the one in the experiment, was within the range of \$10 and \$35.

An example of a message sent to freelancers at initial contact: *Hi [NAME]! I am looking for a writer like you to write some brief summaries (or captions) of research articles! Would you like to write 4 summaries, of 70 to 100 words approx., each based on a 2-page summary of four different research articles (about sleep, cancer, vaccines and climate)? These summaries will include language that is easy to read (non-technical), in addition to language that is more complex (technical). Could you spend at most 10-15 minutes writing each summary? You would receive \$[PRICE] for your summaries. I would love you to work on this!*

If a freelancer was interested, they created a custom offer. This offer was accepted and the instructions were sent (a copy of the instructions is provided in Section A.2). The instructions also included a brief consent form and hence, after an order started, all freelancers were informed that their summaries are part of a research study.

The experiment was conducted on Fiverr in two waves. The first wave took place between January and February of 2023. In total, 108 professionals provided summaries. Since recruiting further senders within the price range became difficult, due to the limited pool of professionals, we continued recruitment one year later, in February of 2024, to add 41 professionals, reaching almost 150 senders, as pre-registered. Table B.1. compares the main features of senders’ messages across waves. Each row is a separate linear regression that includes indicator variables for the second wave (Wave 2) and interactions with sender incentives. The table shows that none of the interaction coefficients are significant. There are differences in the levels of the style index and conclusions, across waves. We include controls for recruitment wave in all analyses.

In total, 239 freelancers were contacted. Of these, 160 (67%) responded and accepted the request. Almost all freelancers completed the request (149 or 93%).

Professional’s descriptive characteristics. Out of 149 senders, 76 had posted their writing work offers under “Social Media Copy” and 73 had posted it under “Research and summaries.” For this group, the gender could be estimated from the profile pictures and usernames for 144 out of 149. Of these, 91 (63%) had a profile picture with a female-looking individual (and a corresponding female-sounding username).

Table A.1: Coefficients of wave effects, senders

Message Feature	(1) Mean	(2) SD	(3) Wave 2	(4) Wave 2 X Clickbait-Incentives	(5) Wave 2 X Viral-Incentives
Style Index	.362	.969	0.042	-0.133	0.054
Units: Accurate-In text	3.807	1.819	-0.000	0.301	-0.955
Units: Inaccurate-In text	.361	.621	0.073	-0.196	0.030
Units: Not in text	1.341	1.409	0.320	-0.192	0.451
Units: Introduction	1.81	1.228	-0.190	0.019	0.028
Units: Method	.299	.555	0.010	-0.020	-0.131
Units: Finding	1.97	1.144	-0.264	0.184	-0.021
Units: Conclusion	1.345	1.002	0.738***	-0.411	-0.411
Units: Call to Action	.086	.298	0.098*	0.141	0.061

Notes: Each row of this table reports the coefficients of a regression on this variable as dependent variable, with controls that include Wave 2, Wave 2 X Clickbait-Incentives, and Wave 2 X Viral-Incentives (in addition to indicators for sender incentives, paper fixed effects, and sender’s gender and specialization). The first two columns report the mean and SD of the dependent variable. Columns (3)-(4) report the coefficients for the indicators Wave 2, Wave 2 X Clickbait-Incentives, and Wave 2 X Viral-Incentives. * $p < .10$; ** $p < .05$; *** $p < .01$.

An important question is whether these professionals have sufficient experience in writing, and whether their experience has had a focus on engaging audiences or attracting their attention. Most professionals post profile information on the platform. We could download the self-reported past experience under the professionals’ profiles for 138 professionals out of 149.

Two coders classified the profile information according to the following categories. First, whether the professional reports writing experience in their profile. Second, whether the professional reports experience with work that aims to attract the attention of the audience, persuade or create following on social media. Third, whether the professional mentions how much experience they have and, if so, how much experience is reported. Fourth, whether the professional mentions working in the digital domain explicitly, and fifth the writing context in which they focus their work.

A large majority report experience with writing on their profile (124 out of 138, or 90%). Among them, 83 (67%) explicitly mention their writing has been aimed at attracting attention, and 70 (56%) explicitly mention their writing is in the digital domain. Professionals mention the length of their experience in 69 (50%) cases, and provide an exact number in years in 52 (or 75%) of these cases. Their average reported experience is 7.5 years (SD=4.1), indicating that they report extensive experience in this task.

A.2 Professionals: Instructions

The instructions provided to freelancers are shown below. The brackets indicate each treatment variation. Info refers to Info-Incentives, Viral to Viral-Incentives, and Clickbait to Clickbait-Incentives.

Thank you for accepting this request. I'm looking forward to working with you!

What is the goal in asking you to write captions?

- [Info: I'm looking to have **informative captions** (summaries) of the research articles described below.]
- [Viral & Clickbait: I'm looking to have attention-grabbing, interesting captions (summaries) of the research articles described below.]
- [Info: These summaries may be posted on a social media account (e.g., Twitter), and I'd like to **provide accurate information to potential readers** about these research articles.]
- [Clickbait: These summaries may be posted on a social media account (e.g., Twitter), and I'd like to **stimulate readers to read more about these research articles.**]
- [Viral: These summaries may be posted on a social media account (e.g., Twitter), and I'd like to **maximize the number of times that the thread, which will include your summary, is shared.**]
- This is not for business, but only to promote recent research findings.
- Target audience: the general population.

I'd like you to spend around **10-15 minutes writing each caption.**

After you submit the captions, I will read them and approve your work. [Info: I'll also ask someone else to read one of your summaries and if he/she answers several questions about the research correctly, as a pre-test, I'll tip you!] [Viral: I'll also ask someone else to read one of your summaries and others that I am collecting and if he/she believes yours would be one that is shared most often, as a pre-test, I'll tip you!] [Clickbait: I'll also ask someone else to read one of your summaries and several others. If he/she chooses to read more about the research you summarized, as a pre-test, I'll tip you!]

Thank you!

Following these instructions, freelancers were provided with the materials for each of the studies (4 in total). Example materials are shown in Section A.4.

A.3 Research Articles

This section briefly describes the selection of the research articles and describes their main findings briefly. The journal articles focus on four key policy topics (cancer, vaccines, sleep,

and climate). The articles are selected such that they can be of likely interest to a wide non-expert audience. To proxy for such interest, the published research articles were selected from articles covered by the New York Times during 2019, prior to the COVID-19 pandemic. For cancer, Lee et al. (2019) showed that a molecule found in cruciferous vegetables, such as broccoli, reduced tumor growth in mice and human cells in the lab. The second article, Kim et al. (2019) showed an association between vitamin A intake and skin cancer, in a longitudinal study.

For sleep, Gangwisch et al. (2020) showed that diets with a low glycemic index were associated with a lower incidence of insomnia among postmenopausal women. Perrault et al. (2019) showed that sleeping in a rocking bed can shorten sleep onset time and improve memory, via a laboratory study with 18 young adults who were good sleepers.

For vaccines, Mina et al. (2019) reports that a measles infection is harmful for the organisms' antibodies, encouraging MMR vaccination. Hviid et al. (2019) reported that MMR vaccines were not associated with autism, in a nationwide cohort study in Denmark.

For climate, Maxwell et al. (2019) showed that deforestation of intact tropical forests led to a stronger impact on carbon emissions than previously calculated. Berzaghi et al. (2019) showed that forest elephants affect forest growth in Africa and thereby also carbon emissions. These articles suggest that, to reduce carbon emissions, preservation of intact tropical forests and conservation of forest elephants can be crucial.

A.4 Sender Materials: Example

Below we provide an example of the materials provided to senders for one of the research articles on cancer, by Kim et al. (2019). These materials are comprised of the study's abstract, its press release, and a link to the entire research article.

Scientific Abstract Importance: Retinoids are bioactive forms of vitamin A that are essential in the maintenance of epithelial maturation and differentiation. Synthetic retinoids are used in chemoprevention of skin cancer among high-risk populations with potential adverse effects. Epidemiologic data on vitamin A intake and risk of cutaneous squamous cell carcinoma (SCC) are limited.

Objective: To examine whether vitamin A intake is associated with a reduction in SCC risk.

Design, Settings, and Participants: This cohort study prospectively examined intake of vitamin A and carotenoids and SCC risk in the Nurses' Health Study (1984-2012) and the Health Professionals Follow-up Study (1986-2012). Diet was assessed repeatedly. Incident

SCC was confirmed by pathologic reports. Data analysis was performed from June 21, 2017, to December 4, 2018. Exposures: Intakes of vitamin A, retinol, and carotenoids.

Main Outcomes and Measures: Incident SCC. Cox proportional hazards regression models were used to compute cohort-specific hazard ratios (HRs) and 95% CIs. Pooled HRs of the cohort-specific results were calculated.

Results: A total of 3978 SCC cases in 75,170 women in the Nurses' Health Study (mean [SD] age, 50.4 [7.2] years) and 48,400 men in the Health Professionals Follow-up Study (mean [SD] age, 54.3 [9.9] years) were documented. Higher total vitamin A was associated with a reduction in SCC risk; with quintile 1 as the reference, the pooled multivariate HRs for the increasing quintiles of vitamin A intake were 0.97 (95% CI, 0.87–1.07) for quintile 2, 0.97 (95% CI, 0.80–1.17) for quintile 3, 0.93 (95% CI, 0.84–1.03) for quintile 4, and 0.83 (95% CI, 0.75–0.93) for quintile 5 ($P < .001$ for trend). Higher intakes of retinol and some carotenoids were also associated with a reduction in SCC risk; the pooled HRs for the highest quintiles of intake compared with the lowest quintiles were 0.88 (95% CI, 0.79–0.97; $P = .001$ for trend) for total retinol, 0.86 (95% CI, 0.76–0.96; $P = .001$ for trend) for beta cryptoxanthin, 0.87 (95% CI, 0.78–0.96; $P < .001$ for trend) for lycopene, and 0.89 (95% CI, 0.81–0.99; $P = .02$ for trend) for lutein and zeaxanthin. The results were generally consistent by sex and other SCC risk factors.

Conclusions and Relevance: This study suggests that increased intake of dietary vitamin A is associated with decreased risk of incident SCC. Future studies are needed to determine whether vitamin A supplementation has a role in chemoprevention of SCC.

Non-technical Summary

People whose diets included high levels of vitamin A had a 17 percent reduction in risk for getting the second-most-common type of skin cancer, as compared to those who ate modest amounts of foods and supplements rich in vitamin A. That's according to researchers from Brown University, who unearthed that finding after analyzing data from two long-term observational studies.

Cutaneous squamous cell carcinoma is the second-most-common type of skin cancer among people with fair skin. Vitamin A is known to be essential for the healthy growth and maturation of skin cells, but prior studies on its effectiveness in reducing skin cancer risk have been mixed, said Eunyoung Cho, an associate professor of dermatology and epidemiology at Brown.

“Our study provides another reason to eat lots of fruits and vegetables as part of a healthy

diet,” said Cho, who is also an associate epidemiologist at Brigham and Women’s Hospital. “Skin cancer, including squamous cell carcinoma, is hard to prevent, but this study suggests that eating a healthy diet rich in vitamin A may be a way to reduce your risk, in addition to wearing sunscreen and reducing sun exposure.” The findings were published in the Journal of the American Medical Association Dermatology.

The research team led by Cho looked at the diet and skin cancer results of participants in two large, long-term observational studies: the Nurses’ Health Study, which followed 121,700 U.S. women from 1984 to 2012, and the Health Professionals Follow-Up Study, which followed 51,529 U.S. men from 1986 to 2012.

Between the two studies, some 123,000 participants were white (and thus had significant risk of developing skin cancer), had no prior history of cancer and completed the dietary reports multiple times. Among these individuals included in the team’s subsequent analysis, a total of 3,978 cases of squamous cell carcinoma were reported and verified within the 24- or 26-year follow-up periods.

Both studies also asked the participants about hair color, the number of severe sunburns they had received in their lifetime and any family history of skin cancer, and the researchers adjusted for these and other factors. The studies did not, however, ask participants about their avoidance of mid-day sun, known to be a major risk factor for skin cancer.

After grouping the study participants into five categories by vitamin A intake levels, the researchers found that people in the category with the highest average daily total vitamin A intake were 17 percent less likely to get skin cancer than those in the category with the lowest total vitamin A intake.

Those in the highest category reported eating on average the amount of vitamin A equivalent to one medium baked sweet potato or two large carrots each day. Those in the lowest category reported eating a daily average amount of vitamin A equivalent to one-third cup of sweet potato fries or one small carrot, which is still above the U.S. Recommended Dietary Allowance of vitamin A.

The team also found that the majority of vitamin A came from the participants’ diets, particularly from fruits and vegetables, rather than from animal-based foods or vitamin supplements. Plant-based sources of vitamin A include not only sweet potatoes and carrots, but leafy green vegetables and fruits like apricots and cantaloupe. Milk, some types of fish and liver are rich sources of animal-based vitamin A.

Cho cautioned that too much vitamin A, particularly from supplements and animal sources,

can lead to nausea, liver toxicity, increased risk of osteoporosis and hip fracture, and even birth defects. Side effects from high levels of plant-based vitamin A are minimal, she added.

The researchers also found that eating high levels of other plant-based pigments similar to vitamin A — such as lycopene, commonly found in tomatoes and watermelon — was associated with decreased risk of skin cancer.

Because the analysis was based on studies surveying a large number of people about the foods they ate and observing whether or not they got skin cancer, rather than a randomized clinical trial, it cannot establish cause and effect. It's possible that another factor may have led to the differences — such as the fact that people who consumed more vitamin A also tended to drink less alcohol.

As a next step, Cho would like to conduct a clinical trial to see if vitamin A supplements can prevent squamous cell carcinoma. However, she added, conducting a dietary clinical trial is quite challenging on a technical level, as is ensuring that participants actually stick to the diet.

The link to the complete research study is here [link provided].

A.5 Sender Summaries: Examples

Three example summaries for the paper by Gangwisch et al. (2020) on the association between diets with a low glycemic index and the incidence of insomnia among postmenopausal women. One summary for each treatment in the Sender Experiment is shown below.

Information incentives:

Headline: Consumption of Refined Carbohydrates Linked to Insomnia in Postmenopausal Women

A longitudinal study by Columbia University looked at the glycemic index (GI), a measure of refined carbohydrate consumption, of over 50,000 postmenopausal participants in the Women's Health Initiative. They found that postmenopausal women with higher GIs are more likely to have insomnia, while those with diets high in fruits and vegetables are less likely to have insomnia. The researchers hope to investigate the potential of dietary substitutions as potential treatments for insomnia, which affects around 30% of adults.

Clickbait-Incentives:

Headline: Could Your Dinner Be Keeping You Awake? New Study Discovers Surprising Link Between Carbohydrates and Insomnia

Wake up to the reality: eating too many carbohydrates before bed may cause insomnia! Increased insulin levels by eating a high-carb meal can prevent the body's melatonin and other hormones from naturally promoting sleep. To promote better sleep, it is advised to choose a light, protein-based snack before bed instead of a dinner that is high in carbohydrates.

Viral-Incentives:

Headline: Can't Sleep? Blame Your Sweet Tooth! New Study Links Refined Carbs to Insomnia in Women 🤔🔍🚫 #sleep #diet #healthresearch

Findings from Columbia University Vagelos College of Physicians and Surgeons reveal that a diet high in refined carbs and added sugars could be contributing to insomnia in postmenopausal women. But fear not, boosting your intake of veggies, fiber, and whole fruit (not juice) could be the key to getting a better night's sleep. With 30% of adults struggling with insomnia, this low-cost and natural solution could be a game-changer. Get the full scoop in the American Journal of Clinical Nutrition. #Insomnia #Diet #HealthResearch

B Receiver Experiments: Additional Information

B.1 Overview and Procedures

We outline the design of the Knowledge and Click experiments in Figures B.1 and B.2 .

Figure B.1: Knowledge Experiments

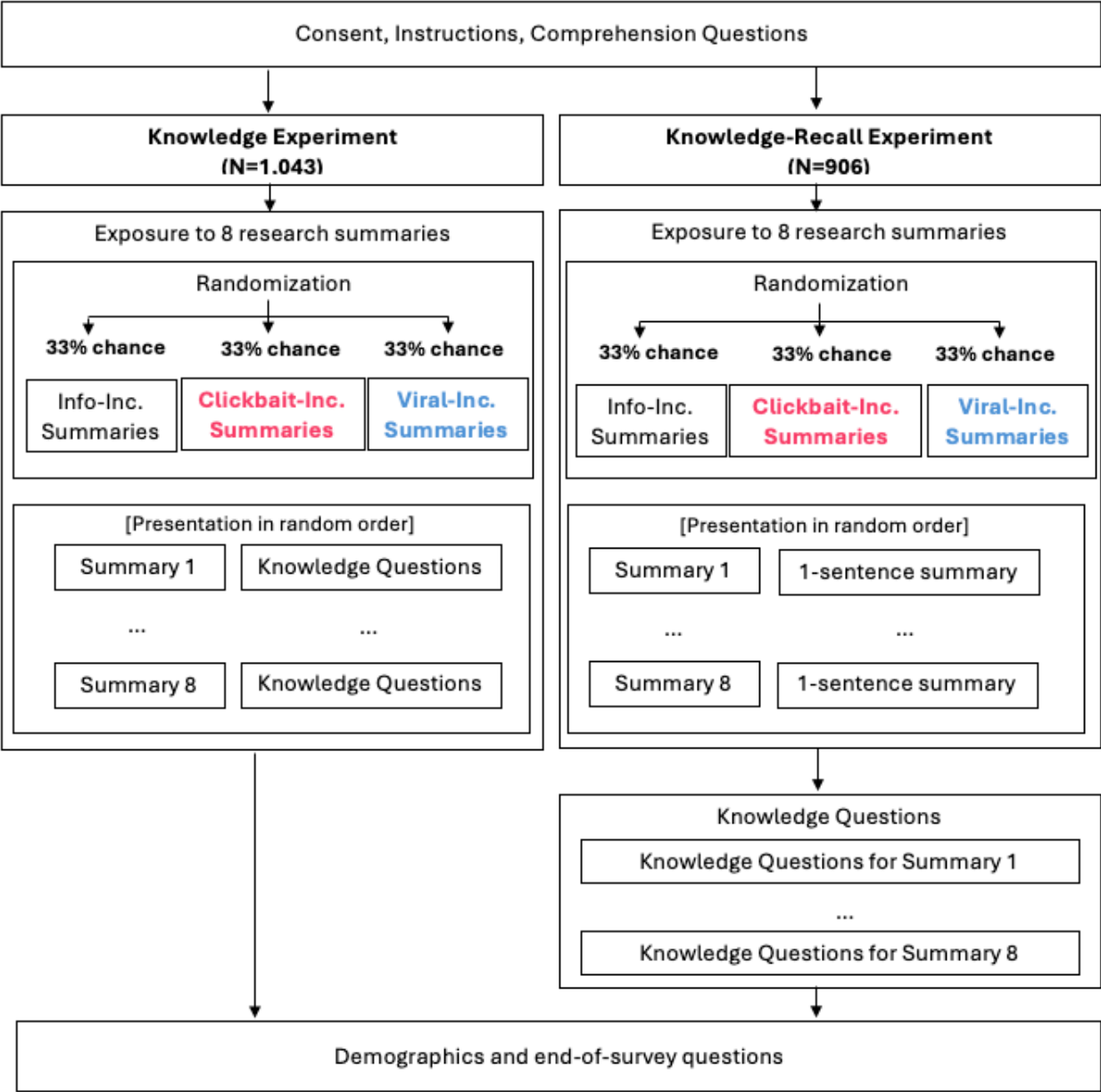
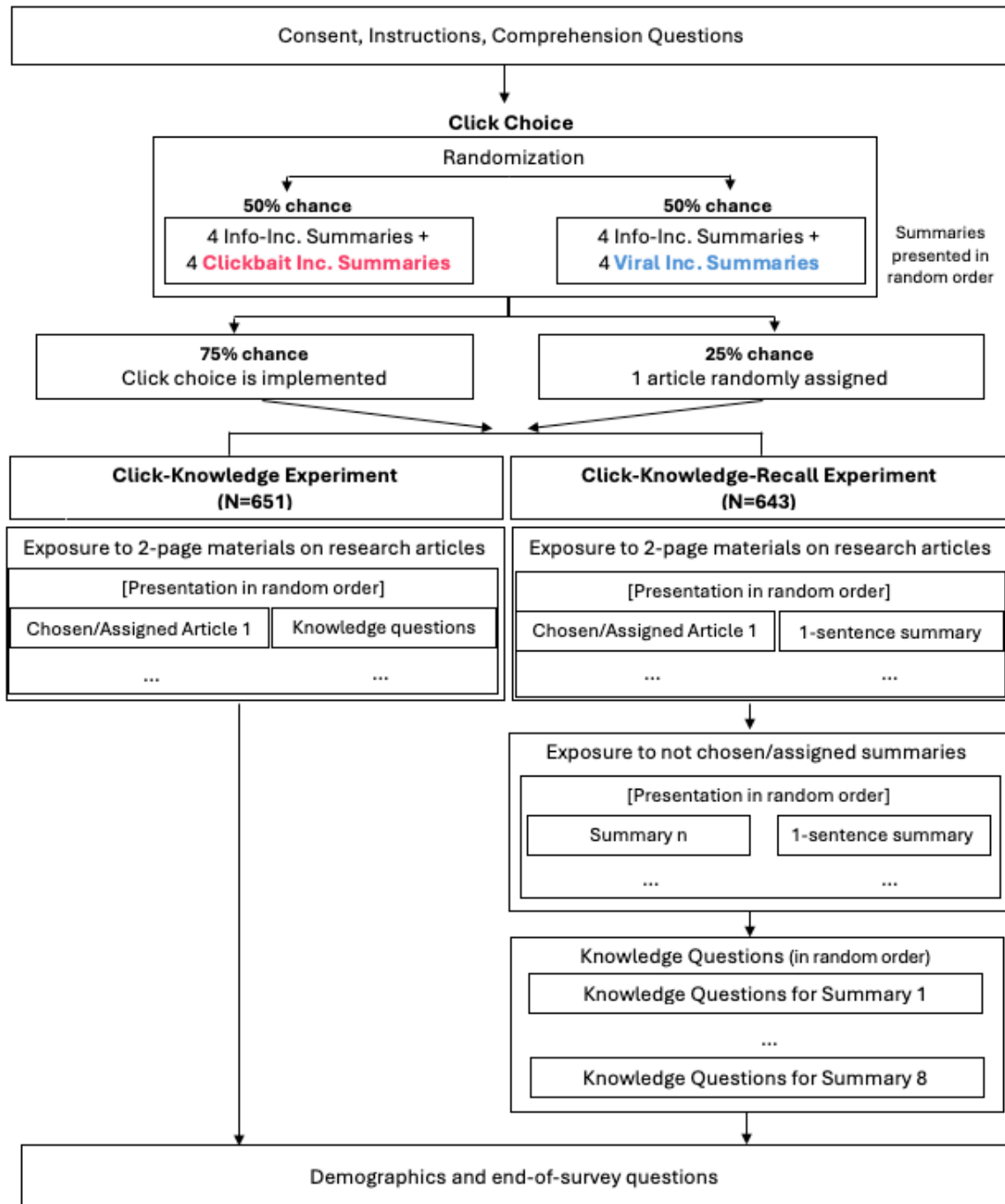


Figure B.2: Click-Knowledge Experiments



The Receiver experiments were pre-registered on Aspredicted. Table B.1 shows the experiments conducted and the corresponding pre-registration numbers. All Receiver experiments were conducted on Prolific Academic.

Table B.1: Experimental Design: Pre-registrations and Sample Sizes

Role	Experiment	Final N	Pre-reg. #	N in pre-reg	Date
Sender	Professionals	149	118480	150 (if possible)	Jan-23
Receiver	<i>Summaries by professionals:</i>				
	Knowledge	541	126292	540	Mar-23
	Click-Knowledge	307	128234	300	Apr-23
	Beliefs & Intentions	501	165440	500	Mar-24
	Knowledge & Click-Knowledge (Wave 2), Knowledge-Recall & Click-Knowledge-Recall	2395	170901	2350	Apr-24
	<i>Summaries by LLM:</i>				
	Knowledge - GPT	360	126898	360	Mar-23
Click - GPT	299	129097	300	Apr-23	
Robustness	<i>Summaries by professionals & LLM:</i>				
	Sharing Inc.- Profess.+GPT	527	134042	600	May-23
	Sharing - Wave 2	349	170901	350	Apr-24
	Sharing Uninc. - Profess+GPT	404	130993	400	May-23
	Donation - Profess.+GPT	505	132998	500	May-23

Notes: This table displays the experiments, sample sizes, and pre-registrations. The pre-registrations can be found on Aspredicted by introducing the pre-registration number or using the hyperlinks above.

To participate in the experiment, participants had to have an approval rating of 95–100%, and be located in the United States. All waves of recruitment were designed so that they would be gender-balanced, achieving close to a 50% share of participants who identify as female and 50% of participants who identify as male.

In all experiments, the payment was calculated such that receivers would be paid \$12 per hour. Focusing on the main experiments, the payment in the Knowledge experiment was \$3 for a 15-minute long study, in the Knowledge-Recall experiment it was \$4 for a 20-minute long study. The Click experiment paid \$1 for a 5-minute long study, though participants clicked and spent on average 10.95 minutes. Participants in the Click-Knowledge-Recall had to summarize and answer knowledge questions for all research articles and thus received \$5 for a 25-minute long study.

B.2 Instructions

B.2.1 Knowledge Experiment Instructions

The experiment was conducted on Qualtrics. After participants consented to participate in the study, they saw the following screens. Across participants, the summaries they were exposed to were either from the Information incentives, Clickbait-Incentives, or Viral-Incentives treatments. The summaries were shown in random order.

In the following screens, you will complete the following steps:

- Read 8 summaries about a research study. Each summary was written by someone who read a detailed summary of the study and was given access to the complete research paper.
- Answer 4 multiple choice questions about the research study. You will receive a \$0.10 bonus payment each time you answer a question correctly. There are a total of 32 short questions.
- Depending on the summary you read and the answers you select, you could earn up to \$3.20!

You may not always be able to answer all of the questions correctly, as the information in the summaries varies.

Comprehension Question: Which of the following is correct? In each question in this part my task is...

Please re-read the instructions. You will have 2 opportunities to answer this question correctly.

- ...to read the summary about a research study and answer questions about it.
- ...to choose the summary about a research study that you would like to correct and edit.
- ...to choose the summary about a research study that will be rated highest by another participant.

Comprehension Question: Which of the following is correct? I receive...

Please re-read the instructions. You will have 2 opportunities to answer this question correctly.

- ...a \$3.20 bonus only if I answer all questions correctly, and \$0 otherwise.
- ...a \$0.10 bonus for each question I answer correctly.
- ...a \$0.10 bonus for each question I answer.

[Prior to seeing each summary, they saw the following screen, where X increased from 1 to 8 as the participant progressed through the experiment. The order of the summaries was randomized.]

In the next screens you will see summary X and answer 4 questions about it. Please read the summary and the questions carefully.

[Participants next answered the questions shown in Section B.3].

B.2.2 Knowledge-Recall Experiment Instructions

The experiment was conducted on Qualtrics. After participants consented to participate in the study, they saw the following screens. Across participants, the summaries they were exposed to were either from the Info-Incentives, Clickbait-Incentives, or Viral-Incentives treatments. The summaries were shown in random order.

This Study

This study consists 2 of parts, Part I and Part II. You will first receive information about Part I. After you've completed it, you'll receive information about Part II.

This Study: Part I

In this part you will be shown 8 summaries about different research studies.

Each summary was written by someone who read a detailed summary of the study and was given access to the complete research paper.

Your Task

You will be asked to recap the summary in 1 sentence, using your own words.

Comprehension Question: Which of the following is correct? In each question in this part my task is...

Please re-read the instructions. You will have 2 opportunities to answer this question correctly.

- ...to read the summary about a research study and describe what it is about in 1 sentence.
- ...to choose the summary about a research study that you would like to correct and edit.
- ...to choose the summary about a research study that will be rated highest by another participant.

[After they had read the summaries and written their own 1-sentence summary, they proceeded to Part II.]

Thank you for writing about the research summaries. You've completed Part I.

Click below to start Part II.

Part II

In Part II, you will answer 4 multiple choice questions about each of the 8 research studies you just read about (and wrote a sentence for).

- You will receive a \$0.10 bonus payment each time you answer a question correctly. There are a total of 32 short questions.
- Depending on the summary you read and the answers you select, you could earn up to \$3.20!
- You may not always be able to answer all of the questions correctly, as the information in the summaries varies.

[Same comprehension questions were presented as in the Knowledge Experiment.]

[Next the Knowledge Questions shown in Section B.3 were presented. Prior to showing the questions of each of the eight research articles, the instructions stated "Recall the research summary about [topic]".]

B.2.3 Click-Knowledge Experiment Instructions

The experiment was conducted on Qualtrics. After participants consented to participate in the study, they saw the following screens. Across participants, the summaries they were exposed to were either from the Information and Clickbait-Incentives treatments or the Information and Viral-Incentives treatments. The summaries were shown in random order.

This Study

In the following you will be shown 8 summaries about different research studies.

Each summary was written by someone who read a detailed summary of the study and was given access to the complete research paper.

Your Choice

We will ask you to carefully read the 8 summaries. You will choose whether you would like to read more about one or more of the summaries. You can indicate that you would like to read more about as many as you wish, from none to all of them.

After you make your choices, the computer will implement your decisions, with a 3 out of 4 chance (75%). Otherwise, with a 1 out of 4 chance (25%), it will randomly pick one research study.

If you choose to read more or are assigned one research study, you will be presented with 1-2 pages of additional information about the research studies. If you did not choose to read more and are not assigned to a study, you will proceed to the next part of the study.

It is in your best interest to carefully choose whether you would like to read more about each study.

Comprehension Question: Which of the following is correct?

Please re-read the instructions above. You will have 2 opportunities to answer this question correctly.

In each screen my task is...

- ...to choose whether I would like to read more about the research studies that the summaries describe.
- ...to choose the summary about a research study that I would like to correct and edit.
- ...to choose the summary about a research study that will be rated highest by another participant.

Comprehension Question: Which of the following is correct?

Please re-read the instructions. You will have 2 opportunities to answer this question correctly.

- All of my choices will be implemented.
- My choices will be implemented with a 75% chance. With a 3 out of 4 chance, if I indicated I would like to read more about the study in that choice, I will read more about it. If not, I will read more about another study. With a 1 out of 4 chance, the computer will randomly choose one study.
- The study I choose will never be implemented.

[Next, participants saw 8 summaries on one screen, listed in random order, and could select as many as they wished. After they made their choices, they learned whether their choice was implemented. They were shown their selected reading, based on their clicks, or one randomly chosen reading. At the end of the screen on which the abstract and press release were displayed, the following text was shown and the knowledge questions were presented.]

Thank you for reading!

Below we ask you to **answer four questions** about the research.

You will receive **\$0.10 for each question you answer correctly**. Since you could earn a bonus, please read the text and answer the questions carefully.

B.2.4 Click-Knowledge-Recall Experiment Instructions

The experiment was conducted on Qualtrics. After participants consented to participate in the study, they saw the following screens. Across participants, the summaries they were exposed to were either from the Information and Clickbait-Incentives treatments or the Information and Viral-Incentives treatments. The summaries were shown in random order.

This Study

This study consists 2 of parts, Part I and Part II. You will first receive information about Part I. After you've completed it, you'll receive information about Part II.

[The instructions for Part I were then the same as those in the Click-Knowledge Experiment. Not repeated here for brevity.]

[Next, participants saw 8 summaries on one screen, listed in random order, and could select as many as they wished. After they made their choices, they learned whether their choice was implemented. They were shown their selected reading, based on their clicks, or one randomly chosen reading. At the end of the screen on which the abstract and press release were displayed, they were asked to write a 1-sentence summary about the research as shown below.]

Please write a 1-sentence summary about the research:

[After participants had read more about the research of their choice,, or the research they were randomly assigned to, they were shown all summaries they had not clicked to read more about, and as in the Knowledge-Recall experiment, they were asked to write one sentence about each of them.]

Thank you for your choices!

Below you see some of the summaries again. Please write one short sentence summarizing each of them.

[After they had written their own 1-sentence summary, they proceeded to Part II.]

Thank you for writing about the research summaries. You've completed Part I.

Click below to start Part II.

[The instructions for Part II were the same as those in Part II of the Knowledge-Recall Experiment. Not repeated here for brevity.]

B.3 Knowledge Questions

Each question asked the participant “Which statement is true?”. Participants could only select one answer out of the 4 available options. After each answer option, whether it is correct or incorrect is indicated in squared brackets.

Additionally, to establish whether the errors of receivers are biased, two features of incorrect answers are coded: whether they describe a larger sample than the correct one. and whether they describe a more representative sample than the correct one. An incorrect answer option is classified as more representative if it is closer to an adult participant in the United States. This classification is used for articles about cancer, sleep, and vaccines, but not for climate articles, as they focused on carbon emissions and were not directly concerned with human health. The words in italics, *larger sample* and *more representative*, are added in the corresponding incorrect answer options.

B.3.1 Article: Kim et al. (2019)

1. Which statement is true? The study found that...

- ...individuals with diets high in vitamin A have a 38% lower risk of SCC, a form of skin cancer. [Incorrect]
- ...individuals who consume vitamin supplements have a 17% lower risk of SCC, a form of skin cancer, than those who do not consume them. [Incorrect]
- ...individuals with diets high in vitamin A have a 17% lower risk of SCC, a form of skin cancer, than those with low vitamin A consumption. [Correct]
- ...consuming a high amount of vitamin A causes the risk of SCC, a form skin cancer, to drop by 17%. [Incorrect]

2. Which statement is true?

- The participants were over 10,000 women who had skin cancer between 1980 and 1995. [Incorrect]
- The participants were 9,500 US adults interviewed in 2012. [Incorrect - *more representative*]
- The participants were over 10,000 cancer patients who were followed between the early 2000s and 2012. [Incorrect]
- The participants were over 100,000 men and women who are nurses and health professionals followed from the 1980s until 2012. [Correct]

3. Which statement is true?

- The study was a randomized clinical trial that changed participant's vitamin A intake. [Incorrect]
- The study was qualitative study based on interviews of cancer patients about their diets. [Incorrect]
- The study was based on 2 long-term observational studies that measured participants' diets and cases of skin cancer. [Correct]
- The study was a laboratory study in which skin cells were exposed to retinoids from vitamin A and the development of skin cancer was tracked. [Incorrect]

4. Which statement is true?

- The study authors recommend avoiding synthetic retinoids in the chemoprevention of skin cancer. [Incorrect]
- The study authors recommend taking high amounts of vitamin A from supplements and animal sources. [Incorrect]
- The study authors suggest that the next step would be to conduct a clinical trial to test whether higher intake of vitamin A reduces the risk of SCC. [Correct]
- The study authors indicate that clinical trials should not be the next step in testing the effects of vitamin A on SCC. [Incorrect]

B.3.2 Article: Lee et al. (2019)

1. Which statement is true? The study found that...

- ...a molecule (I3C) in cruciferous vegetables harms a tumor suppressing gene, the PTEN gene. [Incorrect]
- ...a molecule (I3C) in cruciferous vegetables reduces tumor growth because it inactivates a gene found in many cancers, the WWP1 gene. [Correct]
- ...a molecule (I3C) in cruciferous vegetables increases tumor growth because it increases a cancer-causing gene, the WWP1 gene. [Incorrect]
- ... a molecule (I3C) in cruciferous vegetables is associated with lower odds of cancer among older adults. [Incorrect]

2. Which statement is true?

- The research sample consisted of human cells. [Incorrect - *more representative*]
- The research sample consisted of cancer prone mice and human cells. [Correct]
- The research sample consisted of over 10,000 adults with cancer. [Incorrect - *more representative, larger sample*]
- The research sample consisted of over 200 cancer patients who participated in the study to test the effects of a new molecule on cancer growth. [Incorrect - *larger sample*]

3. Which statement is true?

- The study tested the effect of a molecule (I3C) on tumor growth, focusing on its effect on the WWP1 gene and the activation of the PTEN gene. [Correct]
- The study analyzed the molecular composition diets of cancer patients and linked it to cancer diagnoses and development. [Incorrect]
- The study analyzed the molecular composition of different types of vegetables to find the most effective one in preventing cancer. [Incorrect]
- The study collected data on the diets of cancer patients at every stage of tumor development. [Incorrect]

4. Which statement is true? The authors conclude that...

- ...the promising effects of cruciferous vegetables seen in the laboratory will not be the same when tested in humans. [Incorrect]
- ...individuals should not change their diets yet, as too large amounts of cruciferous vegetables (over 6 lbs a day) would be needed to prevent cancer. [Correct]
- ...other types of vegetables are not a promising venue to prevent cancer in most people. [Incorrect]
- ...cruciferous vegetables are one of many types of vegetables that can help prevent cancer. [Incorrect]

B.3.3 Article: Gangwisch et al. (2020)

1. Which statement is true? According to the study...

- ...a diet high in glycemic index causes insomnia among postmenopausal women. [Incorrect]
- ...a diet high in glycemic index is associated with higher odds of insomnia among postmenopausal women. [Correct]
- ...a diet high in processed fats is associated with higher odds of insomnia among postmenopausal women. [Incorrect]
- ...a diet high in processed fats causes insomnia among postmenopausal women. [Incorrect]

2. Which statement is true?

- The participants were over 10,000 adult women. [Incorrect, *more representative*]
- The participants were over 1,500 postmenopausal women. [Incorrect]
- The participants were over 5,000 adult women. [Incorrect, *more representative*]
- The participants were over 50,000 postmenopausal women. [Correct]

3. Which statement is true?

- The study was an observational (prospective cohort) study that measured women's diets using food diaries and followed them three years later. [Correct]
- The study was a qualitative study that interviewed women about their diets and insomnia. [Incorrect]
- The study was a randomized controlled trial that changed women's diets. [Incorrect]
- The study was a laboratory study in which women's sleep was measured after they were given high glycemic index foods. [Incorrect]

4. Which statement is true?

- The authors propose that animal experiments be conducted to understand the biological pathways connecting high glycemic foods and sleep processes. [Incorrect]
- The authors suspect that reducing refined carbohydrates in one's diet may be a low-cost way of preventing insomnia. [Correct]
- The authors discuss why their results may not hold for a broader population. [Incorrect]
- The authors propose that individuals should reduce their intake of carbohydrates 3-4 hours prior to going to sleep. [Incorrect]

B.3.4 Article: Perrault et al. (2019)

1. Which statement is true? The study found that...

- ...participants sleeping on a rocking bed slept longer than participants sleeping on a stationary bed. [Incorrect]
- ...participants who slept on a rocking bed fell asleep faster and had better memory the next day than those on a stationary bed. [Incorrect]
- ...participants who regularly sleep in rocking beds fall asleep faster and have better memory. [Incorrect]
- ...participants fell asleep faster and had better memory the next day when sleeping on a rocking bed compared to a stationary bed. [Correct]

2. Which statement is true?

- The participants were 97 healthy young adults. [Incorrect, *larger sample*]
- The participants were 18 healthy young adults. [Correct]
- The participants were 18 adults, experiencing sleep problems. [Incorrect]
- The participants were 24 adults. [Incorrect, *more representative, larger sample*]

3. Which statement is true?

- Participants slept 3 nights in the lab. 1 to get used to sleep there. Then 2 more nights: 1 night on a gently rocking bed and 1 night on a stationary bed [Correct]
- Participants slept 1 night in the lab. Some slept on a gently rocking bed and others on a stationary bed. [Incorrect]
- Participants slept for 45 minutes in the lab, on a gently rocking bed or on a stationary bed. [Incorrect]
- Participants slept 7 nights in the lab on a gently rocking bed. [Incorrect]

4. Which statement is true? The study showed that rocking is important for...

- declarative memory, as it improves recall of day events. [Incorrect]
- for happiness, as it increases reported well-being. [Incorrect]
- for memory consolidation, as it improves performance in a word pairs test. [Correct]
- for cognition, as it improves performance in a cognitive reflection test. [Incorrect]

B.3.5 Article: Mina et al. (2019)

1. Which statement is true? The study found that...

- ...measles leads unvaccinated children to lose antibodies to the same extent as when vaccinated children are infected. [Incorrect]

- ...measles leads unvaccinated children to lose up to 73% of their protective antibodies. [Correct]
- ...measles leads unvaccinated children lose approximately 85% of their protective antibodies. [Incorrect]
- ...measles leads unvaccinated children lose approximately 7% of their protective antibodies. [Incorrect]

2. Which statement is true?

- The participants were over 1,200 children in the Netherlands. [Incorrect, *larger sample*]
- The participants were 77 unvaccinated children in a community in the Netherlands. [Correct]
- The participants were over 1,200 vaccinated children in the Netherlands. [Incorrect, *larger sample*]
- The participants were 77 unvaccinated children in a community in the USA. [Incorrect, *more representative*]

3. Which statement is true?

- The study followed which other diseases unvaccinated children contracted after having measles. [Incorrect]
- The study analyzed blood samples of unvaccinated children before and after a measles infection using VirScan. [Correct]
- The study followed which other diseases of unvaccinated children contracted and compared them to those of vaccinated children. [Incorrect]
- The study predicted the likelihood of a measles infection on unvaccinated children using computer simulations. [Incorrect]

4. Which statement is true? The authors conclude that...

- ...re-vaccination for measles is important for already vaccinated children. [Incorrect]
- ...unvaccinated children are affected by a measles infection like vaccinated children. [Incorrect]
- ... measles vaccination is important to protect children from measles and other diseases. [Correct]
- ...VirScan should not be used to measure antibodies in blood samples. [Incorrect]

B.3.6 Article: Hviid et al. (2019)

1. Which statement is true? The study found that...

- ...parents fear the MMR vaccine because it is associated with autism. [Incorrect]

- ...the MMR vaccine can cause autism. [Incorrect]
- ...the MMR vaccine is not associated with autism. [Correct]
- ...children with autism have severe negative reactions to the MMR vaccine. [Incorrect]

2. Which statement is true?

- The participants were over 10,000 children in the US born between 2005 and 2015. [Incorrect, *more representative*]
- The participants were over 250 children in Denmark born between 1999 and 2010. [Incorrect]
- The participants were over 600,000 children in Denmark born between 1999 and 2010. [Correct]
- The participants were over 600,000 children in the US born between 1999 and 2010. [Incorrect, *more representative*]

3. Which statement is true?

- The study used parental history of Autism and linked it to MMR vaccination. [Incorrect]
- The study used data containing children's' vaccination status and whether they had an autism diagnosis. [Correct]
- The study conducted surveys that asked parents about when their children were given the MMR vaccine and their assessment of their behavior around that time. [Incorrect]
- The study compared multiple countries regarding their rates of MMR vaccination and autism diagnoses. [Incorrect]

4. Which statement is true? The authors conclude that...

- ...the MMR vaccine should be given to children at an older age. [Incorrect]
- ...the MMR vaccine should not be given unless there are severe outbreaks of measles. [Incorrect]
- ...conducting surveys with parents is the best way to understand the possibly links between MMR vaccination and autism. [Incorrect]
- ...showing there is no association between the MMR vaccine and autism is important given the recent increase in vaccine hesitancy and measles outbreaks in Europe. [Correct]

B.3.7 Article: Maxwell et al. (2019)

1. Which statement is true? The study showed that...

- ...the clearance of intact tropical forests overwhelmingly affects Indigenous people. [Incorrect]
- ...the net carbon impact of clearing intact tropical forests was 200% stronger than previously estimated. [Incorrect]
- ...the net carbon impact of clearing intact tropical forests was over 600% stronger than previously estimated. [Correct]
- ...the net carbon impact of clearing intact tropical forests was 50% stronger than previously estimated. [Incorrect]

2. Which statement is true?

- The study examined intact tropical forest losses from 2012 to 2013. [Incorrect]
- The study examined intact tropical forest losses in 2013. [Incorrect]
- The study examined intact tropical forest losses from 2000 to 2013. [Correct]
- The study examined intact tropical forest losses loss from 1990 to 2015. [Incorrect - *larger sample*]

3. Which statement is true? The study extended carbon accounting to...

- ...include other factors such as forgone carbon sequestration, selective logging and defaunation. [Correct]
- ...include its impact on the lives of Indigenous People. [Incorrect]
- ...compare selective logging and defaunation in tropical forests and boreal forests. [Incorrect]
- ...include its impact on human activity that follows after deforestation takes place. [Incorrect]

4. Which statement is true? The authors conclude that...

- ...intact forest retention receives sufficient funding from approaches such as REDD+. [Incorrect]
- ...Indigenous Peoples should be compensated for their lost income due to efforts to reduce deforestation in intact tropical forests. [Incorrect]
- ...intact forest retention needs to receive more attention and more funding from initiative such as REDD+. [Correct]
- ...it is important to focus efforts to reduce carbon emissions in areas with that have suffered from deforestation for a long period, rather than intact forest areas. [Incorrect]

B.3.8 Article: Berzaghi et al. (2019)

1. Which statement is true? The study found that...

- ...forest elephants have suffered the effects of climate change in the last 50 years. [Incorrect]
- ...forest elephants are more important for carbon emissions than other large herbivores. [Incorrect]
- ...forest elephants affect tree growth and aboveground biomass, and thereby affect the carbon emissions of forests. [Correct]
- ...forest elephants need tree growth and lower carbon emissions to survive. [Incorrect]

2. Which statement is true?

- The study compared current and pre-colonization measurements of the rainforests in the region. [Incorrect - *larger sample*]
- The study measured the impact of forest elephants in Africa's rainforests, using measurements from the Congo Basin. [Correct]
- The study compared forest growth in Africa's and Asia's rainforests. [Incorrect - *larger sample*]
- The study compared the impact of different types of herbivores on forests. [Incorrect - *larger sample*]

3. Which statement is true?

- The study used a computer model to forecast the long-run impact of forest elephant loss. [Correct]
- The study used a computer model to project the behavior of forest elephants. [Incorrect]
- The study collected data on carbon emissions of forest elephants in Africa today. [Incorrect]
- The research used a computer model to compare current aboveground biomass with pre-colonization aboveground biomass in West Africa. [Incorrect]

4. Which statement is true? The authors conclude that...

- ...forest elephants should be expanded to other continents to fight climate change. [Incorrect]
- ...forests in Asia should also be studied to better understand their carbon emissions. [Incorrect]
- ...forest elephants should receive more protection and expand to help fight climate change. [Correct]
- ...other species' impact on forests, such as primates and birds, should be further studied to help fight climate change. [Incorrect]

C Sender Behavior: Additional Results

C.1 Pre-registered Analyses

In the pre-registration of the Sender Experiment (#118480), the key outcome variables list were: the accuracy of each unit of information; the types of units of information; the number of words in the message; the number of units of information; the sentiment in each message; the punctuation and language use. The pre-registration then stated “We will test whether the messages written under the different treatments differ in the key dependent variables mentioned above. We will also conduct text analyses that examine whether certain words are predictive of treatment assignment, for each research article. If the messages created under both attention treatments do not lead to significant differences in the number, type and accuracy of units, we will merge them in the analysis.”

The pre-registered outcomes are shown in Figure 3 in the main text and the coefficients are displayed in the tables below. Table C.1 shows the results for the accuracy of each unit of information. Table C.2 shows the results for the types of units of information, and Table C.3 reports the number of words in the message, the number of units of information, the sentiment in each message, the punctuation and readability (as measure of language use).

As acknowledged in the main text, we deviate from the plan to merge the data for attention incentives when presenting the results from the Sender Experiment. The reason to separate the effects of Clickbait- and Viral-Incentives is to be consistent across the Sender and Receiver Experiments. In the Sender Experiment with the LLM as sender there are differences in the effects of Clickbait- and Viral-Incentives. In the Receiver Experiments when summaries are available, there are significant differences between Clickbait- and Viral-Incentives in knowledge about the findings and methods used. These differences motivate the separate presentation of the effects throughout the paper.

Table C.1: Incentive Effects on Accuracy

	(1)	(2)	(3)
	Accuracy of Units:		
	Accurate-In text	Inaccurate-In text	Not in text
Clickbait-Incentives	-0.610** (0.272) [0.028]	0.041 (0.067) [0.223]	0.615*** (0.183) [0.003]
Viral-Incentives	-0.825*** (0.290) [0.006]	0.011 (0.069) [0.413]	0.870*** (0.212) [0.001]
Constant	3.796*** (0.357)	0.531*** (0.112)	1.146*** (0.271)
Observations	595	595	595
Info-Incentives: Mean	4.284	0.346	0.837
Info-Incentives: SD	1.873	0.626	1.037

Notes: This table presents average marginal effects from linear regression on the accuracy of senders' summaries. The number of units classified as Accurate-In text, Inaccurate-In text, or Not in text is shown in columns (1)-(3). All regressions include fixed effects for each article, as well as characteristics of the sender (whether their profile indicated a female gender, an indicator if gender could not be ascertained, and whether they specialize in social media copy or research and summaries). Standard errors clustered at the sender level are reported in parentheses. * $p < .10$; ** $p < .05$; *** $p < .01$. Sharpened FDR q -values are computed using the Anderson (2008) two-stage BKY procedure, over all outcomes in the Table for a treatment, and shown in square brackets.

Table C.2: Incentive Effects on Summary Focus

	(1)	(2)	(3)	(4)	(5)
	Introduction	Number of Units in Category:			Call to action
		Method	Finding	Conclusion	
Clickbait-Incentives	0.409** (0.158) [0.057]	-0.175** (0.075) [0.057]	-0.207 (0.139) [0.077]	-0.053 (0.110) [0.210]	0.071** (0.035) [0.057]
Viral-Incentives	0.559*** (0.174) [0.005]	-0.217*** (0.065) [0.005]	-0.392** (0.153) [0.009]	0.003 (0.116) [0.245]	0.102*** (0.038) [0.009]
Constant	1.419*** (0.222)	0.447*** (0.085)	3.087*** (0.216)	0.664*** (0.149)	-0.143*** (0.055)
Observations	595	595	595	595	595
Info-Incentives: Mean	1.495	0.433	2.163	1.356	0.019
Info-Incentives: SD	1.216	0.633	1.078	1.067	0.138

Notes: This table presents average marginal effects from linear regression on the focus of the units in senders' summaries. The number of units classified as Introduction, Method, Finding, Conclusion, and Call to Action is shown in columns (1)-(5). All regressions include fixed effects for each article, as well as characteristics of the sender (whether their profile indicated a female gender, an indicator if gender could not be ascertained, and whether they specialize in social media copy or research and summaries). Standard errors clustered at the sender level are reported in parentheses. * p<.10; ** p<.05; *** p<.01. Sharpened FDR q -values are computed using the Anderson (2008) two-stage BKY procedure, over all outcomes in the Table for a treatment, and shown in square brackets.

Table C.3: Incentive Effects on Sender Style

	(1)	(2)	(3)	(4)	(5)
	Length	Number of units	Sentiment	Punctuation	Readability
Clickbait-Incentives	-7.334* (3.944) [0.070]	0.046 (0.219) [0.502]	-0.039 (0.069) [0.406]	0.334*** (0.064) [0.001]	6.695*** (2.004) [0.003]
Viral-Incentives	-13.275*** (4.227) [0.003]	0.055 (0.220) [0.192]	-0.124* (0.068) [0.037]	0.281*** (0.067) [0.001]	10.221*** (2.236) [0.001]
Constant	104.498*** (4.513)	5.474*** (0.245)	1.156*** (0.125)	0.079 (0.084)	30.336*** (2.712)
Observations	595	595	595	595	595
Info-Incentives: Mean	102.37	5.47	0.05	0.14	25.53
Info-Incentives: SD	26.60	1.60	1.00	0.35	14.52

Notes: This table displays the estimated average marginal effects from linear regressions on for length (number of words – column (1) – and number of units – column (2)), sentiment, punctuation and readability. Sentiment is the standardized sentiment score, column (3), punctuation is an indicator that takes value 1 if the summary uses question marks, exclamation marks, ellipses, hashtags or icons, column (4), and readability is measured as the Flesch reading ease score, column (5). All regressions include fixed effects for each article, as well as characteristics of the sender (whether their profile indicated a female gender, an indicator if gender could not be ascertained, and whether they specialize in social media copy or research and summaries). Standard errors clustered at the sender level are reported in parentheses. * p<.10; ** p<.05; *** p<.01. Sharpened FDR q -values are computed using the Anderson (2008) two-stage BKY procedure, over all outcomes in the Table for a treatment, and shown in square brackets.

Additionally, following the pre-registration, we examine the predictive power of certain words, for each article. We compute the Term Frequency–Inverse Document Frequency (TF-IDF) of words appearing in each summary, to establish the frequency of distinct words across summaries. We then predict, using rigorous lasso regressions, the treatment based on these frequencies.

For the article on cancer by Lee et al. (2019), the word “groundbreaking” and “levels” were selected as less likely to appear in the Info- and Click-Incentives treatment, respectively, while the word “discovery” was selected as more likely to appear and the name “Deaconess” less likely to appear in the Viral-Incentives treatment. For the article on cancer by Kim et al. (2019), the word “growth” was selected as less likely to appear in the Info-Incentives treatment, while the words “eat” and “lots” were selected as more (less) likely to appear in the Viral-Incentives (Clickbait-Incentives) treatment.

For the article on sleep by Perrault et al. (2019), the word “health” was selected as more likely to appear in the Viral-Incentives treatment, while no words were selected to predict Info- or Clickbait-Incentives. For the article on sleep and diets by Gangwisch et al. (2020), the words “night” and “treatments” were selected as less likely to appear in the Info- and Clickbait-Incentives treatment, respectively, while the words “nights” and “disorder” were selected as more likely to appear in the Viral-Incentives treatment.

For the article on vaccines by Mina et al. (2019), the word “previous” was less likely to appear in the Viral-Incentives treatment, while no words were selected to predict Info- or Clickbait-Incentives. For the article by Hviid et al. (2019), the word “crucial” was selected as less likely to appear in the Info-Incentives treatment. The word “studies” was more likely and the word “tripling” less likely to appear in the Clickbait-Incentives treatment. By contrast, the word “tripling” was selected as more likely to appear and the words “sibling” and “childhood” were less likely to appear in the Viral-Incentives treatment.

For the climate article by Maxwell et al. (2019), the word “action” was less likely to appear in the Info-Incentives treatment, while the word “call” was selected as more likely to appear in the Viral-Incentive treatment. Finally, for the article by Berzaghi et al. (2019), the word “density” was selected to appear more often under Info-Incentives, while the names “Congo” and “France” were selected as less likely to appear in the Viral- and Clickbait-Incentives treatments, respectively.

In what follows in Online Appendix C, we report additional analyses that were not pre-registered and explore the data from the Sender Experiment, in further detail.

C.2 Sender Incentives & Punctuation

We examine detailed punctuation use in each treatment in the following tables. Tables C.4 and C.5 present two measures of the effect of incentives on senders' punctuation use. Table C.4 shows the incentive effects on whether an exclamation mark, question mark, ellipsis, hashtag and icon were used at least once. Table C.5 shows the incentive effects on the number of times an exclamation mark, question mark, ellipsis, hashtag and icon were used within a summary.

Table C.4: Incentive Effects on Punctuation: Indicator Variables

	(1)	(2)	(3)	(4)	(5)
	Exclamation M.	Question M.	Ellipsis	Hashtag	Icon
Clickbait-Incentives	0.231*** (0.051)	0.156*** (0.045)	0.002 (0.009)	-0.015 (0.045)	0.043 (0.030)
Viral-Incentives	0.227*** (0.054)	0.141*** (0.043)	0.015 (0.015)	0.073 (0.057)	0.035 (0.028)
Constant	0.059 (0.072)	0.090 (0.070)	0.003 (0.024)	-0.101* (0.053)	-0.073* (0.041)
Observations	595	595	595	595	595
Info-Incentives: Mean	0.048	0.067	0.005	0.058	0.005
Info-Incentives: SD	0.214	0.251	0.069	0.234	0.069

Notes: This table presents average marginal effects from linear regression on the likelihood that each punctuation mark or icon listed is used at least once by the sender: exclamation mark (column (1)), question mark (column (2)), ellipsis (column (3)), hashtag (column (4)), icon (column(5)). All regressions include fixed effects for each article, as well as characteristics of the sender (whether their profile indicated a female gender, an indicator if gender could not be ascertained, and whether they specialize in social media copy or research and summaries). Standard errors clustered at the sender level are reported in parentheses. * p<.10; ** p<.05; *** p<.01.

Table C.5: Incentive Effects on Punctuation: Count Use Instances

	(1)	(2)	(3)	(4)	(5)
	Exclamation M.	Question M.	Ellipsis	Hashtag	Icon
Clickbait-Incentives	0.356*** (0.101)	0.171*** (0.057)	0.002 (0.015)	-0.243 (0.272)	0.147 (0.107)
Viral-Incentives	0.373*** (0.101)	0.168*** (0.062)	0.009 (0.017)	0.037 (0.291)	0.151 (0.123)
Constant	-0.087 (0.155)	0.117 (0.085)	0.012 (0.034)	-0.135 (0.209)	-0.297 (0.199)
Observations	595	595	595	595	595
Info-Incentives: Mean	0.067	0.087	0.010	0.312	0.010
Info-Incentives: SD	0.334	0.344	0.139	1.672	0.139

Notes: This table presents average marginal effects from linear regression on the number of times that each punctuation mark or icon listed is used by the sender: exclamation mark (column (1)), question mark (column (2)), ellipsis (column (3)), hashtag (column (4)), icon (column (5)). All regressions include fixed effects for each article, as well as characteristics of the sender (whether their profile indicated a female gender, an indicator if gender could not be ascertained, and whether they specialize in social media copy or research and summaries). Standard errors clustered at the sender level are reported in parentheses. * p<.10; ** p<.05; *** p<.01.

C.3 Sender Incentives & Reporting of Sample and Implications

C.3.1 Variables and Coding

Research Sample. First, the variable ‘sample reported’ captures whether the sender provided any sample information in the summary. Then we build several variables to determine how the sample was reported. We create two categories for sample reporting based on the sample origin and the sample size. Specifically, senders could mention the sample origin (group) vaguely or incorrectly, and they could mention the sample size vaguely or precisely. How each variable is defined, depending on the specifics of the research study, is detailed below:

- In research article 1 (Kim et al., 2019), the sample is the Nurses Health Study ($N = 121,700$) and the Health Professionals Follow-Up Study ($N = 51,529$). The sample origin is vague if it does not mention the two studies specifically, and only mentions two long-term observational studies. The sample size is vague if it is not mentioned, and it is incorrect if it reports a number that is different from those reported here or “over 170,000.”
- In research article 2 (Lee et al., 2019), the sample is cancer-prone mice and human cells. There are no instances in which the sample is mentioned and it is vague, as the presence of lab animals or mice is always mentioned. The sample size is not reported in the materials to the sender.
- In research article 3 (Gangwisch et al., 2020), the sample is $N = 53,069$ postmenopausal women. The sample origin is considered vague if the summary only mentions female participants. It is considered incorrect if it mentions postmenstrual women or postpartum women. The sample size is vague if the summary does not mention the number of women, and only refers to the sample as postmenopausal women. There are no instances in which the sample size reported is incorrect.
- In research article 4 (Perrault et al., 2019), the sample is 18 healthy young adults. If the summary only mentions volunteers or participants, the sample origin is considered vague. If the summary mentions sleepers as the sample, it is considered incorrect. There are no instances where the sample size reported is vague or incorrect.
- In research article 5 (Mina et al., 2019), the sample is 77 unvaccinated children in a community in the Netherlands. There are no instances in which the sample origin is reported and it is vague or incorrect. The sample size is vague if the summary does not mention that there were 77 unvaccinated children.
- In research article 6 (Hviid et al., 2019), the sample is the Danish population of children born between 1999 and 2010 ($N = 657,461$). The sample size is incorrect if it does not report the precise number or states it is over “600,000.” The sample origin is vague if it does not mention the data is from Denmark or if it does not mention the years included in the study.

- In research article 7 (Maxwell et al., 2019), the sample is intact tropical forest loss from 2000 to 2013. The sample size is not mentioned in the materials provided to the sender. The sample origin is vague if it does not mention the years included in the study.
- In research article 8 (Berzaghi et al., 2019), the sample is field measurements in the Congo Basin. The sample size is not mentioned in the materials provided to the sender. The sample origin is considered vague if it only mentions Africa, and not the Congo Basin.

Research Implications. First, we code whether the senders report the research as being directly relevant to the readers’ life by directly addressing them: “you will learn how to sleep better.” For that reason, we create the variable “direct appeal,” which is an indicator variable that takes value one if the summary has at least one mention of “you,” “your,” or “yourself,” and zero otherwise.

Additionally, we code whether the summary includes statements that derive the broader implications of the research and their accuracy. This coding was done manually with two research assistants blind to treatment assignment. The coding was done independently and then discussed until an agreement was reached. Two variables were coded based on whether the summary included an implication and whether the implication was correct (“incorrect implication”). The variable “incorrect implication” is an indicator variable that takes value one if the summary reports an incorrect broader implication, and zero otherwise. The coding was based on the materials provided to senders, focusing on whether the press release contained the implication (then it was correct) or it did not (then it was incorrect).

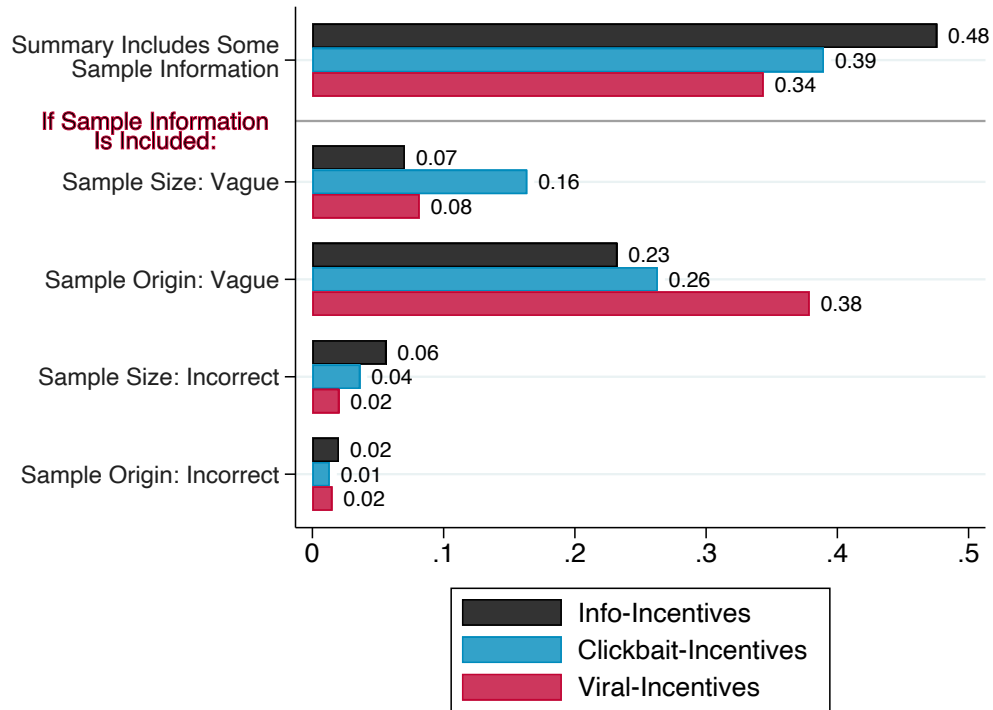
C.3.2 Results

We first examine the likelihood with which the sender reports sample information. The results indicate that 48% of senders report the sample size under Information incentives, 39% report it under Clickbait-Incentives, and 34% report it under Viral-Incentives. Figure C.1 shows the average results and Table C.6, column (1), shows the estimated marginal effects of the sender’s incentive. On average, the likelihood of reporting the sample decreases with Viral-Incentives, at a marginally significant level (q -value= 0.054).

Additionally, Figure C.1 and Table C.6 show that, if the sample is reported, it is rarely reported incorrectly. It is more likely to be reported in a vague manner, and Viral incentives lead to a significant increase in the likelihood that the sample origin, i.e., the exact group of participants involved in the research, is reported vaguely.

Table C.6 also shows that direct appeals to the reader increase significantly with Clickbait- and Viral-Incentives. Incorrect implications are not significantly more likely with Clickbait-Incentives, but there is a significant increase with Viral-Incentives. Sender summaries are similarly likely to report any implication (77% with Info-Incentives, 81% with Clickbait- and Viral-Incentives), but those that report an implication are more likely to be incorrect when written with Viral-Incentives (56% with Info-Incentives, 58% with Clickbait-Incentives, and 67% with Viral-Incentives).

Figure C.1: Sample Information in Summaries, by Sender Incentives



Notes: This figure shows the type of reporting on the sample done by senders in summaries, by treatment. The figure first reports “Summary Includes Some Sample Information, ” which is defined as at least one unit of information in the summary is classified as describing the sample. The figure then conditions on summaries for which some sample information is included and classifies whether the information provided was (a) sample size reported vaguely, (b) sample origin reported vaguely, (c) sample size reported incorrectly, and (d) sample origin reported incorrectly. One summary could be counted in several of these categories.

Table C.6: Incentive Effects on Sample Reporting and Reporting of Implications

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
		If Sample Reported = 1:					
	Sample Reported	Sample Origin: Vague	Incorrect	Sample size: Vague	Incorrect	Direct appeal	Incorrect implication
Clickbait-Incentives	-0.071 (0.058) [0.503]	0.055 (0.043) [0.503]	-0.004 (0.020) [0.640]	0.066 (0.050) [0.503]	0.004 (0.032) [0.640]	0.169*** (0.046) [0.003]	0.033 (0.053) [0.640]
Viral-Incentives	-0.120** (0.058) [0.054]	0.110** (0.042) [0.032]	-0.004 (0.022) [0.689]	0.015 (0.046) [0.689]	-0.001 (0.024) [0.689]	0.259*** (0.050) [0.001]	0.118** (0.057) [0.054]
Constant	0.336*** (0.071)	0.300** (0.123)	0.064 (0.063)	-0.038 (0.046)	0.012 (0.032)	0.382*** (0.073)	0.453*** (0.081)
Observations	595	241	241	175	175	595	595
Info-Incentives: Mean	0.476	0.111	0.010	0.028	0.022	0.154	0.293
Info-Incentives: SD	0.501	0.314	0.098	0.165	0.148	0.362	0.456
Research articles included:	8/8	8/8	8/8	5/8	5/8	8/8	8/8

Notes: This table presents average marginal effects from linear regression on the sample reporting by senders and the conveyance of research implications. The sample in columns (2)-(5) includes only those sender summaries which reported the sample (Sample reported = 1). The study population was reported in all summaries and therefore columns (4)-(5) include summaries of all research articles, conditional on the summary reporting sample information. Sample size was not provided to senders for 3 research articles (one on cancer, two on climate). Columns (4)-(5) include 5 out of 8 research articles in which the sample size was explicitly provided. Standard errors clustered at the sender level are reported in parentheses. * $p < .10$; ** $p < .05$; *** $p < .01$. Sharpened FDR q -values are computed using the Anderson (2008) two-stage BKY procedure over all outcomes in the Table within treatment and shown in square brackets.

C.4 Knowledge Content in Summaries

In addition to assessing receivers’ ability to answer knowledge questions correctly (in the *Knowledge* experiments), we conduct exploratory analyses to examine whether summaries contain the information that clearly identifies the correct answer to the question. To this end, we use two kinds of coding: a research assistant (human coder) and GPT3.5. We provide the text of the summary (including its headline), and we provide the knowledge questions, identifying which are the correct and incorrect answer options. We also provide one example for each article to GPT. Since GPT and the human coder agree in 71% of the cases, consistent with differences in how strictly they applied the need to clearly identify the question answer in the summary, we analyze the data both jointly and separately. In Panel A of Table C.7 the data combine the coding sources, and assign a value of 0.5 (rather than 0 or 1) to the cases of disagreement. Panel B includes only cases in which the two sources agreed. Tables C.8 and C.9 show the results for each source separately.

Considering all knowledge questions, summaries written with Clickbait-Incentives and Viral-Incentives are less likely to clearly contain the correct answer to them. These differences across sender incentives appear consistently across the three tables.

Table C.7: Knowledge Provided in Summary - GPT & Human Coding

	Answer Available to Question About:			
	(1) Finding	(2) Sample	(3) Method	(4) Conclusion
Panel A-Combined				
Info-Incentives	0.86	0.28	0.31	0.62
Clickbait-Incentives	0.82	0.18	0.24	0.61
Viral-Incentives	0.78	0.17	0.22	0.60
Panel B-Agreed				
Info-Incentives	0.98	0.14	0.26	0.80
Clickbait-Incentives	0.94	0.11	0.19	0.72
Viral-Incentives	0.84	0.10	0.16	0.64

Notes: This table shows whether the summaries written by freelancers contained the information required to answer the knowledge questions. The coding of human and GPT is used. In Panel A, the variable Answer Available takes value 1 if both GPT and the human agree that the correct answer option to the knowledge question could be *clearly* identified in the summary, and 0 if both agree that it cannot be clearly identified. The variable takes value 0.5 if GPT and the human disagree. In Panel B, only cases in which both sources agree are included..

Table C.8: Knowledge Provided in Summary - Human Coding

	Answer Available to Question About:			
	(1) Finding	(2) Sample	(3) Method	(4) Conclusion
Info-Incentives	0.78	0.37	0.28	0.57
Clickbait-Incentives	0.71	0.22	0.22	0.54
Viral-Incentives	0.72	0.22	0.19	0.57

Notes: This table shows whether the summaries written by freelancers contained the information required to answer the knowledge questions. The coding was done by comparing each summary to the four knowledge questions about the research with information about which ones were correct and which ones were incorrect. The variable Answer Available takes value 1 if the correct answer option to the knowledge question could be *clearly* identified in the summary, and 0 otherwise. The coder was a human research assistant. $N = 595$ summaries.

Table C.9: Knowledge Provided in Summary - GPT Coding

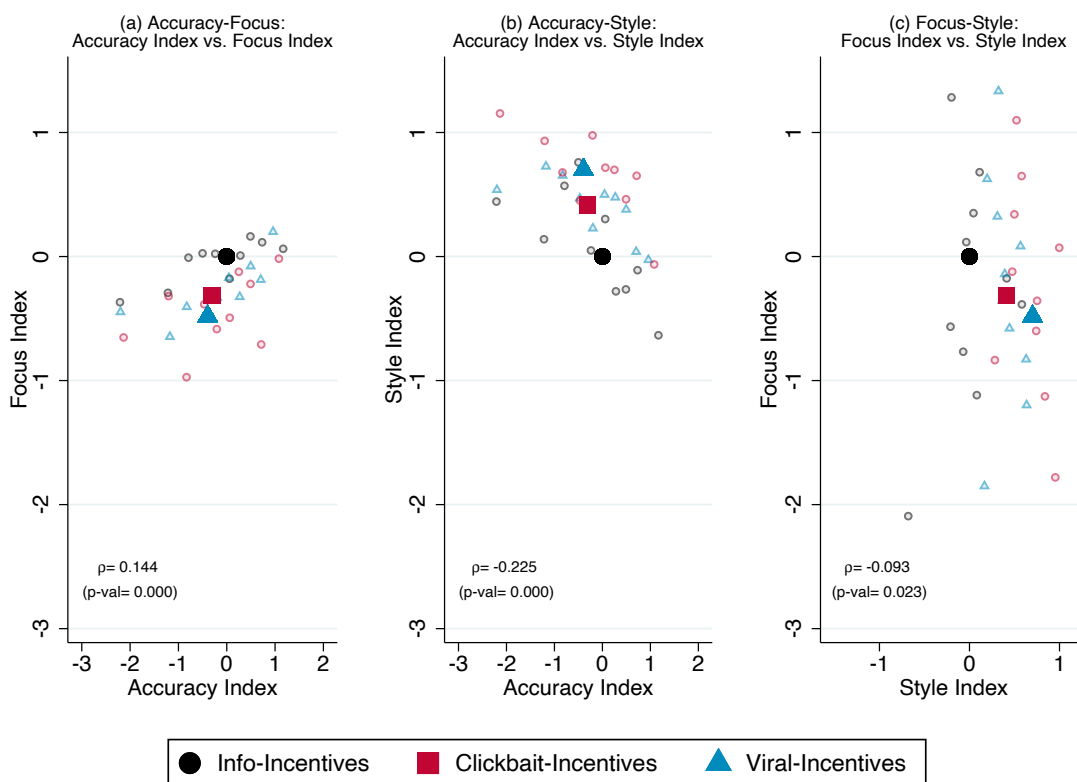
	Answer Available to Question About:			
	(1) Finding	(2) Sample	(3) Method	(4) Conclusion
Info-Incentives	0.94	0.18	0.35	0.68
Clickbait-Incentives	0.92	0.14	0.26	0.67
Viral-Incentives	0.85	0.12	0.26	0.62

Notes: This table shows whether the summaries written by freelancers contained the information required to answer the knowledge questions. The coding was done by comparing each summary to the four knowledge questions about the research with information about which ones were correct and which ones were incorrect. The variable Answer Available takes value 1 if the correct answer option to the knowledge question could be *clearly* identified in the summary, and 0 otherwise. The coding was done by GPT3.5.

C.5 Summary-Level Tradeoffs and Heterogeneity

Clickbait- and Viral-Incentives change senders' messages across three dimensions: style, focus, and accuracy. These changes could be a manifestation of all three dimensions changing simultaneously within a message, or the result of a heterogeneous response to incentives across messages. We explore this heterogeneity by examining the correlation between message dimensions. Figure C.2 shows that increases in accuracy are not strongly correlated with changes in focus and in style (between -0.01 and 0.08 correlation coefficient). By contrast, there is a strong relationship between focus and style (-0.2 correlation coefficient), suggesting that individuals use more readable sentences and punctuation to call attention when introducing the topic and drawing conclusions.

Figure C.2: Summary-Level Accuracy, Content and Style Tradeoffs



Notes: Each panel uses binscatter plots (20th percentiles), by sender incentive, to show the relationship between the variables. Panel (a) of this figure shows the distribution of summaries according to their accuracy and their focus indices. Panel (b) according to their accuracy and style indices, and Panel (c) according to their focus and style indices. The light markers correspond to each 20th percentile of the distribution. The average values are indicated with three dark markers (black circle for Info Incentives, red square for Clickbait-Incentives, and blue triangle for Viral-Incentives). Each panel also shows the correlation coefficient between the two variables (ρ) and its p -value.

The results show that accuracy is not strongly at odds with content or style. Summaries that reflect the research more accurately do not focus less on motivating and drawing implications from the research and do not exhibit a significantly different writing style.

D Online Attention to Research Articles

D.1 Data and Coding

Altmetric is an online platform that tracks, collects, and measures how scholarly articles are discussed and shared online (Adie and Roe, 2013). Out of the 8 articles used in the experiments, 7 had Altmetric pages.

Altmetric tracks whether a research article appears in news articles, blogs or is mentioned on Twitter. Additionally, Altmetric collects several statistics on the articles, presented on a summary page. A main summary statistic is the Altmetric attention score, which is based on an automated algorithm that has weighted counts for different types of attention received by the article. The summary page also includes information on the demographics of those mentioning the article. Among others, it tracks whether those commenting are members of the public, scientists, science communicators or practitioners. On average, for the articles in the Sender experiment, online attention came from members of the public in 81% of the cases, from scientists in 11% of the cases, from science communicators in 2% of the cases, and from practitioners in 6% of the cases.

We scraped the data for the 7 articles with Altmetric pages. We focused on online mentions that are in English. For news and blogs, we scraped the headline and subtitle. There are 709 news links and 95 blogs with unique headlines (some websites, such as those belonging to public radio stations, post the same article several times). For tweets, we scraped the tweets that mention the research article as listed by Altmetric. There is significant variance in the type of tweets. We exclude tweets that are retweets of others and tweets that copy the title of the research article. Tweets that have more than 5 “@” typically have a list of several mentions without a clear headline, and we exclude them. We focus on 2269 tweets that fulfill these criteria.

We code the features of news and blog headlines, as well as tweets, in the following way. For accuracy and focus, we use GPT3.5. Via its API, we provide GPT with the sender materials, and ask it to classify each headline according to the accuracy and focus categories, relative to the materials for each article. We check the coding of GPT by comparing it to the coding of a research assistant, for news headlines. The coding coincides in 83% of the accuracy categorizations, and in 80% of the focus categorizations. For writing style, we employ the same measures as with sender summaries (length, readability, sentiment and punctuation).

For the comparison of sender writing and online writing, we focus throughout on headlines.

D.2 Findings

Figure 4 in the main text compares the accuracy, focus, and style of headlines written by senders and found online, occurring naturally from individuals’ discussions and reporting of the research. The average values displayed in Figure 4 are shown in Tables D.1 and D.2.

Table D.1: Online and Sender Headlines: Accuracy and Focus

	(1)	(2)	(3)	(4)	(5)
	Accurate-In text	Inaccurate-In text	Not in Text	Introduction	Finding
Info-Incentives	0.649 (0.044)	0.077 (0.019)	0.274 (0.043)	0.721 (0.044)	0.279 (0.044)
Clickbait-Incentives	0.441 (0.048)	0.062 (0.015)	0.497 (0.051)	0.836 (0.027)	0.164 (0.027)
Viral-Incentives	0.443 (0.046)	0.052 (0.015)	0.505 (0.048)	0.880 (0.028)	0.120 (0.028)
Online news	0.597 (0.020)	0.007 (0.008)	0.396 (0.020)	0.684 (0.019)	0.307 (0.017)
Online blogs	0.495 (0.048)	0.000 (0.019)	0.505 (0.049)	0.705 (0.047)	0.263 (0.042)
Tweets	0.307 (0.010)	0.045 (0.004)	0.649 (0.010)	0.701 (0.010)	0.200 (0.009)

Notes: This table displays the fraction of headlines that are classified as Accurate-In text, Inaccurate-In text, or Not in text, for columns (1)-(3), and the fraction of headlines classified as Introduction or Finding, for columns (4)-(5). The data for Info-, Clickbait- and Viral-Incentives stems from the Sender Experiment (N=595), while the data for News, Blogs and Tweets, stems from Altmetric (N=2925). News exclude 148 generic headlines that only state 'News Story from [source]', with different sources mentioned.

Table D.2: Online and Sender Headlines: Writing Style

	(1)	(2)	(3)	(4)
	Length	Readability	Punctuation	Sentiment
Info-Incentives	14.654 (0.851)	34.708 (2.533)	0.096 (0.030)	-0.023 (0.017)
Clickbait-Incentives	15.390 (0.902)	47.661 (2.318)	0.415 (0.062)	0.017 (0.025)
Viral-Incentives	13.714 (0.867)	48.346 (2.598)	0.406 (0.070)	-0.014 (0.022)
Online news	10.734 (0.457)	49.351 (1.592)	0.077 (0.019)	-0.145 (0.010)
Online blogs	10.316 (1.110)	49.684 (3.870)	0.126 (0.045)	-0.120 (0.024)
Tweets	22.406 (0.227)	28.820 (0.792)	0.343 (0.009)	0.009 (0.005)

Notes: This table displays the average values of headline length (measured as the number of words, column (1)), readability (measured as the Flesch reading ease score, column (2)), punctuation (an indicator if the summary uses question marks, exclamation marks, ellipsis, hashtags or icons, column (3)), and sentiment (measured as the standardized sentiment score, column (4)). The data for Info-, Clickbait- and Viral-Incentives stems from the Sender Experiment (N=595), while the data for News, Blogs and Tweets, stems from Altmetric (N=2925). News exclude 148 generic headlines that only state 'News Story from [source]', with different sources mentioned.

Additionally, we leverage the data provided by Altmetric to compare the attention scores of each article to receivers' beliefs about sharing of the information about them online. Although these two data sources differ in an important number of dimensions, these comparisons can provide suggestive evidence into how receivers interpreted the belief elicitation about sharing.

We find that the 3 articles that were most tweeted about are on autism and the MMR vaccine (1,744 tweets), antibodies and the MMR vaccines (333), and vegetables and cancer (55).¹ In line with this, we find that the article that is most frequently selected in the sharing experiment, by receivers, as the most likely to be shared online, coincides with the article that received the highest number of tweets, on autism and the MMR vaccine (shared 28% of the time), followed by the article on vegetables and cancer (14%) and rocking beds (13%, not tracked by Altmetric).² Though the rankings do not fully coincide, they show significant similarities, which is suggestive that receivers' beliefs were consistent with actual online sharing (on Twitter).

¹The tweets for emissions from deforestation (55), the impact of forest elephants (33), vitamin A and skin cancer (32), and high GI and insomnia (20).

²The sharing rates for the remaining articles were: for high GI and insomnia (12%), antibodies and the MMR vaccine (10%), vitamin A and skin cancer (10%), emissions from deforestation (8%) and the impact of forest elephants (7%).

E Receiver Behavior: Additional Results

We initially pre-registered individual studies to measure knowledge after exposure to summaries—#126292—, click rates and knowledge before and after receiving materials—#128234—, and sharing—#134042. We later added a wave of data collection, which included all outcomes, with and without summaries available, to measure recall—#170901—. We stated that we “will pool this data together with the data collected in pre-reg #126292, #128234, and #134042.” In what follows, we provide the analyses based on the pre-registrations of the individual studies, pooling the data in for the later study. We also include additional exploratory analyses.

E.1 Receiver Knowledge When Exposed to Summaries

The tables in this section examine the likelihood that receivers answer knowledge questions correctly in the Knowledge, Knowledge-Recall, Click-Knowledge and Click-Knowledge-Recall experiments, when they were only exposed to summaries. The regressions are conducted at the question level, complementing the analysis in Table 2 at the summary level.

E.1.1 Pre-registered Analyses

The pre-registration stated (#126292): “The key dependent variables are: the fraction of correct responses to multiple choice questions, and the type of errors that participants make.” Then, the pre-registration specified “We will test: whether accuracy varies by sender incentives, including and excluding controls for the characteristics of the summary. We will divide the analyses by topic and research article upon which the summaries are based, in addition to analyzing aggregate effects.” Table 2 in the main text shows the results excluding controls for the characteristics of the summary. In Online Appendix E.4, Table E.20 shows the results including characteristics of the summary—the indices for accuracy, focus, and style. Both tables show results at the summary level. The next analyses are conducted at the question level.

Table E.1 shows the findings by topic and research article. The bottom panel of the table presents F -tests for the null hypotheses that all interaction effects between Clickbait-Incentives or Viral-Incentives with topic or articles are zero. These null hypotheses cannot be rejected for Viral-Incentives. The null hypothesis for the interaction between Clickbait-Incentives and topics or articles is rejected when summaries are available, but not when they must be recalled.

The “type of errors that participants make” are shown in Figure 7 in the main text. Tables E.2, E.3 and E.4 provide further detail.

Under exploratory analyses we also wrote that “we will collect information on gender, age, education and social media use. We will measure the time individuals take to answer the questions. We plan to run exploratory analyses based on these participant’s characteristics/behaviors.” Table E.5 shows these results for the Knowledge experiment, with summaries available, and Table E.6 shows the results when summaries must be recalled. Table E.7 examines the impact of recall, pooling the knowledge in the Knowledge, Knowledge-Recall, and Click-Knowledge-Recall experiment (for those only exposed to summaries).

Table E.1: Receiver Knowledge - By Topic and Article

	(1) Likelihood of Correct Available	(2) Recall	(3) Answer, with Available	(4) Summary Recall
Clickbait-Incentives	-0.080*** (0.014)	-0.051*** (0.012)	-0.063*** (0.019)	-0.062*** (0.017)
Viral-Incentives	-0.085*** (0.014)	-0.042*** (0.011)	-0.063*** (0.020)	-0.045*** (0.017)
Cancer	0.044*** (0.013)	0.032*** (0.010)		
Vaccines	0.218*** (0.013)	0.227*** (0.010)		
Climate	0.162*** (0.013)	0.144*** (0.011)		
Clickbait-Incentives Summaries=1 × Cancer	0.051*** (0.018)	0.038** (0.015)		
Clickbait-Incentives Summaries=1 × Vaccines	0.014 (0.018)	0.020 (0.015)		
Clickbait-Incentives Summaries=1 × Climate	0.022 (0.018)	0.025 (0.016)		
Viral-Incentives Summaries=1 × Cancer	0.033* (0.018)	0.027* (0.015)		
Viral-Incentives Summaries=1 × Vaccines	0.021 (0.018)	0.015 (0.015)		
Viral-Incentives Summaries=1 × Climate	0.006 (0.017)	0.011 (0.015)		
Gangwisch et al. (2020)			0.140*** (0.017)	0.095*** (0.016)
Lee et al. (2019)			0.116*** (0.018)	0.113*** (0.015)
Kim et al. (2019)			0.113*** (0.019)	0.053*** (0.016)
Mina et al. (2019)			0.168*** (0.019)	0.175*** (0.014)
Hviid et al. (2019)			0.408*** (0.018)	0.375*** (0.015)
Maxwell et al. (2019)			0.175*** (0.019)	0.111*** (0.016)
Berzaghi et al. (2019)			0.290*** (0.018)	0.278*** (0.015)
Clickbait-Incentives Summaries=1 × Gangwisch et al. (2020)			-0.033 (0.024)	0.028 (0.022)
Clickbait-Incentives Summaries=1 × Lee et al. (2019)			0.020 (0.026)	0.062*** (0.023)
Clickbait-Incentives Summaries=1 × Kim et al. (2019)			0.048* (0.027)	0.036 (0.023)
Clickbait-Incentives Summaries=1 × Mina et al. (2019)			0.030 (0.025)	0.042** (0.022)
Clickbait-Incentives Summaries=1 × Hviid et al. (2019)			-0.034 (0.026)	0.027 (0.023)
Clickbait-Incentives Summaries=1 × Maxwell et al. (2019)			0.012 (0.026)	0.052** (0.023)
Clickbait-Incentives Summaries=1 × Berzaghi et al. (2019)			0.000 (0.026)	0.022 (0.023)
Viral-Incentives Summaries=1 × Gangwisch et al. (2020)			-0.043* (0.025)	0.012 (0.022)
Viral-Incentives Summaries=1 × Lee et al. (2019)			0.035 (0.026)	0.042* (0.022)
Viral-Incentives Summaries=1 × Kim et al. (2019)			-0.011 (0.027)	0.016 (0.023)
Viral-Incentives Summaries=1 × Mina et al. (2019)			-0.001 (0.026)	0.022 (0.021)
Viral-Incentives Summaries=1 × Hviid et al. (2019)			-0.001 (0.026)	0.029 (0.023)
Viral-Incentives Summaries=1 × Maxwell et al. (2019)			-0.019 (0.026)	0.021 (0.023)
Viral-Incentives Summaries=1 × Berzaghi et al. (2019)			-0.013 (0.026)	0.015 (0.023)
Constant	0.480*** (0.027)	0.419*** (0.020)	0.408*** (0.029)	0.365*** (0.022)
F-test All Topics=0, p-val	0.00	0.00		
F-test Clickbait-Incentives X All Topics=0, p-val	0.03	0.10		
F-test Viral-Incentives X All Topics=0, p-val	0.21	0.35		
F-test Articles=0, p-val			0.00	0.00
F-test Clickbait-Incentives X All Articles=0, p-val			0.00	0.21
F-test Viral-Incentives X All Articles=0, p-val			0.13	0.72
Observations	33,336	44,180	33,336	44,180
Nr. of receivers	1,043	1,545	1,043	1,545

Notes: This table displays the estimated coefficients from linear regressions on the likelihood that the receiver answers a question correctly in the Knowledge Experiment, the Knowledge Recall Experiment and the Click-Knowledge-Recall Experiment, if they were only exposed to summaries (did not click to read more). Robust standard errors, clustered at the receiver level, in parentheses. * p<.10; ** p<.05; *** p<.01

Table E.2: Receiver Errors: Larger Sample

	(1)	(2)	(3)	(4)	(5)
	Receiver Error Type in Sample Question				
	Larger Sample				
Click Incentives	0.003 (0.016)	-0.008 (0.013)	-0.003 (0.010)	-0.004 (0.010)	-0.005 (0.008)
Viral Incentives	-0.006 (0.016)	0.010 (0.014)	0.004 (0.010)	0.003 (0.010)	-0.005 (0.008)
Summary Recall			0.052*** (0.008)	0.057*** (0.010)	0.068*** (0.008)
Female receiver				-0.009 (0.008)	-0.008 (0.007)
Age of receiver				-0.000 (0.000)	-0.000* (0.000)
Social media user				-0.031* (0.017)	-0.022* (0.013)
College education				0.010 (0.008)	0.013** (0.006)
Constant	0.339*** (0.012)	0.389*** (0.009)	0.337*** (0.009)	0.371*** (0.023)	0.616*** (0.022)
Observations	4,829	7,394	12,223	12,223	12,223
Summaries	Available	Recalled	Both	Both	Both
Article FE	No	No	No	No	Yes

Notes: This table displays the estimated coefficients from linear regressions on the likelihood that receivers incorrectly answer a question about the sample of a research article and select an option answer that states a larger sample than the one used in the study. A detailed description for how each answer option is coded is provided in Online Appendix B.3. The last column includes article fixed effects. Clustered standard errors, at the receiver level, are shown in parentheses. * p<.10; ** p<.05; *** p<.01

Table E.3: Receiver Errors: More Representative Sample

	(1)	(2)	(3)	(4)	(5)
	Receiver Error Type in Sample Question				
	More Representative				
Click Incentives	0.034*	0.023	0.028**	0.027**	0.025**
	(0.020)	(0.015)	(0.012)	(0.012)	(0.011)
Viral Incentives	0.021	0.030**	0.026**	0.026**	0.028**
	(0.019)	(0.015)	(0.012)	(0.012)	(0.011)
Summary Recall			-0.088***	-0.100***	-0.111***
			(0.010)	(0.013)	(0.012)
Female receiver				-0.008	-0.006
				(0.010)	(0.010)
Age of receiver				-0.000	-0.000
				(0.000)	(0.000)
Social media user				-0.003	-0.008
				(0.022)	(0.021)
College education				-0.023**	-0.019**
				(0.010)	(0.010)
Constant	0.472***	0.385***	0.472***	0.507***	0.413***
	(0.015)	(0.010)	(0.011)	(0.029)	(0.031)
Observations	4,054	6,185	10,239	10,239	10,239
Summaries	Available	Recalled	Both	Both	Both
Article FE	No	No	No	No	Yes

Notes: This table displays the estimated coefficients from linear regressions on the likelihood that receivers incorrectly answer a question about the sample of a research article and select an answer that states a group being studied that is closer to a more group, defined as closer to a US adult. A detailed description for how each answer option is coded is provided in Online Appendix B.3. The last column includes article fixed effects. Clustered standard errors, at the receiver level, are shown in parentheses. * p<.10; ** p<.05; *** p<.01

Table E.4: Receiver Errors: By Sample Information in Summary

	(1)	(2)	(3)	(4)
	Receiver Error Type in Sample Question			
	Larger Sample		More Representative Sample	
	Message Includes Some Sample Info?		Messages Includes Some Sample Info?	
	No	Yes	No	Yes
Clickbait-Incentives Summaries	-0.002 (0.010)	0.001 (0.010)	-0.009 (0.015)	0.046*** (0.017)
Viral Incentives	-0.003 (0.010)	-0.009 (0.011)	-0.014 (0.015)	0.062*** (0.018)
Summary Recall	0.054*** (0.011)	0.117*** (0.013)	-0.107*** (0.016)	-0.093*** (0.019)
Female receiver	-0.006 (0.009)	-0.014 (0.009)	-0.003 (0.012)	-0.016 (0.015)
Age of receiver	-0.001** (0.000)	0.000 (0.000)	0.001* (0.000)	-0.001*** (0.001)
Social media user	-0.025 (0.018)	-0.015 (0.019)	-0.045* (0.027)	0.060* (0.034)
College education	0.020** (0.008)	0.000 (0.009)	-0.030** (0.012)	0.000 (0.015)
Constant	0.658*** (0.028)	0.444*** (0.040)	0.444*** (0.039)	0.355*** (0.053)
Observations	8,037	4,186	6,486	3,753
Article FE	Yes	Yes	Yes	Yes

Notes: This table displays the estimated coefficients from linear regressions on the likelihood that receivers incorrectly answer a question about the sample of a research article and select an option answer that states a larger sample than the one used in the study (column (1)) or that they selected an answer that states a group being studied that is closer to a more group, defined as closer to a US adult (column (2)). All regressions include article fixed effects. Clustered standard errors, at the sender level, are shown in parentheses. * $p < .10$; ** $p < .05$; *** $p < .01$

Table E.5: Receiver Knowledge in Knowledge Experiment - Summary Available

	(1)	(2)	(3)	(4)	(5)
	Likelihood of Correct Answer				
Clickbait-Incentives Summary	-0.058*** (0.011)	-0.058*** (0.011)	-0.058*** (0.011)	-0.030*** (0.011)	-0.132** (0.057)
Viral-Incentives Summary	-0.071*** (0.011)	-0.070*** (0.011)	-0.070*** (0.011)	-0.045*** (0.011)	-0.183*** (0.059)
Female receiver		0.008 (0.009)	0.008 (0.009)	0.013 (0.009)	-0.009 (0.016)
Age of receiver		-0.000 (0.000)	-0.001 (0.000)	-0.000 (0.000)	-0.001 (0.001)
Social media user		-0.019 (0.019)	-0.019 (0.019)	-0.018 (0.018)	-0.075** (0.038)
College education		0.028*** (0.009)	0.028*** (0.009)	0.023*** (0.009)	0.018 (0.015)
Time spent		0.000*** (0.000)	0.000*** (0.000)	0.000** (0.000)	0.000* (0.000)
Answer Available in Summary				0.323*** (0.006)	0.322*** (0.006)
Clickbait-Incentives Summaries X Female					0.044** (0.022)
Clickbait-Incentives Summaries X Age					0.001 (0.001)
Clickbait-Incentives Summaries X College					0.001 (0.021)
Clickbait-Incentives Summaries X Social media					0.063 (0.044)
Viral-Incentives Summaries X Female					0.022 (0.022)
Viral-Incentives Summaries X Age					0.001 (0.001)
Viral-Incentives Summaries X College					0.014 (0.021)
Viral-Incentives Summaries X Social media					0.080* (0.048)
Constant	0.571*** (0.008)	0.586*** (0.026)	0.427*** (0.028)	0.256*** (0.026)	0.345*** (0.048)
Receiver characteristics	No	Yes	Yes	Yes	Yes
Research Article and Order FE	No	No	Yes	Yes	Yes
Observations	33,336	33,336	33,336	33,336	33,336
Nr. of receivers	1,043	1,043	1,043	1,043	1,043
Mean Correct with Info-Incentives Summaries	0.57	0.59	0.43	0.26	0.35
Mean correct with Clickbait-Incentives	0.51	0.53	0.37	0.23	0.21
Mean Correct with Viral-Incentives Summaries	0.50	0.52	0.36	0.21	0.16

Notes: This table displays the estimated coefficients from linear regressions on the likelihood that the receiver answers a question correctly in the Knowledge Experiment. Receivers had the summary available when answering the questions. Each receiver answered 32 questions, 4 for each research study (10 receivers saw a repeated summary, they thus have 28 unique responses). The regressions pool all questions together. Receiver characteristics include whether the receiver identifies as female, their reported age, whether they indicate they use at least one social media platform, and that they have at least a 4-year college education, the wave of data collection, and the time spent answering the questions. Robust standard errors, clustered at the receiver level, in parentheses. * $p < .10$; ** $p < .05$; *** $p < .01$

Table E.6: Receiver Knowledge in Knowledge Experiment - Summary Recall

	(1)	(2)	(3)	(4)	(5)
	Likelihood of Correct Answer				
Clickbait-Incentives Summary	-0.030*** (0.008)	-0.029*** (0.008)	-0.028*** (0.008)	-0.006 (0.008)	-0.058 (0.040)
Viral-Incentives Summary	-0.030*** (0.008)	-0.028*** (0.008)	-0.025*** (0.008)	-0.005 (0.008)	0.020 (0.039)
Female receiver		0.008 (0.008)	0.007 (0.008)	0.007 (0.007)	0.004 (0.011)
Age of receiver		-0.001*** (0.000)	-0.001*** (0.000)	-0.001*** (0.000)	-0.001*** (0.000)
Social media user		-0.015 (0.014)	-0.016 (0.014)	-0.016 (0.014)	-0.026 (0.026)
College education		0.035*** (0.007)	0.035*** (0.007)	0.034*** (0.007)	0.046*** (0.011)
Time spent		0.000*** (0.000)	0.000*** (0.000)	0.000*** (0.000)	0.000*** (0.000)
Click-Knowledge-Recall Experiment		0.006 (0.008)	-0.002 (0.007)	-0.003 (0.007)	-0.004 (0.007)
Answer Available in Summary				0.252*** (0.005)	0.252*** (0.005)
Clickbait-Incentives Summaries X Female					-0.005 (0.016)
Clickbait-Incentives Summaries X Age					0.001 (0.001)
Clickbait-Incentives Summaries X College					-0.014 (0.016)
Clickbait-Incentives Summaries X Social media					0.045 (0.031)
Viral-Incentives Summaries X Female					0.018 (0.016)
Viral-Incentives Summaries X Age					-0.000 (0.001)
Viral-Incentives Summaries X College					-0.027* (0.016)
Viral-Incentives Summaries X Social media					-0.003 (0.032)
Constant	0.500*** (0.006)	0.519*** (0.020)	0.351*** (0.022)	0.215*** (0.022)	0.220*** (0.031)
Receiver characteristics	No	Yes	Yes	Yes	Yes
Research Article and Order FE	No	No	Yes	Yes	Yes
Observations	44,180	44,180	44,180	44,180	44,180
Nr. of receivers	1,545	1,545	1,545	1,545	1,545
Mean Correct with Info-Incentives Summaries	0.50	0.52	0.35	0.21	0.22
Mean correct with Clickbait-Incentives	0.47	0.49	0.32	0.21	0.16
Mean Correct with Viral-Incentives Summaries	0.47	0.49	0.33	0.21	0.24

Notes: This table displays the estimated coefficients from linear regressions on the likelihood that the receiver answers a question correctly in the Knowledge-Recall Experiment and Click-Knowledge-Recall Experiment for summaries that receivers did not click on to read more about. Receivers did not have the summary available when answering the questions. The regressions pool all questions receivers answered together. Receiver characteristics include whether the receiver identifies as female, their reported age, whether they indicate they use at least one social media platform, and that they have at least a 4-year college education, the wave of data collection, and the time spent answering the questions. Robust standard errors, clustered at the receiver level, in parentheses. * $p < .10$; ** $p < .05$; *** $p < .01$

Table E.7: Receiver Knowledge - Impact of Recall

	(1)	(2)	(3)
	Likelihood of Correct Answer		
Summary Recall	-0.074*** (0.011)	-0.089*** (0.011)	-0.092*** (0.011)
Clickbait-Incentives Summary	-0.058*** (0.011)	-0.057*** (0.011)	-0.057*** (0.011)
Viral-Incentives Summary	-0.071*** (0.011)	-0.069*** (0.011)	-0.069*** (0.011)
Clickbait-Incentives Summary X Recall	0.029** (0.014)	0.029** (0.014)	0.029** (0.014)
Viral-Incentives Summary X Recall	0.042*** (0.014)	0.041*** (0.014)	0.044*** (0.014)
Summary Recall X Click-Knowledge-Recall Experiment	0.006 (0.008)	0.006 (0.008)	-0.002 (0.007)
Female receiver		0.008 (0.006)	0.008 (0.006)
Age of receiver		-0.001*** (0.000)	-0.001*** (0.000)
Social media user		-0.018 (0.012)	-0.018 (0.012)
College education		0.031*** (0.006)	0.031*** (0.006)
Time spent		0.000*** (0.000)	0.000*** (0.000)
Constant	0.571*** (0.008)	0.596*** (0.017)	0.433*** (0.018)
Receiver characteristics	No	Yes	Yes
Research Article and Order FE	No	No	Yes
Observations	77,516	77,516	77,516
Nr. of receivers	2,588	2,588	2,588
Correct with Info-Incentives Summaries Available	0.57	0.60	0.43
Correct with Clickbait-Incentives Summaries Available	0.51	0.54	0.38
Correct with Viral-Incentives Summaries Available	0.50	0.53	0.36
Correct with Info-Incentives Summary Recall	0.50	0.51	0.34
Correct with Clickbait-Incentives Summary Recall	0.47	0.48	0.31
Correct with Viral-Incentives Summary Recall	0.47	0.48	0.32

Notes: This table displays the estimated coefficients from linear regressions on the likelihood that the receiver answers a question correctly in the Knowledge Experiment (columns (1) and (3)), or the Knowledge Recall Experiment and the Click-Knowledge-Recall Experiment, if they were only exposed to summaries (columns (2) and (4)). The regressions pool all questions receivers answered together. Receiver characteristics include whether the receiver identifies as female, their reported age, whether they indicate they use at least one social media platform, and that they have at least a 4-year college education, the wave of data collection, and the time spent answering the questions. Robust standard errors, clustered at the receiver level, in parentheses. * p<.10; ** p<.05; *** p<.01

E.1.2 Additional Analyses

We explore differences in knowledge by the type of question that receivers answered (on the finding, the sample, the method or the conclusion of the research article) in Tables E.8 and E.9.

Table E.8: Receiver Knowledge in Knowledge Experiment - Summary Available

	(1)	(2)	(3)
	Likelihood of Correct Answer		
Clickbait-Incentives Summary	-0.030*	-0.030*	-0.030*
	(0.015)	(0.015)	(0.015)
Viral-Incentives Summary	-0.061***	-0.061***	-0.061***
	(0.016)	(0.016)	(0.016)
Sample Question	-0.126***	-0.126***	-0.126***
	(0.014)	(0.014)	(0.014)
Method Question	-0.130***	-0.130***	-0.130***
	(0.011)	(0.011)	(0.011)
Conclusion Question	-0.003	-0.003	-0.003
	(0.012)	(0.012)	(0.012)
Clickbait-Incentives Summary X Sample Question	-0.103***	-0.103***	-0.103***
	(0.018)	(0.018)	(0.018)
Clickbait-Incentives Summary X Method Question	-0.005	-0.005	-0.005
	(0.016)	(0.016)	(0.016)
Clickbait-Incentives Summary X Conclusion Question	-0.005	-0.005	-0.005
	(0.017)	(0.017)	(0.017)
Viral-Incentives Summary X Sample Question	-0.074***	-0.074***	-0.074***
	(0.019)	(0.019)	(0.019)
Viral-Incentives Summary X Method Question	-0.005	-0.005	-0.005
	(0.016)	(0.016)	(0.016)
Viral-Incentives Summary X Conclusion Question	0.037**	0.037**	0.037**
	(0.017)	(0.017)	(0.017)
Constant	0.636***	0.656***	0.504***
	(0.011)	(0.027)	(0.028)
Receiver characteristics	No	Yes	Yes
Research Article and Order FE	No	No	Yes
Observations	33,336	33,336	33,336
Nr. of receivers	1,043	1,043	1,043
Finding Question Correct with Info-Incentives	0.64	0.66	0.50
Finding Question Correct with Clickbait-Incentives	0.61	0.63	0.47
Finding Question Correct with Viral-Incentives	0.58	0.60	0.44
Sample Question Correct with Info-Incentives	0.51	0.53	0.38
Sample Question Correct with Clickbait-Incentives	0.38	0.40	0.25
Sample Question Correct with Viral-Incentives	0.38	0.40	0.24
Method Question Correct with Info-Incentives	0.51	0.53	0.37
Method Question Correct with Clickbait-Incentives	0.47	0.49	0.34
Method Question Correct with Viral-Incentives	0.44	0.46	0.31
Conclusion Question Correct with Info-Incentives	0.63	0.65	0.50
Conclusion Question Correct with Clickbait-Incentives	0.60	0.62	0.47
Conclusion Question Correct with Viral-Incentives	0.61	0.63	0.48

Notes: This table displays the estimated coefficients from linear regressions on the likelihood that the receiver answers a question correctly in the Knowledge Experiment. Receivers had the summary available when answering the questions. The regression includes indicator variables for the type of question (Sample, Method, Conclusion, where Finding is the omitted category) and interacts the type of question with the sender's incentive in the Sender Experiment. Each receiver answered 32 questions, 4 for each research study (10 receivers saw a repeated summary, they thus have 28 unique responses). The regressions pool all questions together. Receiver characteristics include whether the receiver identifies as female, their reported age, whether they indicate they use at least one social media platform, and that they have at least a 4-year college education, the wave of data collection, and the time spent answering the questions. Robust standard errors, clustered at the receiver level, in parentheses. * $p < .10$; ** $p < .05$; *** $p < .01$

Table E.9: Receiver Knowledge in Knowledge Experiment - Summary Recall

	(1)	(2)	(3)
	Likelihood of Correct Answer		
Clickbait-Incentives Summary	-0.014 (0.013)	-0.013 (0.013)	-0.012 (0.013)
Viral-Incentives Summary	-0.038*** (0.013)	-0.039*** (0.013)	-0.034*** (0.012)
Sample Question	-0.231*** (0.010)	-0.231*** (0.010)	-0.231*** (0.010)
Method Question	-0.149*** (0.010)	-0.149*** (0.010)	-0.149*** (0.010)
Conclusion Question	0.015 (0.009)	0.015 (0.009)	0.015 (0.009)
Clickbait-Incentives Summary X Sample Question	-0.038** (0.015)	-0.038** (0.015)	-0.038** (0.015)
Clickbait-Incentives Summary X Method Question	-0.011 (0.015)	-0.011 (0.015)	-0.011 (0.015)
Clickbait-Incentives Summary X Conclusion Question	-0.013 (0.014)	-0.013 (0.014)	-0.013 (0.014)
Viral-Incentives Summary X Sample Question	-0.005 (0.015)	-0.005 (0.015)	-0.005 (0.015)
Viral-Incentives Summary X Method Question	0.005 (0.015)	0.005 (0.015)	0.005 (0.015)
Viral-Incentives Summary X Conclusion Question	0.035** (0.014)	0.035** (0.014)	0.035** (0.014)
Constant	0.591*** (0.009)	0.628*** (0.020)	0.468*** (0.022)
Receiver characteristics	No	Yes	Yes
Research Article and Order FE	No	No	Yes
Observations	44,180	44,180	44,180
Nr. of receivers	1,545	1,545	1,545
Finding Question Correct with Info-Incentives	0.59	0.63	0.47
Finding Question Correct with Clickbait-Incentives	0.58	0.61	0.46
Finding Question Correct with Viral-Incentives	0.55	0.59	0.43
Sample Question Correct with Info-Incentives	0.36	0.40	0.24
Sample Question Correct with Clickbait-Incentives	0.31	0.35	0.19
Sample Question Correct with Viral-Incentives	0.32	0.35	0.20
Method Question Correct with Info-Incentives	0.44	0.48	0.32
Method Question Correct with Clickbait-Incentives	0.42	0.45	0.30
Method Question Correct with Viral-Incentives	0.41	0.45	0.29
Conclusion Question Correct with Info-Incentives	0.61	0.64	0.48
Conclusion Question Correct with Clickbait-Incentives	0.58	0.62	0.46
Conclusion Question Correct with Viral-Incentives	0.60	0.64	0.48

Notes: This table displays the estimated coefficients from linear regressions on the likelihood that the receiver answers a question correctly in the Knowledge-Recall Experiment and Click-Knowledge-Recall Experiment for summaries that receivers did not click on to read more about. Receivers did not have the summary available when answering the questions. The regression includes indicator variables for the type of question (Sample, Method, Conclusion, where Finding is the omitted category) and interacts the type of question with the sender's incentive in the Sender Experiment. The regressions pool all questions receivers answered together. Receiver characteristics include whether the receiver identifies as female, their reported age, whether they indicate they use at least one social media platform, and that they have at least a 4-year college education, the wave of data collection, and the time spent answering the questions. Robust standard errors, clustered at the receiver level, in parentheses. * $p < .10$; ** $p < .05$; *** $p < .01$

E.2 Receiver Clicks and Knowledge

The tables in this section examine the likelihood that receivers click to learn more about a research study.

E.2.1 Pre-registered Analyses

The pre-registration stated (#128234): “The key dependent variables are: the number of summaries that individuals choose to read more about, and the incentive under which those summaries were created. Since participants also answer questions, another dependent variable is the fraction of correct answers, as well as the time taken to read each summary and complete the study.”

Then it stated “We will test: whether incentives to click or to share lead to more interest among readers than incentives to inform. We will divide the analyses by topic and research article upon which the summaries are based, in addition to analyzing aggregate effects. We will analyze which features of the summaries lead to more clicks and whether those are correctly anticipated by those sending the summaries.”

The results for click rates are shown in the main text, under Table 2. Since these results focus on the summary level, we include an additional table, Table E.10, showing the results at the receiver level, considering the eight possible summaries that they could click on.³

The results by topic and research article are shown in Table E.11. The bottom panel of the table presents F -tests for the null hypotheses that all interaction effects between Clickbait-Incentives or Viral-Incentives with topic or articles are zero. These null hypotheses cannot be rejected for the interaction between topics and Clickbait-Incentives or Viral-Incentives. The null hypothesis for the interaction between Viral-Incentives and the articles is marginally significant, suggesting that the incentive effects differed for some articles (see column (2)).

The results showing which features lead to more clicks are shown in Online Appendix E.4, Table E.20.

Additionally, we examine the fraction of correct answers after individuals click to read more, in Table 2 in the main text, and in further detail in Online Appendix E.2.2. Separately, time taken to read the summary was not collected, due to human error. Time spent reading the materials and answering knowledge questions after having clicked on the summary to read more was measured. It does not differ by whether the receiver was exposed to eight summaries written with Clickbait- and Info-Incentives, or Viral- and Info-Incentives. Time to complete the study does not differ across these two groups either.

³Exploratory analyses that extend Table E.10 by examining heterogeneity according to receiver characteristics (gender, age, college education, and social media use) do not reveal any interaction between these and their exposure to summaries written under Clickbait- or Viral-Incentives.

Table E.10: Determinants of Click Rate - Receiver-Level Results

	(1)	(2)	(3)	(4)	(5)	(6)
	Likelihood Receiver Clicks to Read More					
<i>Experiment:</i>	Click-Knowledge	Click-Knowledge	Click-Knowledge-Recall	Click-Knowledge-Recall	Both	Both
Clickbait-Incentives Summary	0.046*** (0.015)	0.045*** (0.015)	0.046*** (0.017)	0.047*** (0.017)	0.046*** (0.011)	0.046*** (0.011)
Viral-Incentives Summary	0.019 (0.016)	0.018 (0.016)	0.046*** (0.014)	0.044*** (0.014)	0.033*** (0.011)	0.031*** (0.011)
Condition with Viral- vs. Info-Inc Summaries	-0.004 (0.016)	-0.004 (0.016)	0.001 (0.017)	0.001 (0.017)	-0.001 (0.012)	-0.001 (0.012)
Female receiver		0.002 (0.012)		0.020 (0.014)		0.011 (0.009)
Age of receiver		-0.000 (0.000)		0.000 (0.001)		-0.000 (0.000)
Social media user		-0.032 (0.035)		-0.021 (0.028)		-0.026 (0.023)
College education		0.012 (0.012)		-0.003 (0.014)		0.004 (0.009)
Click-Knowledge Experiment					-0.035*** (0.009)	-0.049*** (0.010)
Constant	0.187*** (0.011)	0.246*** (0.044)	0.212*** (0.012)	0.211*** (0.038)	0.217*** (0.009)	0.254*** (0.029)
Receiver characteristics	No	No	No	No	No	No
Order FE	No	No	No	No	No	No
Observations	5,203	5,203	5,144	5,144	10,347	10,347
Nr. of receivers	651	651	643	643	1,294	1,294
Click rate on Info-Incentives Summaries	0.19	0.25	0.21	0.21	0.22	0.25
Click rate on Clickbait-Incentives	0.23	0.29	0.26	0.26	0.26	0.30
Click rate on Viral-Incentives Summaries	0.21	0.26	0.26	0.26	0.25	0.29

Notes: This table displays the estimated coefficients from linear regressions on the likelihood that the receiver clicks to read more about a research article in the Click-Knowledge and Click-Knowledge-Recall Experiment. There were two conditions, one that combined Info-Inc Summaries and Clickbait-Inc Summaries and one that combined Info-Inc Summaries and Viral-Inc Summaries (*Condition with Viral- vs. Info-Inc Summaries*= 1). Robust standard errors, clustered at the receiver level, in parentheses. * p<.10; ** p<.05; *** p<.01

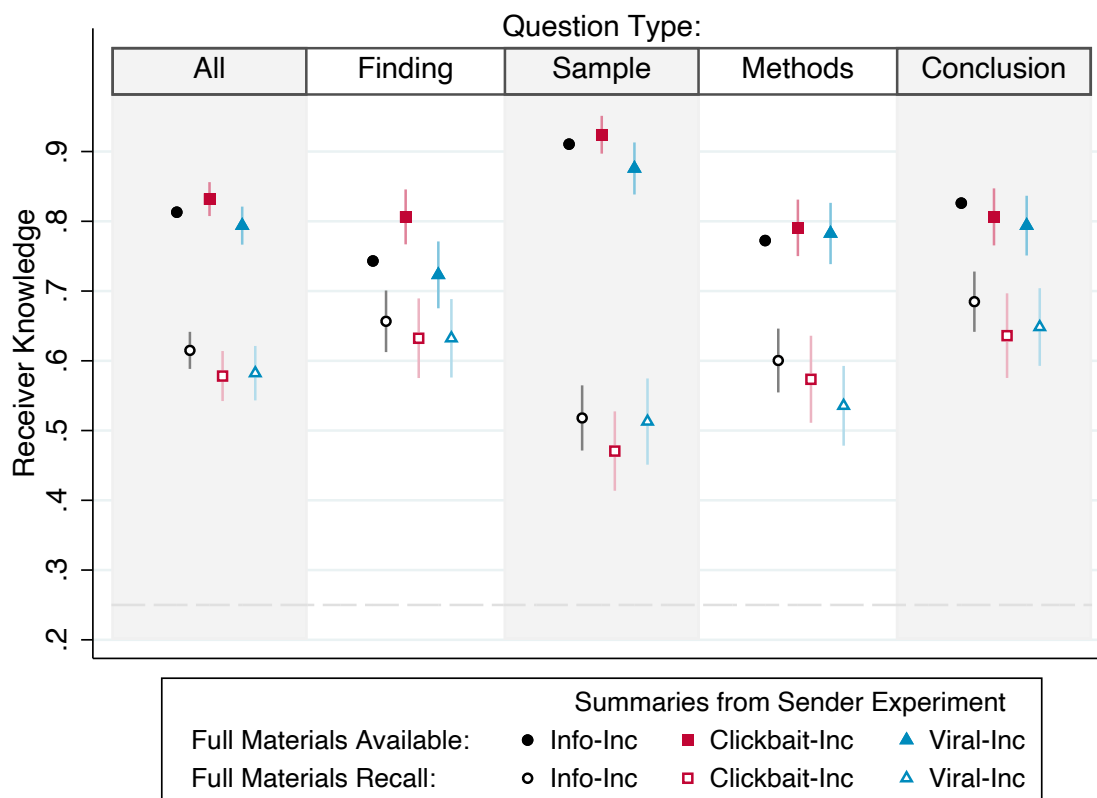
Table E.11: Receiver Click Rate - By Topic and Article

	(1)	(2)
	Likelihood	Receiver Clicks to Read More
Clickbait-Incentives	0.052** (0.024)	0.015 (0.035)
Viral-Incentives	0.011 (0.023)	-0.006 (0.033)
Cancer	-0.131*** (0.016)	
Vaccines	-0.193*** (0.015)	
Climate	-0.149*** (0.017)	
Clickbait-Incentives Summaries=1 × Cancer	0.028 (0.030)	
Clickbait-Incentives Summaries=1 × Vaccines	-0.021 (0.029)	
Clickbait-Incentives Summaries=1 × Climate	-0.031 (0.029)	
Viral-Incentives Summaries=1 × Cancer	0.037 (0.028)	
Viral-Incentives Summaries=1 × Vaccines	0.009 (0.027)	
Viral-Incentives Summaries=1 × Climate	0.034 (0.029)	
Gangwisch et al. (2020)		-0.155*** (0.025)
Lee et al. (2019)		-0.197*** (0.024)
Kim et al. (2019)		-0.220*** (0.024)
Mina et al. (2019)		-0.276*** (0.023)
Hviid et al. (2019)		-0.267*** (0.023)
Maxwell et al. (2019)		-0.248*** (0.024)
Berzaghi et al. (2019)		-0.207*** (0.025)
Clickbait-Incentives Summaries=1 × Gangwisch et al. (2020)		0.075 (0.047)
Clickbait-Incentives Summaries=1 × Lee et al. (2019)		0.087* (0.046)
Clickbait-Incentives Summaries=1 × Kim et al. (2019)		0.045 (0.045)
Clickbait-Incentives Summaries=1 × Mina et al. (2019)		-0.004 (0.042)
Clickbait-Incentives Summaries=1 × Hviid et al. (2019)		0.037 (0.042)
Clickbait-Incentives Summaries=1 × Maxwell et al. (2019)		-0.020 (0.041)
Clickbait-Incentives Summaries=1 × Berzaghi et al. (2019)		0.034 (0.044)
Viral-Incentives Summaries=1 × Gangwisch et al. (2020)		0.027 (0.044)
Viral-Incentives Summaries=1 × Lee et al. (2019)		0.076* (0.044)
Viral-Incentives Summaries=1 × Kim et al. (2019)		0.031 (0.042)
Viral-Incentives Summaries=1 × Mina et al. (2019)		-0.002 (0.040)
Viral-Incentives Summaries=1 × Hviid et al. (2019)		0.058 (0.042)
Viral-Incentives Summaries=1 × Maxwell et al. (2019)		0.005 (0.041)
Viral-Incentives Summaries=1 × Berzaghi et al. (2019)		0.104** (0.043)
Condition with Viral- vs. Info-Inc Summaries	-0.002 (0.012)	-0.002 (0.012)
Constant	0.373*** (0.031)	0.452*** (0.034)
F-test All Topics=0, p-val	0.00	
F-test Clickbait-Incentives X All Topics=0, p-val	0.14	
F-test Viral-Incentives X All Topics=0, p-val	0.42	
F-test Articles=0, p-val		0.00
F-test Clickbait-Incentives X All Articles=0, p-val		0.10
F-test Viral-Incentives X All Articles=0, p-val		0.06
Observations	10,347	10,347
Nr. of receivers	1,294	1,294

Notes: This table displays the estimated coefficients from linear regressions on the likelihood that the receiver clicks to read more, in the Click-Knowledge and the Click-Knowledge-Recall Experiment. Robust standard errors, clustered at the receiver level, in parentheses. * p<.10; ** p<.05; *** p<.01

E.2.2 Receiver Knowledge When Exposed to Full Materials

Figure E.1: Receiver Knowledge When Exposed to Full Materials



Notes: This figure shows the average fraction of correct answers submitted by receivers, who were exposed the 2-page materials (full materials that senders had) about the research article. “Full Materials Available” shows the accuracy of receivers in the Click-Knowledge Experiment, who clicked to read more about the article or were randomly assigned to read more about one article and had them available when answering questions. “Full Materials Recall” shows the accuracy of receivers who clicked to read more about the article or were randomly assigned to read more about one article in the Click-Knowledge-Recall Experiment, but did not have them available when answering questions, and had to answer based on recall. The figure shows the average knowledge over all questions under the “All” panel (left-most), the average knowledge for Finding questions in the “Finding” panel, for Sample questions in the “Sample” panel, for Methods questions in the “Methods” panel, and for Conclusion questions in the “Conclusion” panel (right-most). Detailed estimates shown in Online Appendix Tables E.12 and E.13. Error bars correspond to 95% confidence intervals.

Table E.12: Receiver Knowledge in Click-Knowledge Experiment - Materials Available

	(1)	(2)	(3)
	Likelihood of Correct Answer		
Clickbait-Incentives Summary	0.032*	0.029*	0.023
	(0.018)	(0.017)	(0.017)
Viral-Incentives Summary	-0.031	-0.029	-0.031*
	(0.019)	(0.019)	(0.018)
Click Choice Implemented	-0.008	-0.001	0.007
	(0.021)	(0.021)	(0.021)
Female receiver		0.061***	0.055***
		(0.019)	(0.018)
Age of receiver		-0.001	-0.001
		(0.001)	(0.001)
Social media user		-0.060*	-0.057*
		(0.036)	(0.033)
College education		0.005	0.004
		(0.018)	(0.018)
Time spent		0.000***	0.000***
		(0.000)	(0.000)
Constant	0.819***	0.845***	0.792***
	(0.020)	(0.052)	(0.052)
Receiver characteristics	No	Yes	Yes
Research Article FE	No	No	Yes
Observations	3,788	3,788	3,788
Nr. of receivers	610	610	610
Mean Correct with Info-Incentives Summaries	0.82	0.84	0.79
Mean correct with Clickbait-Incentives	0.85	0.87	0.81
Mean Correct with Viral-Incentives Summaries	0.79	0.82	0.76

Notes: This table displays the estimated coefficients from linear regressions on the likelihood that the receiver answers a question correctly in the Click-Knowledge Experiment for articles that the receiver chose to read more about (if *Click Choice Implemented* = 1) and for articles that the receiver was assigned to read more about (if *Click Choice Implemented* = 0). Receivers had 2-page materials available when answering the questions. Robust standard errors, clustered at the receiver level, in parentheses. * p<.10; ** p<.05; *** p<.01

Table E.13: Receiver Knowledge in Click-Knowledge-Recall Experiment - Materials Recalled

	(1)	(2)	(3)
	Likelihood of Correct Answer		
Clickbait-Incentives Summary	-0.037*	-0.040*	-0.036*
	(0.021)	(0.021)	(0.020)
Viral-Incentives Summary	-0.033	-0.028	-0.036*
	(0.022)	(0.021)	(0.020)
Click Choice Implemented	0.019	0.029	0.041
	(0.027)	(0.027)	(0.026)
Female receiver		0.028	0.035
		(0.023)	(0.022)
Age of receiver		0.002**	0.002**
		(0.001)	(0.001)
Social media user		-0.073	-0.068
		(0.044)	(0.043)
College education		0.013	0.019
		(0.021)	(0.021)
Time spent		0.000***	0.000***
		(0.000)	(0.000)
Constant	0.599***	0.525***	0.467***
	(0.026)	(0.061)	(0.060)
Receiver characteristics	No	Yes	Yes
Research Study and Order FE	No	No	Yes
Observations	4,320	4,320	4,320
Nr. of receivers	599	599	599
Mean Correct with Info-Incentives Summaries	0.60	0.53	0.47
Mean correct with Clickbait-Incentives	0.56	0.48	0.43
Mean Correct with Viral-Incentives Summaries	0.57	0.50	0.43

Notes: This table displays the estimated coefficients from linear regressions on the likelihood that the receiver answers a question correctly in the Click-Knowledge-Recall Experiment for articles that the receiver chose to read more about (if *Click Choice Implemented* = 1) and for articles that the receiver was assigned to read more about (if *Click Choice Implemented* = 0). Receivers did not have the 2-page materials available, but had to recall them, when answering the questions. Robust standard errors, clustered at the receiver level, in parentheses. * p<.10; ** p<.05; *** p<.01

E.3 Receiver Beliefs & Intentions

This section reports additional results of the Beliefs & Intentions experiment. Figure 8 in the main text focuses on the behavioral beliefs and intentions of participants. The regressions underlying those coefficients are shown in Table E.14.

Table E.14: Receiver Beliefs and Intentions

	(1) Encourage Others	(2) Believed Dr. Recommendation	(3) Own behavior	(4) Intentions Index
Clickbait-Incentives Summ.	0.153 (0.126) [0.082]	0.259** (0.122) [0.071]	0.253** (0.125) [0.071]	0.333*** (0.128) [0.010]
Viral-Incentives Summ.	0.148 (0.121) [0.500]	0.165 (0.123) [0.500]	0.071 (0.123) [0.500]	0.181 (0.121) [0.135]
Constant	-0.147 (0.096)	-0.248*** (0.094)	-0.040 (0.090)	-0.076 (0.091)
Observations	501	501	498	498

Notes: This table displays the estimated coefficients from linear regressions on the fraction of behaviors that the receiver would recommend a behavior to family and friends (column (1)), that the receivers believes are an official doctor recommendation (column(2)), their self-reported intention to change behavior (column(3)), and the intentions index (column (4)). All variables are standardized. The experimental design is described in detail in Section 2.2. Robust standard errors are shown in parentheses (HC3). * $p < .10$; ** $p < .05$; *** $p < .01$. Sharpened FDR q -values computed using the Anderson (2008) two-stage BKY procedure are shown in square brackets, adjusting across the three individual outcomes per treatment. The Intentions index was not preregistered and is reported separately and, by construction, the q -value is its p -value.

E.3.1 Pre-registered Analyses

The pre-registration (#165440) stated: “The key dependent variables are the accuracy of beliefs of participants when asked about whether five treatments are recommended by doctors for US adults and children; their recommended treatments to friends and family, their own explanations of behavior change, and their trust in media and science.”

The pre-registration stated “We will test whether messages that attract high attention and low knowledge lead to more mistakes about doctor recommendations, more self and other reported/recommended behavior changes, more trust in media and science, than messages that yield high knowledge and low/high attention; and whether messages that attract high attention and high knowledge lead to more mistakes about doctor recommendations, more self and other reported/recommended behavior changes, more trust in media and science, than messages that attract low attention and high knowledge.” The analyses in Table E.14 deviate from this statement, by pooling together summaries that generated low knowledge among receivers and summaries that generated high knowledge. The deviation, as explained in the main text, was due to the fact that there were no significant differences between them ($p\text{-val} > 0.05$) and the specification of Table E.14 aligns with the rest of the results in the main text.

Table E.15 below separates summaries by whether they yield high or low knowledge. The omitted category are summaries written with Info-Incentives, which yielded low attention,

but high knowledge. The results are broadly consistent with the findings in the main text and Table E.14.

Table E.15: Intentions and Beliefs

	(1) Encourage	(2) Believed Dr. Rec	(3) Own-behavior	(4) Trust scientists	(5) Trust media
Attention Incentives (Clickb./Viral) & High Knowledge	0.035 (0.028)	0.071** (0.033)	0.118** (0.058)	0.105 (0.069)	0.128* (0.076)
Attention Incentives (Clickb./Viral) & Low Knowledge	0.019 (0.027)	0.055* (0.033)	0.061 (0.057)	0.106 (0.069)	0.127* (0.074)
Viral-Incentives Summaries	-0.001 (0.024)	-0.026 (0.029)	-0.085 (0.052)	-0.001 (0.062)	-0.021 (0.067)
Constant	0.651*** (0.028)	0.449*** (0.031)	0.294*** (0.042)	3.140*** (0.061)	2.690*** (0.068)
Observations	2,505	2,505	498	501	501
Nr. of Receivers	501	501			

Notes: This table displays the estimated coefficients from linear regressions on: an indicator variable taking value 1 if the receiver recommends the behavior to others (column (1)), believes it is an official doctor recommendation column (2), intended own behavior change (column (3)). The table also displays average trust on scientists (column (4)), and on the media (column (5)), where trust ranges from 1 'Do not trust at all' to 4 'Trust completely'. The regressions include controls for the order of the questions (recomendations or beliefs about doctor recommendations) and whether the attention treatment was Viral-Incentives or not. Robust standard errors are shown in parentheses. * $p < .10$; ** $p < .05$; *** $p < .01$

E.3.2 Additional Results

We explore changes in beliefs about doctor recommendations for each behavior in Table E.16. We also explore whether there are features of summaries that explain beliefs about doctor recommendations or encouragement of others in Table E.17. As mentioned in the main text, in Table E.17, we show that summaries that contain incorrect implications are more likely to lead receivers to state the intention to encourage others to take on the corresponding behavior. Table E.18 tests whether trust of scientists and the media increases when receivers are exposed to summaries written with Clickbait- and Viral-Incentives.

Table E.16: Receiver Believed Recommendations by Behavior

	(1) Rocking to Sleep	(2) Diet & Insomnia	(3) Vegetables & Cancer	(4) Vit. A & Cancer	(5) Vaccines
Clickbait-Incentives	0.119** (0.060)	0.048 (0.059)	0.150*** (0.053)	0.032 (0.052)	0.004 (0.025)
Viral-Incentives	0.024 (0.061)	0.004 (0.060)	0.180*** (0.057)	0.021 (0.055)	-0.003 (0.024)
Constant	0.413*** (0.044)	0.599*** (0.044)	0.581*** (0.043)	0.698*** (0.040)	0.947*** (0.019)
Observations	501	501	501	501	501
Belief with Info-Incentives Summ.	0.50	0.61	0.62	0.72	0.96

Notes: This table displays the estimated coefficients from linear regressions on the likelihood that the receiver believes each behavior is an official doctor recommendation, for each behavior/topic (columns (1)-(5)). Info-Incentives refers to summaries written with Info-Incentives, and is the constant. Robust standard errors (HC3) shown in parentheses. The regressions include a fixed effect for the order of the questions about doctor recommendations (before or after the questions about encouraging others) and a fixed effect for summaries that yielded low knowledge among receivers. * $p < .10$; ** $p < .05$; *** $p < .01$

Table E.17: Receiver Encouragement to Others and Believed Recommendations

	(1)	(2)	(3)	(4)
	Encourage	Others	Believed Dr.	Recommendation
Clickbait-Incentives Summ.	0.080		0.159**	
	(0.073)		(0.076)	
Viral-Incentives Summ.	0.087		0.107	
	(0.070)		(0.078)	
Low Knowledge Summ.	-0.042		-0.036	
	(0.061)		(0.068)	
Incorrect implication in summary		0.124**		0.027
		(0.054)		(0.054)
Style Index of summary		-0.021		0.016
		(0.032)		(0.031)
Accuracy Index of summary		0.052*		-0.006
		(0.030)		(0.029)
Focus Index of summary		-0.031		0.008
		(0.026)		(0.025)
Female receiver	0.009	0.003	-0.086	-0.091
	(0.052)	(0.052)	(0.057)	(0.056)
Age of receiver	-0.000	-0.001	-0.003	-0.004*
	(0.002)	(0.002)	(0.002)	(0.002)
Social media user	0.176	0.176	0.192	0.209
	(0.141)	(0.141)	(0.138)	(0.142)
College education	-0.004	0.004	-0.015	-0.005
	(0.053)	(0.052)	(0.056)	(0.056)
Constant	-0.514***	-0.524***	-0.631***	-0.662***
	(0.181)	(0.181)	(0.182)	(0.185)
Observations	2,505	2,505	2,505	2,505
Nr. of Receivers	501	501	501	501

Notes: This table displays the estimated coefficients from linear regressions on the likelihood that the receiver would recommend a behavior to their family and friends for 5 different behaviors (columns (1)-(2)), and they would believe it is an official doctor recommendation for five different behaviors (columns (3)-(4)). The following features of the summaries they are presented are included: Incorrect implication, and Accuracy, Style and Focus indices of each summary they read (since they were asked beliefs about vaccines after seeing two summaries about vaccine research, the average values for the two summaries are used in that case). Fixed effects for each behavior are included. Standard errors are clustered at the individual level in columns (1) and (2), shown in parentheses. * $p < .10$; ** $p < .05$; *** $p < .01$

Table E.18: Receiver Trust in Science and Media

	(1)	(2)
	Trust scientists	Trust the media
Clickbait-Incentives Summ.	0.187 (0.121)	0.207* (0.124)
Viral-Incentives Summ.	0.184 (0.124)	0.173 (0.125)
Low Knowledge Summ.	0.001 (0.109)	-0.001 (0.109)
Exposure to materials first	0.064 (0.090)	-0.071 (0.091)
Constant	-0.159* (0.095)	-0.088 (0.097)
Observations	501	501
Fraction who trust completely	0.28	0.06

Notes: This table displays the estimated coefficients from linear regressions on the trust receivers place on scientists and on the media, standardized. Receivers were also asked about their trust in media and scientists ('How much do you trust scientists?' and 'How much do you trust science that you read about in news articles and on social media?'), on a scale 1 to 4 (from 'Do not trust at all' to 'Trust completely'). Receiver trust was measured before or after they were exposed to 2-page materials about the research, captured in the indicator variable 'Exposure to materials first.' Robust (HC3) standard errors are shown in parentheses. * p<.10; ** p<.05; *** p<.01

E.4 Heterogeneity in Click Rates and Knowledge

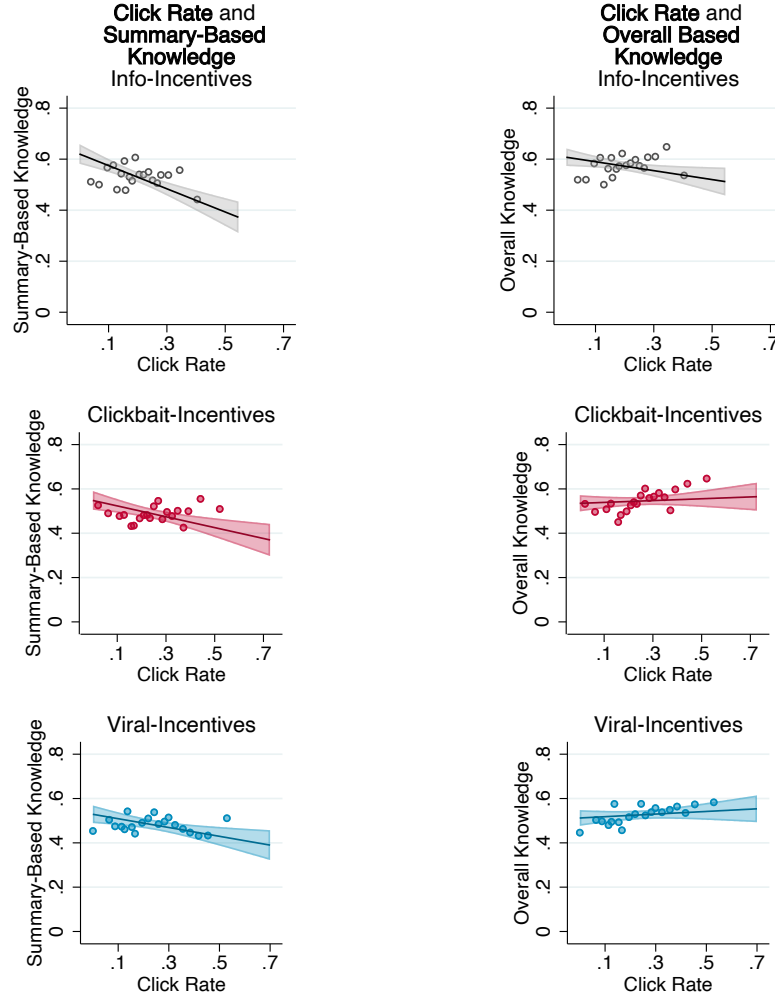
Table E.19 shows the regression analyses on the relationship between click rates and knowledge, shown in Figure 9 in the main text. Figure E.2 shows these figures separately by sender incentives.

Table E.19: Relationship between Clicks and Knowledge

	(1)	(2)	(3)	(4)
	Likelihood of Correct Answer			
	Summary-Based		Overall	
Click Rate	-0.178*** (0.030)	-0.359*** (0.059)	0.056** (0.024)	-0.095* (0.051)
Information Recalled	-0.046*** (0.007)	-0.045*** (0.007)	-0.078*** (0.006)	-0.077*** (0.006)
Clickbait-Incentives Summary	-0.036** (0.016)	-0.075*** (0.023)	-0.031** (0.014)	-0.075*** (0.021)
Viral-Incentives Summary	-0.041*** (0.016)	-0.093*** (0.022)	-0.049*** (0.014)	-0.083*** (0.022)
Clickbait-Inc Summary X Click Rate		0.196** (0.078)		0.211*** (0.063)
Viral-Inc Summary X Click Rate		0.249*** (0.074)		0.165*** (0.063)
Constant	0.589*** (0.013)	0.624*** (0.017)	0.601*** (0.011)	0.630*** (0.016)
Observations	1,184	1,184	1,190	1,190
Coefficients:				
<i>Click Rate+Clickbait-Inc Summary X Click Rate</i> (<i>p-value</i>)		-0.162 0.001		0.115 0.002
<i>Click Rate+Viral-Inc Summary X Click Rate</i> (<i>p-value</i>)		-0.109 0.015		0.070 0.056

Notes: This table displays the estimated coefficients from linear regressions on receiver knowledge based on summaries (columns (1)-(2)) and overall (columns (3)-(4)). Click rate is the frequency with which receivers clicked on the summaries in the Click-Knowledge and Click-Knowledge-Recall experiments. Information recalled is an indicator variable for whether receivers had to recall the summary or 2-page materials (*Information Recalled* = 1) or had them available when answering the knowledge questions (*Information Recalled* = 0). Robust standard errors in parentheses, clustered at the message level. * $p < .10$; ** $p < .05$; *** $p < .01$

Figure E.2: Receiver Knowledge and Click Rate, by Sender Incentives



Notes: The left column of plots in this figure shows the average click rate on each message (x-axis) and receiver knowledge when receivers are exposed to the summary (y-axis) pooling all Sender Incentive treatments. Receiver knowledge is an average of the fraction of correct answers when receivers have the summary available to answer the questions and when they must recall it. Each dot represents a demi-decile of the distribution. The right column of this figure shows the average click rate (x-axis) and the overall receiver knowledge, accounting for the knowledge gained by those who click and access 2-page summary materials about the research. Receiver knowledge is an average of the fraction of correct answers when receivers have the information (summary or 2-page materials) available and when they must recall it. The two top panels show results for summaries written with Info-Incentives, the two middle panels show results for Clickbait-Incentives and the two bottom panels show results for Viral-Incentives.

Table E.20 shows the estimated relationships between summary features in terms of accuracy, focus, and style, and the resulting knowledge of receivers (fraction of correct answers in column (1) and above-median performance in knowledge in column (2)) clicks, (click rate in column (3) and above-median click rate in column (4)), and above-median knowledge and click rate simultaneously (column (5)). Summaries that include Accurate-In text information (higher accuracy index) are associated with more knowledge among receivers, but attract fewer clicks. By contrast, summaries with an attractive writing style (higher style index) are associated with less knowledge. Above-median knowledge and clicks is difficult to predict (with an R^2 of 0.09). The indices for accuracy, focus and style do not show a clear linear relationship with above-median knowledge and clicks.

Table E.20: Predictors of Knowledge and Attention

	(1)	(2)	(3)	(4)	(5)
		Information & Attention			
	Knowledge	Above Median Knowledge	Clicks	Above Median Clicks	Above Median Knowledge & Clicks
Accuracy Index	0.006 (0.005)	0.026 (0.016)	-0.013** (0.006)	-0.017 (0.017)	0.007 (0.015)
Focus Index	0.015*** (0.005)	0.035** (0.014)	-0.002 (0.006)	0.002 (0.016)	0.023 (0.014)
Style Index	-0.031*** (0.006)	-0.053*** (0.016)	0.022*** (0.007)	0.045** (0.020)	-0.006 (0.015)
Click incentives	-0.019 (0.013)	0.004 (0.035)	0.037*** (0.012)	0.098** (0.040)	0.065** (0.032)
Viral incentives	-0.012 (0.014)	0.004 (0.037)	0.026* (0.014)	0.050 (0.041)	0.090*** (0.032)
Information Recalled	-0.053*** (0.007)	-0.002 (0.026)	0.041*** (0.010)	0.013 (0.026)	0.004 (0.021)
Constant	0.364*** (0.013)	0.128*** (0.039)	0.346*** (0.018)	0.797*** (0.043)	0.053 (0.034)
Observations	1,184	1,184	1,190	1,190	1,184
R-Squared	0.45	0.29	0.21	0.15	0.09
Article FE	Yes	Yes	Yes	Yes	Yes

Notes: This table displays coefficients from linear regressions. The variable Knowledge is the average frequency of correct responses to knowledge questions for each summary, both for summaries available and recalled, and the variable Clicks is the click rate. The variables Above Median Knowledge and Clicks are indicator variables that take value 1 if Knowledge and Clicks are above median, respectively. Each indicator is calculated within the same condition (for summaries available and recalled separately). The variable High Knowledge & High Clicks is an indicator that takes value 1 if the message has an above median Knowledge value and an above median click rate. There are 1,190 (= 595 × 2) observations for clicks. Due to random implementation, not all summaries were observed by receivers in the Click-Knowledge-Recall experiment, resulting in 1,184 (= 595 + 589) being observed. All regressions include an control indicator variable for whether summaries were available or recalled. Robust standard errors at the sender level shown in parentheses.

E.5 Sharing Beliefs: Experimental Evidence

E.5.1 Experimental Design

As mentioned in the main text, we also conducted a Sharing experiment. The Sharing experiment measures receivers’ beliefs about which summaries will be shared most frequently on social media. After reading eight summaries, their task was to select which one would be shared most often if posted on social media. They received a bonus of \$1 if they selected the summary that was believed by most other participants to be shared on social media. The incentive acts as a coordination game, and a concern may be that receivers’ beliefs do not reflect their own beliefs. In a robustness experiment, we removed the incentives and the results remain qualitatively similar, as reported in Online Appendix Section E.5.5. As in the Click-Knowledge experiment, receivers were exposed to one of two conditions, which combined summaries from the Information and Clickbait-Incentives treatment or the Information and Viral-Incentives treatment.

A disadvantage of this design is that it does not measure actual sharing behavior, but beliefs about sharing. Cleanly measuring the sharing of summaries created by senders on a social media platform is challenging because actual sharing decisions on these platforms are a mixture of exposure, which is controlled by the platform, and user decisions. Additionally, since some summaries contained incomplete information that could be misleading, only a subset of summaries could ethically be posted, potentially biasing the resulting sharing.

The Sharing experiment was conducted in two waves. The first wave included 262 participants to be exposed to summaries written by professionals (by human error this number was smaller than the 300 pre-registered, # 134042) and the second wave included 349 participants (as part of pre-registration #170901). The effect of sender’s incentives on sharing choices do not vary by wave (p -value= 0.802 and p -value= 0.241 for Viral- and Clickbait-Incentives respectively) and hence we report results for pooled sharing choices in what follows. An additional 267 participants completed this experiment and were exposed to summaries written by an LLM.

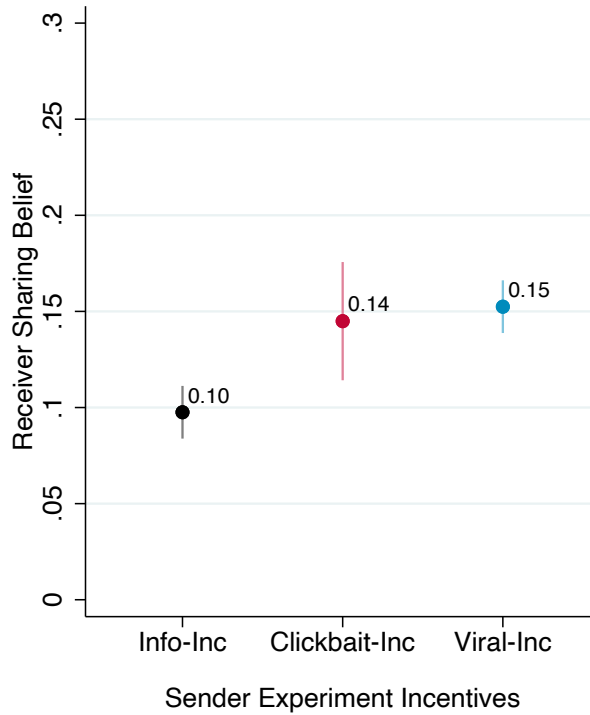
E.5.2 Main Results

Summaries written by professionals under Viral incentives are the most likely to be selected as those that would be broadly shared as shown in Figure E.3. Compared to summaries written with Info-incentive, which are selected 10% of the time, summaries written with Viral-Incentives are selected 15% of the time, significantly more often (p -value < 0.01). Summaries written with Clickbait-Incentives are also more likely to be selected (p -value= 0.001).

E.5.3 Sharing and Knowledge

Estimating sharing rates (virality) online is difficult for most people. For that reason, in the Sharing experiment we elicit receivers’ beliefs about which summary among a set of 8 summaries would most likely be shared online. Here we discuss how we can use the elicited beliefs to provide an estimate of how much knowledge would spread through sharing. While with click rates we estimate overall knowledge as a weighted average of the knowledge of those who click and learn more about the research and those who do not, for sharing we

Figure E.3: Receiver Beliefs About Sharing



Notes: This figure shows the fraction of summaries, by sender incentives, selected as the most shared. The average is calculated using a regression that controls for the summary group seen by the receiver (either Information-Click, or Information-Viral). 95% confidence intervals are calculated using standard errors clustered at the receiver level. Hence, if their beliefs were independent of incentives, the belief about the most shared summary would be 12.5% ($N = 611$).





estimate what rate of sharing would be needed to overcome the losses in knowledge due to the less informative summaries created with Viral incentives.

We provide an estimate that is only valid when comparing across treatments, and not in its levels. We approximate the overall knowledge after sharing (K_s) as follows. For each summary, we use the frequency with which the summary was selected as most likely to be shared as the “sharing rate” r_s . An individual is able to share a summary with a group of N individuals, at the sharing rate. Then, these new receivers can choose to click on it. This means that K_s is the result of the knowledge after clicking both for the individual exposed to it and for those with whom they share the summary. We thus define $K_s = K_c + Nr_s K_c$. With Viral-Incentives, we ask what N makes the overall information between senders with Info-Incentives and senders with Viral-Incentives the same (to compensate for the lower information in the summary itself with Viral-Incentives), without an explicit hypothesis.

Using the behavior in the Sharing and in the Knowledge experiments, we compare the overall knowledge of receivers in two scenarios. A first, baseline scenario does not have sharing with others. This scenario yields the same overall knowledge as that based on clicks only. As the first row of Table E.21 shows, overall knowledge is highest under Info-Incentives. In the second scenario, we allow sharing. If the sender shares, other individuals are exposed

to the shared summary and may click on it. To calculate the knowledge combined with sharing, we use K_s , as defined above. For example, if a message leads to an K_c of 60%, and the sharing rate is 15% with a group of 2 individuals, who then may click on the summary themselves: $K_s = 0.6 + 2 \cdot 0.15 \cdot 0.60 = 0.78$. The second row in Table E.21 assumes the group size is 2. It shows the average overall knowledge with sharing, calculated at the message level, when the group is of size 2. Viral-Incentives lead to the same K_s as Information incentives. Hence, if the group of individuals with whom sharing occurs is 2 or larger, and the sharing rate is 15% with Viral-Incentives, messages written with Viral-Incentives would lead to the same knowledge ($K_s = 0.78$) as messages written with Information incentives, which have lower sharing rates (10%).

Table E.21: Receiver Knowledge with Sharing

	(1)	(2)	(3)
	Info-Inc.	Clickbait-Inc.	Viral-Inc.
 - no sharing- 	0.63	0.61	0.58
 - sharing- 	0.78	0.79	0.78

This table shows the average fraction of correct responses in two cases. The first scenario, no sharing, assumes only one individual is exposed to the message, and others have no knowledge about the research. The second scenario, sharing, assumes the individual shares each message with the sharing frequency of the sharing treatment. $K_s = K_c + Nr_s K_c$. Individuals receiving the message via sharing click on the message with the same rate as the first individual exposed to the message. The averages are calculated at the message level.

E.5.4 Sharing Experiment Instructions

The experiment was conducted on Qualtrics. After participants consented to participate in the study, they saw the following screens. Across participants, the summaries they were exposed to were either from the Information and Clickbait-Incentives treatments or the Information and Viral-Incentives treatments. The summaries were shown in random order.

This Study

In the following you will be shown 8 summaries about different research studies.

Each summary is based on a detailed 2-page summary of the study.

Your Task

In the following screen, you will be asked to complete the following steps:

- **Read 8 summaries** about different research studies.
- Choose the summary that you **believe would be shared most often if posted on social media**. By “shared” we mean receive likes or shares, on a social media platform, such as Twitter.

If the summary you choose is the one chosen most often by other participants in your role, you will earn a bonus of \$1.

Comprehension Question: Which of the following is correct?

Please re-read the instructions above. You will have 2 opportunities to answer this question correctly.

My task is...

- ...to choose the summary about a research study that would be shared the most if posted on social media.
- ...to choose the summary about a research study that I would like to correct and edit.
- ...to choose the summary about a research study that will be rated highest by another participant.

Comprehension Question: Which of the following is correct?

Please re-read the instructions above. You will have 2 opportunities to answer this question correctly.

- I earn a bonus of \$1 if my rating is the same as that of another participant.
- I earn a bonus of \$1 if I choose the summary that is chosen most often by other participants in my role.
- I earn a bonus of \$1 if I correctly edit the summary that I choose.

E.5.5 Sharing Beliefs: Robustness Experiment

We conducted an additional experiment in which beliefs about sharing were elicited using a different experimental design. The results are qualitatively similar to those in the main Sharing experiment, as detailed below.

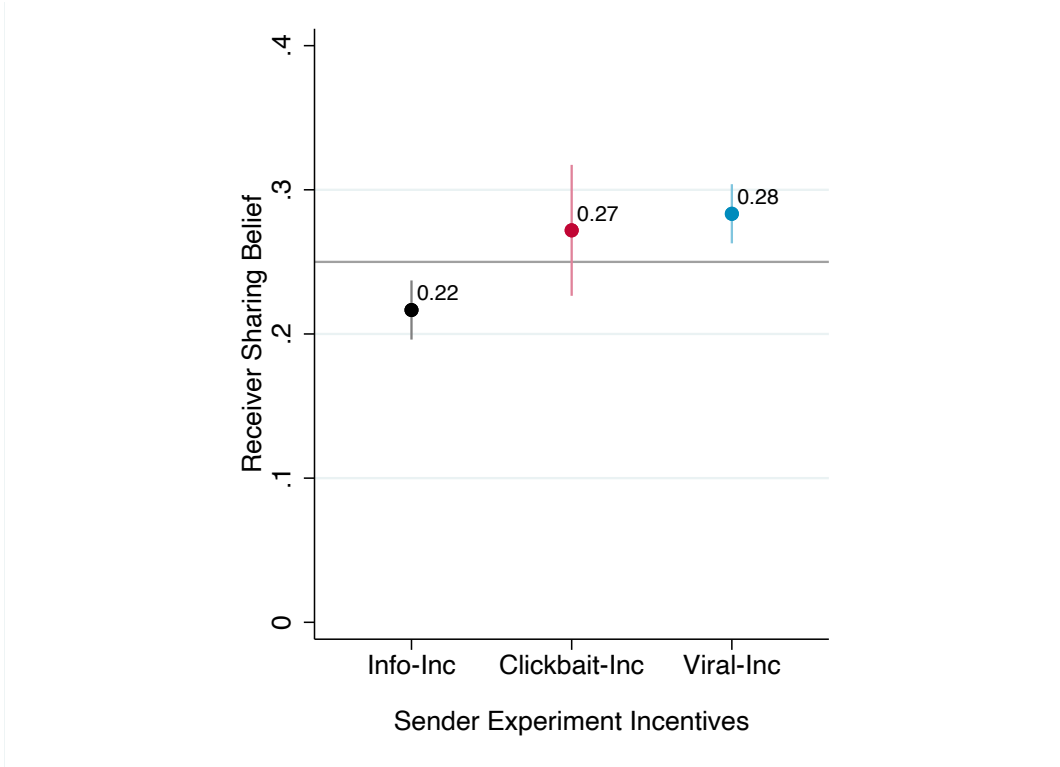
Design: In this experiment, receivers were shown 4 summaries about the same research article. They were asked to select one summary as the one that they believed would be shared most frequently on social media. This question was unincentivized. As in the Sharing experiment, the receiver was assigned to one of two conditions. In one condition, they saw two summaries written under Information incentives and two summaries written under Clickbait-Incentives. In the other condition, they saw two summaries written under Information incentives and two summaries written under Viral-Incentives. The main differences from the Sharing experiment, in addition to the incentives, are that in this experiment receivers reported their belief about sharing eight times, once for each research article. By contrast, in the Sharing experiment the receiver chose one summary about one research article, out of 8 summaries about 8 different research articles. Hence, when the receiver chooses which

article would be most shared, in this robustness experiment the research article is held fix, and how it is described varies.

The experiment was pre-registered on Aspredicted (#130993). There were 198 subjects who completed the study and were exposed to summaries written by professionals. An additional 206 completed the study and were exposed to summaries written an LLM.

Results: Figure E.4 shows that receivers selected summaries as most shared 21% of the time if the summary was written by professionals under Info-Incentives, 28% of the time if the summary was written under Clickbait-Incentives, and 27% of the time if the summary was written under Viral-Incentives. Both Clickbait- and Viral-Incentives significantly increased the likelihood of sharing, according to receivers (t -test, $p < 0.01$ in both cases). These results are in line with the increased sharing beliefs in the Sharing experiment.

Figure E.4: Beliefs About Sharing



Notes: This figure shows the fraction of summaries, by sender incentives, selected as the most shared. The average is calculated using a regression that controls for the summary group seen by the receiver (either Information-Clickbait or Information-Viral). 95% confidence intervals are calculated using standard errors clustered at the receiver level. For each research article, receivers saw 4 summaries and they could choose 1 out of 4 as the one that would be most broadly shared on social media. Hence, if their beliefs were independent of incentives, the belief about the most shared summary would be 25% for each summary, indicated by the gray line ($N = 198$).

Focusing on messages written by the LLM, we obtain similar results. Receivers selected summaries as most shared 18% of the time if the summary was written by an LLM with Information incentives. By contrast, summaries written with Click and Viral-Incentives were selected 31% and 32% of the time (t -test, $p < 0.01$ in both cases).

E.6 Donation Decisions: Experimental Evidence

E.6.1 Experimental Design

This experiment measures how incentives to grab online attention may affect receivers’ support for policy causes, measured through their willingness to donate to causes related to vaccination and climate. Exposing participants to a summary and asking them to donate to the cause right away could raise concerns about experimenter demand effects. To reduce these concerns, the experiment consisted of two parts. First, participants were exposed to 8 summaries, one about each research article. To ensure they read the summaries and engaged with them, they were asked to read each summary and write one sentence summarizing what they read.

After the first part was completed, participants made two donation decisions. In each decision, the participant chose between receiving \$0.25 or donating \$1, to the Wildlife Conservation Society in one decision and the Measles & Rubella Partnership in the other. One decision was randomly selected and implemented.

We pre-registered the experiment (Aspredicted.org #132998). In total, there were 303 participants exposed to summaries written by freelancers, of whom 299 provided complete responses (4 participants did not answer both donation questions). Additionally, 202 participants were exposed to summaries written by the LLM. We first present results for summaries written by freelancers, and then describe those in response to summaries written by the LLM.

E.6.2 Results

On average, 33% of receivers donate to a climate cause after they are exposed to summaries written under Information incentives, 38% of receivers under Clickbait-Incentives, and 42% under Viral-Incentives. Similarly, 25% of receivers donate to support vaccines after they are exposed to summaries written under Information incentives, 33% under Clickbait-Incentives, and 29% under Viral-Incentives. Table E.22 shows regression results for the donation decisions of receivers. Columns (2) and (4) add receiver characteristics (age, gender, and social media use). Although the coefficients are positive, we do not detect statistically significant effects of Clickbait- and Viral-Incentives, potentially due to the limited sample size and the moderate effects, of 4-7pp.

When receivers are exposed to summaries written by a LLM ($N = 202$), 38% of receivers donate to a climate cause after they are exposed to summaries written under Info-Incentives, 41% of receivers under Clickbait-Incentives, and 37% under Viral-Incentives. Similarly, 27% of receivers donate to support vaccines after they are exposed to summaries written under Information incentives, 36% under Clickbait-Incentives, and 27% under Viral-Incentives.

Table E.22: Support of Vaccines and Climate Protection: Donations

	(1)	(2)	(3)	(4)
	Climate Donation		Vaccine Donation	
Clickbait-Incentives Summary	0.044 (0.068)	0.016 (0.068)	0.072 (0.065)	0.045 (0.065)
Viral-Incentives Summary	0.091 (0.069)	0.086 (0.069)	0.038 (0.064)	0.034 (0.064)
Female receiver		0.085 (0.058)		0.057 (0.055)
Age of receiver		0.005** (0.002)		0.006*** (0.002)
Social media user		-0.193 (0.118)		-0.146 (0.121)
College education		-0.063 (0.057)		0.005 (0.053)
Constant	0.333*** (0.047)	0.310* (0.166)	0.255*** (0.044)	0.121 (0.159)
Observations	299	299	299	299
Info-Inc.: Predicted Donation Prob.	0.33	0.31	0.25	0.12
Clickbait-Inc.: Predicted Donation Prob.	0.38	0.33	0.33	0.17
Viral-Inc.: Predicted Donation Prob.	0.42	0.40	0.29	0.15

Notes: This table displays the estimated coefficients from linear regressions on the likelihood that the receiver makes a donation. The two nonprofit organizations were the Wildlife Conservation Society (Climate Donation), and the Measles&Rubella Project (Vaccine Donation). Columns (2)-(4) include receiver age and an indicator for those identifying as female, and as social media users. Each receiver made two donation decisions. Robust (HC3) standard errors are shown in parentheses. * p<.10; ** p<.05; *** p<.01

F LLM: Details and Additional Results

F.1 LLM as Sender

LLMs can be used to summarize information like professionals. We generated summaries of the research articles. We prompted GPT about its understanding of the instructions by treatment, and its responses demonstrate it correctly interpreted the task (as we show in the instructions and its understanding responses below). The LLM supplied 360 summaries (15 for each article in each treatment, without providing it feedback or training) that serve two purposes. First, to examine how an LLM responds to the goal of grabbing attention. Second, to compare its summaries to those sent by professionals. Professionals could have used GPT, which would also be informative as to how they generate summaries about research findings. The findings in Section 3.3 suggest that this behavior was unlikely.

While GPT reduces the costs of producing content, it can also be used maliciously (e.g., Goldstein et al., 2023, Kapoor and Narayanan, 2023). Given that the LLM was asked to create content summarizing the materials it was provided about the research articles, it is unlikely that it would misrepresent the research. But the LLM could select any part of the materials to report about and provide different information depending on its objective.

F.1.1 GPT: Implementation and Instructions

Summaries were elicited from GPT between February and early March of 2023, based on the GPT-3.5 generation of this LLM. For each article and each treatment in the Sender Experiment, the same request was made to the model, without corrections or feedback. The aim was to explore what kinds of summaries the model generates without training or corrections, which would have been different between treatments and would have generated additional differences between treatments that are not present within the Fiverr setting with professional (human) senders.

The request to GPT was worded as follows:

- In the Information treatment: “Write 1 headline and 3 sentences that are informative about the following text:”
- In the Viral treatment: “Write 1 headline and 3 sentences that will be shared on social media about the following text:”
- In the Click treatment: “Write 1 headline and 3 sentences that will interest readers in reading more about the following text:”

After the colons, the request included the same materials provided to professionals on Fiverr, a 1-2 page summary of the research article, including its abstract and press release.

Prior to eliciting all the summaries, to ensure that the instructions were understood by GPT as intended through the treatment variation, we asked the LLM the following questions, and obtained the answers shown below.

Question Asked to GPT: When you write text that is informative, what features does it have?

Answer: *When writing informative text, there are several features that are important to include in order to effectively convey information to the reader:*

1. *Clarity: The text should be clear and concise, using language and terms that are easily understood by the intended audience.*
2. *Objectivity: The text should present information in a factual and objective manner, without personal bias or opinions.*
3. *Organization: The text should be well-organized and structured, with clear headings and subheadings to help readers navigate the information.*
4. *Evidence: The text should be supported by evidence, such as research, data, or examples, to back up the information presented.*
5. *Citations: Any sources used should be properly cited to give credit to the original authors and to allow readers to further explore the information presented.*
6. *Tone: The tone should be appropriate to the subject matter, balancing seriousness with accessibility to keep readers engaged.*
7. *Conclusion: The text should have a clear and concise conclusion that summarizes the key points and provides a final takeaway for the reader.*

Question Asked to GPT: When you write text that will be shared on social media, what features does it have?

Answer: *When writing text that will be shared on social media, there are a few key features to consider:*

1. *Attention-grabbing headline: The headline should be short, catchy, and attention-grabbing to make people want to click and read more.*
2. *Brief and concise: The text should be short, sweet, and to the point, as social media users tend to scroll through their feeds quickly.*
3. *Engaging and shareable: The content should be relatable, informative, and/or entertaining, so that users are more likely to engage with it and share it with their followers.*
4. *Visual content: Visual content such as images, videos, or infographics can help to make your post more engaging and shareable.*
5. *Relevant hashtags: Including relevant hashtags can help your post to reach a wider audience and increase engagement.*
6. *Call to action: A clear call to action, such as "Learn more," "Shop now," or "Share with your friends," can encourage users to take action and engage with your content.*

Question Asked to GPT: When you write text that will interest readers in reading more, what features does it have?

Answer: *When writing text that aims to interest readers in reading more, it should have the following features:*

1. *Attention-grabbing headline: The headline should be interesting and attention-grabbing, so that the reader is immediately drawn to the article or piece of content.*
2. *Clear and concise introduction: The introduction should be concise and to the point, clearly summarizing what the article is about and why the reader should care.*
3. *Relevant and engaging content: The content should be relevant to the headline and introduction, and should be written in an engaging and easy-to-read style that keeps the reader interested.*
4. *Use of visuals: The use of visuals, such as images, videos, or infographics, can help to make the content more engaging and interesting to readers.*
5. *Strong conclusion: The conclusion should provide a clear takeaway message for the reader, summarizing the main points of the article and leaving the reader with something to think about or act upon.*
6. *Call-to-action: A call-to-action can be included to encourage the reader to take action, whether that's reading more content, subscribing to a newsletter, or making a purchase.*

This section reports the results of the Sender experiment, when the sender was an LLM (GPT) instead of professionals. Tables F.1, F.2, F.3 show the impact on accuracy, focus, and writing style depending on the treatment that GPT was instructed to follow (Clickbait-Incentives or Viral-Incentives, compared to Info-Incentives).

Table F.1: Incentive Effects on Accuracy

	(1)	(2)	(3)
	Accuracy of Units:		
	Accurate-In text	Inaccurate-In text	Not in text
Clickbait-Incentives	-0.333** (0.165) [0.155]	0.058 (0.053) [0.218]	0.075 (0.049) [0.155]
Viral-Incentives	-0.608*** (0.157) [0.001]	0.092* (0.055) [0.104]	0.025 (0.043) [0.231]
Constant	5.781*** (0.262)	0.417*** (0.106)	0.500*** (0.118)
Observations	360	360	360
Info-Incentives: Mean	5.183	0.150	0.083
Info-Incentives: SD	1.539	0.381	0.306

Notes: This table presents average marginal effects from linear regression on the accuracy of GPT's summaries. Each unit was classified as Accurate-In text, Inaccurate-In text, or Not in text. The number of units of each type is the dependent variable in each column. Robust standard errors (HC3) are reported in parentheses. * p<.10; ** p<.05; *** p<.01.

Table F.2: Incentive Effects on Summary Focus

	(1)	(2)	(3)	(4)
	Introduction	Method	Finding	Conclusion
Clickbait-Incentives	0.308*** (0.087) [0.002]	-0.133** (0.060) [0.020]	-0.292*** (0.104) [0.009]	-0.083 (0.100) [0.113]
Viral-Incentives	0.200*** (0.075) [0.006]	-0.192*** (0.057) [0.002]	-0.467*** (0.097) [0.001]	-0.033 (0.106) [0.232]
Constant	0.608*** (0.132)	0.464*** (0.080)	4.408*** (0.160)	1.217*** (0.141)
Observations	360	360	360	360
Info-Incentives: Mean	0.400	0.642	2.942	1.433
Info-Incentives: SD	0.600	0.547	0.998	0.923

Notes: This table presents average marginal effects from linear regression on the focus of the units in GPT’s summaries. Each unit was classified into Introduction, Method, Finding, and Conclusion. No units were classified as Call to Action. For each type, the number of units is the dependent variable in columns (1)-(4). Robust standard errors (HC3) are reported in parentheses. * p<.10; ** p<.05; *** p<.01.

Table F.3: Incentive Effects on Sender Style

	(1)	(2)	(3)	(4)	(5)
	Length	Nr. of units	Sentiment	Punctuation	Readability
Clickbait-Incentives	-12.183*** (3.332) [0.002]	-0.200 (0.154) [0.242]	0.059 (0.070) [0.429]	-0.000 (0.013) [0.667]	3.084*** (1.121) [0.013]
Viral-Incentives	-19.458*** (3.337) [0.001]	-0.492*** (0.149) [0.003]	-0.008 (0.053) [0.213]	0.075*** (0.026) [0.005]	2.984*** (1.106) [0.006]
Constant	121.814*** (4.681)	6.697*** (0.261)	1.784*** (0.128)	-0.025** (0.012)	21.613*** (1.311)
Observations	360	360	360	360	360
Info-Incentives: Mean	118.04	5.42	-0.02	0.01	18.99
Info-Incentives: SD	34.22	1.56	0.92	0.09	11.28

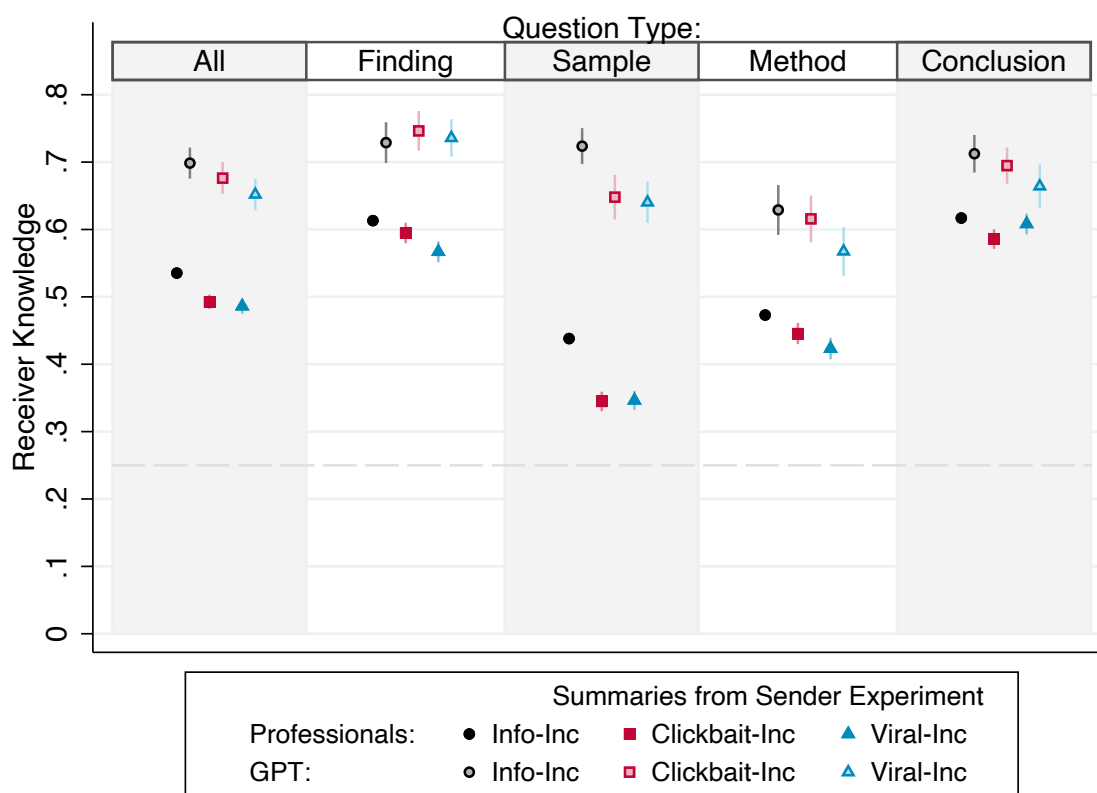
Notes: This table displays the estimated average marginal effects from linear regressions on length, unit count, readability, sentiment and punctuation. We show the estimated average marginal effects for length (measured as the number of words, column (1)), number of units (column (2)) sentiment (measured as the standardized sentiment score, column (3)), punctuation (an indicator if the summary uses question marks, exclamation marks, ellipsis, hashtags or icons, column (4)) and readability (measured as the Flesch reading ease score, column (5)). Robust standard errors (HC3) are reported in parentheses. * p<.10; ** p<.05; *** p<.01.

F.1.2 Impact of LLM-sourced Summaries on Receivers

This section reports the results of the Knowledge experiment, when the summaries were written by an LLM (GPT) instead of professionals (pre-registrations #126898 and #129097).

Figure F.1 shows the differences in knowledge by treatment, depending on whether senders were professionals or GPT. The losses in knowledge are in the same dimensions with an LLM as sender as with professionals. In the Clickbait-Incentives treatment, receivers are significantly (10pp) less likely to answer questions about the sample correctly. In the Viral-Incentives treatment, receivers are also 10pp less likely to answer questions about the sample correctly, 9pp less likely to answer questions about the methods correctly, and 7 pp less likely to answer questions about the conclusion correctly (all p -value < 0.001).

Figure F.1: Receiver Knowledge After Summaries by Professionals and LLM



Notes: This figure shows the average fraction of correct answers submitted by receivers, who were only exposed to summaries about the research article either as submitted by Professionals or by GPT. In all cases receivers had the summaries available while answering the questions. Detailed regression estimates shown in Online Appendix Tables E.5 and F.4. Error bars correspond to 95% confidence intervals.

Tables F.4 and F.5 show the estimated impact of summaries written under different instructions on the knowledge of receivers when answering knowledge questions, with summaries available. The effects by topic and article are shown in Table F.6. Table F.7 shows the difference in click rates for summaries written under different instructions. The effects by topic and article are shown in Table F.8.

Table F.4: LLM Sender - Receiver Knowledge - Summary Available

	(1)	(2)	(3)
	Likelihood of Correct Answer		
Clickbait-Incentives Summary	-0.016 (0.018)	-0.015 (0.018)	-0.016 (0.018)
Viral-Incentives Summary	-0.047** (0.018)	-0.048*** (0.018)	-0.048*** (0.018)
Female receiver		0.054*** (0.015)	0.053*** (0.015)
Age of receiver		-0.001* (0.001)	-0.001* (0.001)
Social media user		0.000 (0.022)	0.000 (0.022)
College education		0.030** (0.014)	0.030** (0.014)
Time spent		-0.000** (0.000)	-0.000 (0.000)
Constant	0.678*** (0.013)	0.683*** (0.032)	0.483*** (0.035)
Receiver characteristics	No	Yes	Yes
Research Article and Order FE	No	No	Yes
Observations	11,520	11,520	11,520
Nr. of receivers	360	360	360
Mean Correct with Info-Incentives Summaries	0.68	0.68	0.48
Mean correct with Clickbait-Incentives	0.66	0.67	0.47
Mean Correct with Viral-Incentives Summaries	0.63	0.63	0.44

Notes: This table displays the estimated coefficients from linear regressions on the likelihood that the receiver answers a question correctly in the Knowledge Experiment when exposed to summaries written by GPT. Receivers had the summary available when answering the questions. Each receiver answered 32 questions, 4 for each research study. The regressions pool all questions together. Receiver characteristics include whether the receiver identifies as female, their reported age, whether they indicate they use at least one social media platform, that they have at least a 4-year college education and time spent answering the question. Robust standard errors, clustered at the receiver level, in parentheses. * p<.10; ** p<.05; *** p<.01

Table F.5: LLM Sender - Receiver Knowledge - Summary Available

	(1)	(2)	(3)
	Likelihood of Correct Answer		
Clickbait-Incentives Summary	0.024 (0.024)	0.028 (0.024)	0.027 (0.023)
Viral-Incentives Summary	0.019 (0.023)	0.016 (0.023)	0.016 (0.023)
Sample Question	-0.032* (0.019)	-0.049** (0.019)	-0.044** (0.019)
Method Question	-0.118*** (0.018)	-0.135*** (0.019)	-0.130*** (0.019)
Conclusion Question	-0.030* (0.018)	-0.046** (0.019)	-0.042** (0.019)
Clickbait-Incentives Summary X Sample Question	-0.096*** (0.026)	-0.099*** (0.026)	-0.098*** (0.026)
Clickbait-Incentives Summary X Method Question	-0.033 (0.025)	-0.037 (0.025)	-0.036 (0.025)
Clickbait-Incentives Summary X Conclusion Question	-0.029 (0.023)	-0.033 (0.023)	-0.032 (0.023)
Viral-Incentives Summary X Sample Question	-0.102*** (0.025)	-0.097*** (0.025)	-0.098*** (0.025)
Viral-Incentives Summary X Method Question	-0.092*** (0.027)	-0.092*** (0.027)	-0.092*** (0.027)
Viral-Incentives Summary X Conclusion Question	-0.069*** (0.026)	-0.068*** (0.026)	-0.068*** (0.026)
Constant	0.722*** (0.017)	0.748*** (0.035)	0.550*** (0.038)
Receiver characteristics	No	Yes	Yes
Research Article and Order FE	No	No	Yes
Observations	11,520	11,520	11,520
Nr. of receivers	360	360	360
Finding Question Correct with Info-Incentives	0.72	0.75	0.55
Finding Question Correct with Clickbait-Incentives	0.75	0.78	0.58
Finding Question Correct with Viral-Incentives	0.74	0.76	0.57
Sample Question Correct with Info-Incentives	0.69	0.70	0.51
Sample Question Correct with Clickbait-Incentives	0.62	0.63	0.43
Sample Question Correct with Viral-Incentives	0.61	0.62	0.42
Method Question Correct with Info-Incentives	0.60	0.61	0.42
Method Question Correct with Clickbait-Incentives	0.60	0.60	0.41
Method Question Correct with Viral-Incentives	0.53	0.54	0.34
Conclusion Question Correct with Info-Incentives	0.69	0.70	0.51
Conclusion Question Correct with Clickbait-Incentives	0.69	0.70	0.50
Conclusion Question Correct with Viral-Incentives	0.64	0.65	0.46

Notes: This table displays the estimated coefficients from linear regressions on the likelihood that the receiver answers a question correctly in the Knowledge Experiment when exposed to summaries written by GPT. Receivers had the summary available when answering the questions. The regression includes indicator variables for the type of question (Sample, Method, Conclusion, where Finding is the omitted category) and interacts the type of question with the sender's incentive in the Sender Experiment. Each receiver answered 32 questions, 4 for each research study. The regressions pool all questions together. Receiver characteristics include whether the receiver identifies as female, their reported age, whether they indicate they use at least one social media platform, that they have at least a 4-year college education and time spent answering the question. Robust standard errors, clustered at the receiver level, in parentheses. * p<.10; ** p<.05; *** p<.01

Table F.6: LLM Sender - Receiver Knowledge - By Topic and Article

	(1)	(2)
	Likelihood of Correct Answer	
Clickbait-Incentives	-0.040 (0.026)	-0.104*** (0.033)
Viral-Incentives	-0.054** (0.025)	-0.084*** (0.031)
Cancer	0.046** (0.022)	
Vaccines	0.321*** (0.019)	
Climate	0.178*** (0.021)	
Clickbait-Incentives Summaries=1 × Cancer	0.066** (0.031)	
Clickbait-Incentives Summaries=1 × Vaccines	0.015 (0.026)	
Clickbait-Incentives Summaries=1 × Climate	0.016 (0.029)	
Viral-Incentives Summaries=1 × Cancer	0.022 (0.030)	
Viral-Incentives Summaries=1 × Vaccines	-0.009 (0.028)	
Viral-Incentives Summaries=1 × Climate	0.011 (0.029)	
Gangwisch et al. (2020)		0.033 (0.027)
Lee et al. (2019)		0.070** (0.027)
Kim et al. (2019)		0.056* (0.031)
Mina et al. (2019)		0.289*** (0.027)
Hviid et al. (2019)		0.387*** (0.025)
Maxwell et al. (2019)		0.166*** (0.027)
Berzaghi et al. (2019)		0.223*** (0.031)
Clickbait-Incentives Summaries=1 × Gangwisch et al. (2020)		0.128*** (0.038)
Clickbait-Incentives Summaries=1 × Lee et al. (2019)		0.139*** (0.039)
Clickbait-Incentives Summaries=1 × Kim et al. (2019)		0.121*** (0.045)
Clickbait-Incentives Summaries=1 × Mina et al. (2019)		0.071* (0.039)
Clickbait-Incentives Summaries=1 × Hviid et al. (2019)		0.086** (0.037)
Clickbait-Incentives Summaries=1 × Maxwell et al. (2019)		0.074* (0.038)
Clickbait-Incentives Summaries=1 × Berzaghi et al. (2019)		0.088** (0.043)
Viral-Incentives Summaries=1 × Gangwisch et al. (2020)		0.060 (0.038)
Viral-Incentives Summaries=1 × Lee et al. (2019)		0.054 (0.038)
Viral-Incentives Summaries=1 × Kim et al. (2019)		0.051 (0.043)
Viral-Incentives Summaries=1 × Mina et al. (2019)		-0.002 (0.038)
Viral-Incentives Summaries=1 × Hviid et al. (2019)		0.044 (0.035)
Viral-Incentives Summaries=1 × Maxwell et al. (2019)		-0.002 (0.039)
Viral-Incentives Summaries=1 × Berzaghi et al. (2019)		0.085** (0.040)
Constant	0.543*** (0.036)	0.525*** (0.038)
F-test All Topics=0, p-val	0.00	
F-test Clickbait-Incentives X All Topics=0, p-val	0.12	
F-test Viral-Incentives X All Topics=0, p-val	0.68	
F-test Articles=0, p-val		0.00
F-test Clickbait-Incentives X All Articles=0, p-val		0.01
F-test Viral-Incentives X All Articles=0, p-val		0.11
Observations	11,520	11,520
Nr. of receivers	360	360

Notes: This table displays the estimated coefficients from linear regressions on the likelihood that the receiver answers a question correctly in the Knowledge Experiment, when exposed to summaries written by GPT.

Table F.7: LLM Sender - Determinants of Click Rate

	(1)	(2)	(3)
	Likelihood of Receiver Click		
Clickbait-Incentives Summary	0.050** (0.021)	0.050** (0.021)	0.050** (0.021)
Viral-Incentives Summary	0.033 (0.023)	0.033 (0.023)	0.033 (0.023)
Condition with Viral- vs. Info-Inc Summaries	-0.029 (0.023)	-0.032 (0.023)	-0.032 (0.023)
Female receiver		-0.009 (0.016)	-0.009 (0.016)
Age of receiver		0.000 (0.001)	0.000 (0.001)
Social media user		0.039 (0.025)	0.039 (0.025)
College education		0.033** (0.015)	0.033** (0.015)
Constant	0.173*** (0.017)	0.122*** (0.038)	0.165*** (0.044)
Receiver characteristics	No	Yes	Yes
Order FE	No	No	Yes
Observations	2,392	2,392	2,392
Nr. of receivers	299	299	299
Click rate on Info-Incentives Summaries	0.17	0.12	0.16
Click rate on Clickbait-Incentives	0.22	0.17	0.21
Click rate on Viral-Incentives Summaries	0.21	0.16	0.20

Notes: This table displays the estimated coefficients from linear regressions on the likelihood that the receiver clicks to read more about a research article when the summaries were written by GPT. The design was the same as in the Click-Knowledge experiment. Robust standard errors, clustered at the receiver level, in parentheses. * p<.10; ** p<.05; *** p<.01

Table F.8: LLM Sender - Receiver Click Rate - By Topic and Article

	(1)	(2)
	Likelihood Receiver	Clicks to Read More
Clickbait-Incentives	0.097** (0.046)	0.076 (0.070)
Viral-Incentives	0.046 (0.046)	0.016 (0.067)
Cancer	0.005 (0.031)	
Vaccines	-0.103*** (0.027)	
Climate	-0.060* (0.032)	
Clickbait-Incentives Summaries=1 × Cancer	-0.068 (0.061)	
Clickbait-Incentives Summaries=1 × Vaccines	-0.043 (0.051)	
Clickbait-Incentives Summaries=1 × Climate	-0.080 (0.057)	
Viral-Incentives Summaries=1 × Cancer	-0.026 (0.058)	
Viral-Incentives Summaries=1 × Vaccines	-0.024 (0.051)	
Viral-Incentives Summaries=1 × Climate	-0.003 (0.058)	
Gangwisch et al. (2020)		-0.191*** (0.045)
Lee et al. (2019)		0.018 (0.052)
Kim et al. (2019)		-0.198*** (0.045)
Mina et al. (2019)		-0.198*** (0.043)
Hviid et al. (2019)		-0.195*** (0.045)
Maxwell et al. (2019)		-0.199*** (0.044)
Berzaghi et al. (2019)		-0.108** (0.050)
Clickbait-Incentives Summaries=1 × Gangwisch et al. (2020)		0.057 (0.087)
Clickbait-Incentives Summaries=1 × Lee et al. (2019)		-0.148 (0.097)
Clickbait-Incentives Summaries=1 × Kim et al. (2019)		0.061 (0.087)
Clickbait-Incentives Summaries=1 × Mina et al. (2019)		-0.003 (0.081)
Clickbait-Incentives Summaries=1 × Hviid et al. (2019)		-0.037 (0.078)
Clickbait-Incentives Summaries=1 × Maxwell et al. (2019)		-0.023 (0.088)
Clickbait-Incentives Summaries=1 × Berzaghi et al. (2019)		-0.094 (0.082)
Viral-Incentives Summaries=1 × Gangwisch et al. (2020)		0.057 (0.083)
Viral-Incentives Summaries=1 × Lee et al. (2019)		-0.066 (0.095)
Viral-Incentives Summaries=1 × Kim et al. (2019)		0.071 (0.082)
Viral-Incentives Summaries=1 × Mina et al. (2019)		0.004 (0.074)
Viral-Incentives Summaries=1 × Hviid et al. (2019)		0.004 (0.083)
Viral-Incentives Summaries=1 × Maxwell et al. (2019)		0.025 (0.084)
Viral-Incentives Summaries=1 × Berzaghi et al. (2019)		0.029 (0.086)
Condition with Viral- vs. Info-Inc Summaries	-0.032 (0.023)	-0.035 (0.023)
Constant	0.204*** (0.047)	0.300*** (0.058)
F-test All Topics=0, p-val	0.00	
F-test Clickbait-Incentives X All Topics=0, p-val	0.54	
F-test Viral-Incentives X All Topics=0, p-val	0.93	
F-test Articles=0, p-val		0.00
F-test Clickbait-Incentives X All Articles=0, p-val		0.19
F-test Viral-Incentives X All Articles=0, p-val		0.77
Observations	2,392	2,392
Nr. of receivers	299	299

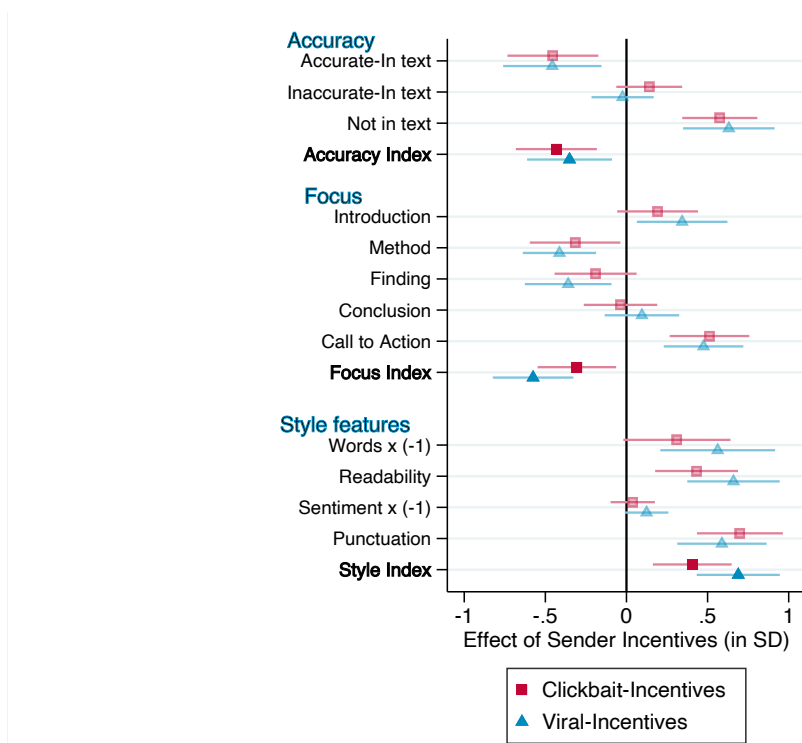
Notes: This table displays the estimated coefficients from linear regressions on the likelihood that the receiver clicks to read more in the Click-Knowledge when the summaries were generated by GPT.

F.2 LLM as Coder

The content analysis of sender summaries in the main text is based on two independent research assistants. An alternative to these human coders is GPT. To examine the robustness of the findings to an alternative coding entity, we provided the sender summaries to GPT, via its API, and instructed it to code each unit of information. We provided GPT instructions based on those of human coders (shown in Online Appendix G), with examples for units of information that were specific to each article. GPT coded each unit for its accuracy, and separately, also coded each unit according to its focus.

We show in Figure F.2 that the effects of sender incentives on the content of summaries remain qualitatively unchanged.

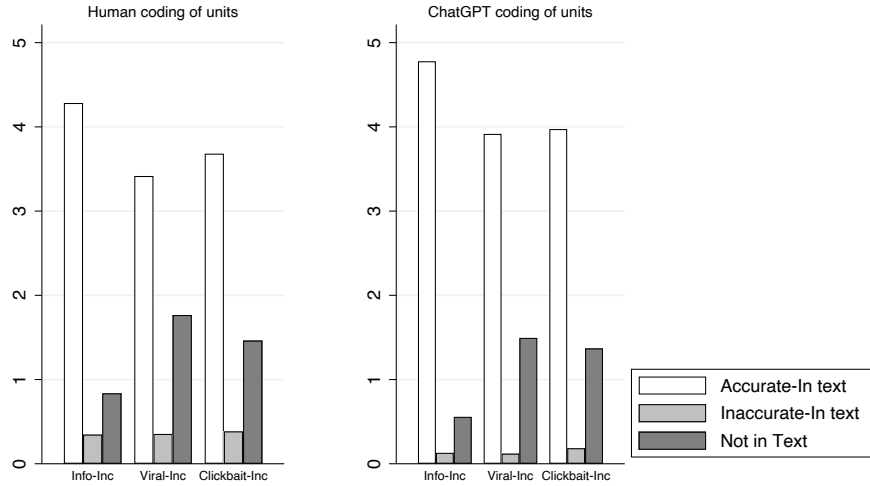
Figure F.2: Effects of Incentives on Senders' Summary: GPT Coding of Units



Notes: This figure shows the average treatment effect of Clickbait-Incentives and Viral-Incentives, relative to Info-Incentives, when summaries are coded by an LLM rather than human coders (GPT). The Accuracy panel focuses on summary accuracy: in text-accurate units, in text-inaccurate units, and not in text units in a message. The Focus panel focuses on content: Introduction, Method, Finding, Conclusion and Call to Action units in a message. The Style features results are the same as in the main text (reproduced here for completeness). Error bars correspond to 95% confidence intervals.

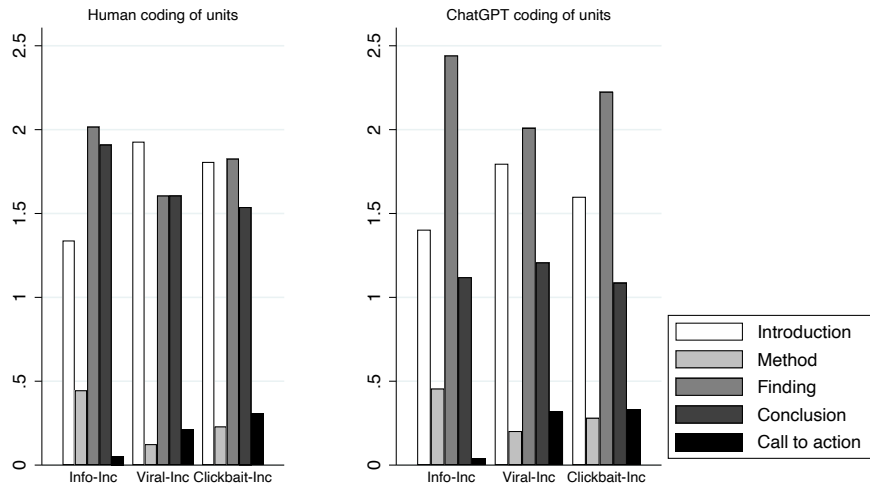
Next, we compare the categorization obtained by human and LLM coding, on average, in Figures F.3 and F.4. While there are differences in the levels, we observe qualitatively similar treatment effects throughout.

Figure F.3: Comparison of Human vs. GPT Coding of Units for Accuracy



Notes: This figure shows the average number of units classified as Accurate-In text, Inaccurate-In text, and Not in text by human coders (left) and by GPT (right).

Figure F.4: Comparison of Human vs. GPT Coding of Units for Focus



Notes: This figure shows the average number of units classified as Introduction, Method, Finding, Conclusion and Call to Action by human coders (left) and by GPT (right).

G Text Coding: Instructions for Coders

Below we present the instructions that (human) coders followed when analyzing the text summaries written by senders.

Introduction

In a current study, participants were presented with the abstract and press release of a published research article – we refer to this information as their “materials.” Their task was to write a headline and a 3-sentence summary about the research article. Your task is to code their writing according to the instructions below.

Coding Steps

There are three steps to coding the writing of participants:

STEP 1. Units of information. Variable names for each unit have been created (variable names: “unit1,” “unit2,” “unit3,” etc.). A preliminary split based on punctuation, usually 1 full sentence, is already available. A unit is defined as a statement that conveys a single, identifiable piece of information. Please split units that contain long sentences with multiple identifiable pieces of information into multiple units.

Example:

“There are many more Republican candidates in the presidential race. Many of those running are unknowns or will drop out of the race. Democrats are focusing on a few candidates.”

Coded as having 3 units of information.

“Unit1”: There are many more Republican candidates in the presidential race.

“Unit2”: Many of those running are unknowns or will drop out of the race.

“Unit3”: Democrats are focusing on a few candidates.

STEP 2. Type of information. A variable for each unit that classifies the sentence into a type/class (“type1,” “type2,” etc) has been created. According to Munch (2023) there are basically four types of content (and sections) when writing a scientific paper: Introduction, Methods, Results, Discussion. Schimel (2012, Chapter 4) describes “Story Structure.” The structure closest to what is written in the summaries you are coding is provided on page 32, where the parts are Introduction (opening, background and challenge), Materials and Methods, Results and Discussion. Motivated by these references, we will classify the unit into one of 5 categories:

1. “Introduction”: A unit that introduces the topic of the research study. It provides an opening, background, or states a challenge that scientists have experienced thus far. For example, it could state a question, show some past results or relevant studies prior to the present study. It can provide context and/or motivation for it.

Examples: “Are Carbs Ruining Your Sleep?” “Want to Sleep Better?”

2. “Method”: What the researchers did, and how they did it. Sentence that states the sample involved in the research, or states the context in which it was done. In what ways did the researcher recover the finding?

Examples: “After a recent measles outbreak in the Netherlands, a team of international doctors and virologists analyzed the blood of 77 children (sample: 77 children, method: analyzed the blood)”; “These studies were conducted over the course of three nights (Method: how the researcher conducted the study)”; “The study compared the effects of sleeping in gentle rocking and non-rocking beds on 18 healthy young adults (Sample: 18 healthy young adults, method: using comparison to recover the finding).”

3. “Finding”: A unit that provides a finding of the research study (not previous studies). What the study found is described. It must be specific to the study findings (and not a broader implication). When considering whether a headline should be classified as a finding, it should include words like “Study shows” or “Study found” to classify it as finding, as the reader does not otherwise not know that the content is about a research finding – if it does not include those words, we record it as “Introduction.”

4. “Conclusion” (Discussion or Implication): A unit that provides a broader discussion, conclusion, future plans or implication of the research study. It shows what it means, or what is the take home message. For example, the unit could suggest that, building on what has been found, the research could affect other populations or that the findings could lead to XYZ.

Examples: “BigPharma wants to profit from it.” “For A Good Night’s Sleep We Should Be Looking In Our Kitchen Instead Of Our Medicine Cabinet.” “Avoid fruit juices and eat more vegetables and whole fruit with fiber.” “It could be as easy as adding a few extra veggies or a glass of milk at dinner to make the difference between getting or not getting skin cancer.”

5. “CTA” - call to action (read the article or click the link): While these units do not describe the research, we will analyze them separately. Code units like “read on to learn more about this” or hashtags like “#sleep#rocking#memory” as CTA.

STEP 3. Source or Accuracy of Information: We have created a variable for each unit (“acc1;” “acc2”) that is to be used to state the source of the content, using one of the categories below.

1. “Not in text”: If the unit of information contains information that was NOT in the materials.

Example: “You may be familiar with rocking a baby to sleep (rocking babies to sleep was never mentioned anywhere)”

2. “In text-Accurate”: If the unit of information contains complete information about an aspect / point / finding that was part of the abstract/press release (i.e. materials the participant had).

3. “In text-Inaccurate-Wrong”: If the unit of information contains information that wrongly reports about the materials (e.g., correlation converted into causation, between-subjects design is reported when it was within-subjects, longitudinal analyses implied when they were not done). There may be correct parts in the unit, but if there is at least one incorrect statement, it is classified as wrong.

On correlation vs. causation: words that indicate one or the other. For a reference, see Haber et al. (2022), who include a long list of words that have a causal or correlational interpretation. Causal interpretation comes from words such as: cause, prevent, affect, lead, impact, produce, result. Correlational interpretation comes from words such as: consistent, correlate, associate, link, relate.

Other examples: Phrases such as: “It is thought”, “It is believed,” which may mislead readers to regard the finding as a rule of thumb can be classified as wrong.

Sometimes the person writes “it is thought that Inaccurate-In text leads to Y.” It is in some cases a proven result, so saying it is “believed” is misleading and wrong. Examples are: “It is also thought to contribute to memory consolidation”, “It is believed that the rocking motion helps to synchronize neural activity in the brain while the volunteers slept.”

4. “In text-Inaccurate-Incomplete”: If the unit of information contains incomplete information about an aspect / point / finding that was part of the materials. It may leave out other findings or details or context of the study. The reason to classify a unit as incomplete would be because what is stated there is very vague or lacks much concreteness.

Two other features of the text to code are: whether the sample is mentioned and whether the headline is a finding.

Sample_mentioned: Sample is considered as mentioned if it is specific enough relative to the subject of study. For several studies, specific examples are listed below. Coded as 0 if the sample is not mentioned. Enter the “Original text” that mentions the sample (type and numerical/amount). If multiple mentions, they are all included with a semicolon.

Headline_finding: Coded as 1 if the headline refers to the research finding explicitly: “Study shows...” or “Rocking leads to longer sleep and better memory, study finds,” and 0 otherwise.

Additional Specific Coding Decisions Based on the Articles

Perrault et al. (2019)

Examples of “In text-Inaccurate-Wrong”: If the summary implies a between-subjects design, but it was within subjects, it is considered wrong. If they “conjecture” an effect that has been actually shown (like memory or brain oscillations).

Examples of “In text-Inaccurate-Incomplete”: If finding is “sleep longer” it’s incomplete because the sleep is deeper and has fewer arousals, but the materials do not explicitly state longer.

Examples of “Sample mentioned”: “18 participants”, “18 healthy young participants,” “18 young participants who were good sleepers...”

Gangwisch et al. (2020)

Examples of “Sample mentioned”: “Postmenopausal women,” it is OK if the number of participants is not mentioned. But not that only stating women is not considered as “sample mentioned.”

Lee et al. (2019)

This article is complex, please read carefully the materials provided to the participants. There are several main words used in the paper that you should be familiar with. PTEN is a potent tumor suppressor gene. WWP1 is genetically amplified and frequently overexpressed in multiple cancers, including those of prostate, breast, and liver, which may lead to pleiotropic inactivation of PTEN by producing an enzyme that inhibits PTEN’s tumor suppressive activity. I3C is a small molecule; ingredient in broccoli and other cruciferous vegetables; natural compound. A natural and potent WWP1 inhibitor, by inactivating WWP1 it helps activate PTEN.

Examples of “Sample mentioned”: “cancer-prone laboratory mice and human cells” “Mice” “Human cells.”

Examples of “In text-Inaccurate-Wrong”: “Broccoli can prevent cancer” or calling I3C a chemical (I3C is molecule/compound).

Mina et al. (2019)

Examples of “Sample mentioned”: “77 unvaccinated children,” “4 macaque monkeys” ,“A blood analysis of 77 unvaccinated children,” “77 unvaccinated children in the Netherlands.”

Hviid et al.(2019)

Examples of “In text-Accurate”: “Study showing that the rate of autism was the same in both the MMR group and the non-MMR vaccinated group.”

Examples of “In text-Inaccurate-Wrong”: If it claims a causal relationship: “Study showing that MMR (measles, mumps, rubella) vaccine does not cause autism.”

Maxwell et al. (2019)

Examples of “In text-Inaccurate-Incomplete”: Unit does not say the numbers computed for the carbon emissions from intact tropical forest deforestation are underestimated/recalculated/revised.

Examples of “Sample mentioned”: (lost / intact) tropical forests from 2000 to 2013.

Berzaghi et al. (2019)

Examples of “Sample mentioned”: “African forest”, “field measurements collected in the Congo Basin” and “data from two lowland African primary forests’ inventories.”

References in Online Appendix

1. Adie, E., and Roe, W. (2013). Altmetric: enriching scholarly content with article-level discussion and metrics. *Learned Publishing*, 26(1), 11-17.
2. Goldstein, J.A., Sastry, G., Musser, M., DiResta, R., Gentzel, M., and Sedova, K. (2023). Generative Language Models and Automated Influence Operations: Emerging Threats and Potential Mitigations, manuscript, arXiv:2301.04246.
3. Haber et al. (2022), “Causal and Associational Language in Observational Health Research: A Systematic Evaluation,” *American Journal of Epidemiology*, 191 (12), 2084-2097.
4. Jennrich, R. I. (1970). An asymptotic χ^2 test for the equality of two correlation matrices. *Journal of the American Statistical Association* 65: 904–912.
5. Kapoor, S., and Narayanan, A. (2023). How to Prepare for the Deluge of Generative AI on Social Media. A grounded analysis of the challenges and opportunities. Manuscript, Knight First Amendment Institute at Columbia University.
6. Salton, G., and C. Buckley (1988). “Term-weighting approaches in automatic text retrieval.” *Information processing & management* 24.5: 513-523.