

# Errata for *Conceptual Replication of Four Key Findings about Factual Corrections and Misinformation during the 2020 US Election*

Eighteen corrections to *British Journal of Political Science* article 10.1017/S0007123422000631. **One of them changes a conclusion of the article.** Entry 4 withdraws the claim that the effects of fact-checks remain detectable more than two weeks after exposure. The pooled Wave 3 effect is not distinguishable from zero, nor is the share of the Wave 1 effect it represents, and the only statistical support the article had for the claim was a cell produced by a model of the wrong outcome, which entry 18 corrects. The one-week finding is unaffected and stands, as does everything else the article concludes. Of the remaining entries, eight are in the reference list and the rest correct misprints and appendix floats. Every corrected value below is computed at render time from a full reproduction of the published analysis, held in the repository `active-maintenance-aec/coppock_etal_2023`. Percentages are given to one decimal place throughout, including in sentences where the article gave a whole number, so that every quantity in a corrected sentence is one the reproduction has verified. Bold marks the values that changed.

## 1. The reported total sample size

To study fact-checking during the 2020 election season, we conducted eight preregistered panel experiments (total **N = 17,681**).

**Corrected:** To study fact-checking during the 2020 election season, we conducted eight preregistered panel experiments (total **N = 17,629**).

The article's own appendix Table 1 reports the eight panel sizes as 2,321, 2,090, 2,059, 2,390, 2,582, 2,200, 1,599 and 2,388, which sum to 17,629, and the deposited respondent data hold exactly that many.

## 2. The count of experiments in which misinformation reduced accuracy

Overall, exposure to the misinformation significantly decreased accuracy in **twelve** out of the twenty-four opportunities.

**Corrected:** Overall, exposure to the misinformation significantly decreased accuracy in **thirteen** out of the twenty-four opportunities.

Appendix Table 1 prints all thirteen in its unadjusted rows, and the deposited estimates and the reproduction agree on every one of them.

### 3. Two appendix floats carry the same number

**Table 1:** Sample composition by panel.

**Table 1:** Average treatment effects at Wave 1 among all subjects.

**Corrected:** the sample composition table on appendix page 3 and the Wave 1 average treatment effect table on appendix page 15 are two different floats, and both are captioned **Table 1**. The regression tables that follow are numbered 1 through 7 and the two tables of appendix section 7 are numbered 8 and 9, so the appendix’s table numbering runs 1, 1, 2, 3, 4, 5, 6, 7, 8, 9. A reader citing “appendix Table 1” cannot be understood.

### 4. The claim that fact-check effects remain detectable after more than two weeks

The share of the Wave 1 correction effect that survives to a later wave is the quantity the pre-analysis plan defines and the appendix prints in the **ratio** row of each persistence table: the per-experiment ratio of the later-wave coefficient to the Wave 1 coefficient, pooled across the experiments by meta-analysis. The article reports that quantity in four sentences of the main text and again in the appendix, and the two disagree. Appendix Tables 5 and 7 print 0.49 and 0.43. The main text’s 66.4 and 50 are not returned by any pooling, adjustment or sample the deposited archive supports.

Both figures appear verbatim in versions of this manuscript that predate the analysis the article reports, which pooled 23 experiments rather than 24 and whose every cell differs from the published ones. They are the earlier analysis’s numbers, carried forward and never recomputed when the models were revised, rather than the product of a different estimator applied to the final data. A reader of the introduction therefore takes away a materially different number from a reader of the appendix.

The four sentences are corrected below to the random-effects pool of the covariate-adjusted ratios computed from the analysis the article actually reports, which is the estimator the appendix’s own meta-analysis rows use and the specification Figure 4 plots. Random effects should have been used throughout.

We show that **66 per cent** of the initial effect of fact-checks on factual beliefs is still detectable one week after initial **exposure**, with **50 percent detectable after more than two weeks**.

**Corrected:** We show that **48.9 per cent** of the initial effect of fact-checks on factual beliefs is still detectable one week after initial **exposure**. **More than two weeks after exposure the estimate is 34.3 per cent, which this study cannot distinguish from zero.**

The effects of fact-checks observed immediately after treatment dissipate somewhat from Wave 1 to Wave 2, on average, at **66.4 per cent** of the initial magnitude.

**Corrected:** The effects of fact-checks observed immediately after treatment dissipate somewhat from Wave 1 to Wave 2, on average, at **48.9 per cent** of the initial magnitude.

On average, the effect in Wave 3 is **50 per cent** the magnitude of the original effect, though the smaller number of issues and subjects increases our uncertainty.

**Corrected:** On average, the effect in Wave 3 is **34.3 per cent the magnitude of the original effect, though neither that share nor the pooled Wave 3 effect itself is distinguishable from zero, and only one of the six issues has a Wave 3 effect that is.**

Over time, the effects **attenuate, but they remain detectable. The effects of fact-checks persisted at 66 per cent the original magnitude after one week and at 50 per cent after more than two weeks.**

**Corrected:** Over time, the effects **attenuate. They remain detectable one week after exposure, at 48.9 per cent of the original magnitude. The Wave 3 estimate, more than two weeks after exposure, is 34.3 per cent of the original magnitude and is not distinguishable from zero.**

THIS ENTRY CHANGES A CONCLUSION OF THE ARTICLE, and it is the only one that does. The article reports that the effects of fact-checks remain detectable more than two weeks after exposure. They do not, in these data. The pooled Wave 3 effect is -4.36 (3.67) [-11.55, 2.82] and the share of the Wave 1 effect it represents is 0.34 (0.21) [-0.07, 0.76]; neither is distinguishable from zero. The one-week claim is unaffected and stands.

The magnitude and the detection claim have the same cause, which is entry 18. The deposited three-wave models fitted with covariates regress the wrong outcomes, so the ratio behind appendix Table 7's 0.43 instruments the Wave 2 outcome rather than the Wave 3 outcome. That cell carried a significance marker and its interval excluded zero, and it was the only statistical support anywhere in the article for the two-week claim; the unadjusted table beside it already reported 0.39 with an interval spanning zero, and the two published tables therefore disagreed with each other. Refitted on Wave 3, the random-effects pool is 34.3 per cent with covariates and 38.9 per cent without them, and neither is significant.

The per-issue pattern is what makes the corrected sentence unsupportable rather than merely imprecise. Of the six issues fielded across three waves, five had a Wave 1 effect distinguishable from zero and one still has one at Wave 3: "Trump said 'Good' to children's separation", whose effect barely decays at all. The pooled 34.3 per cent is an average over that one issue and five nulls, two of which are wrong-signed. What these data support is that one correction survived more than two weeks intact and the rest did not.

## The reference list

The entry below corrects the article's reference list. It was found by an audit that sends every printed entry whole to Crossref and checks the authoritative record back into it, and it is verified against the record named in the note. No cited work is missing and no citation in the text points at the wrong work.

## 5. Rathje et al. (2022) is printed with one author

Published, p. 1341:

**Rathje S** (2022) Letter to the Editors of Psychological Science: Meta-analysis Reveals that Accuracy Nudges Have Little to No Effect for U.S. Conservatives: Regarding Pennycook et al.

Corrected:

Rathje S et al. (2022) Letter to the Editors of Psychological Science: Meta-analysis Reveals that Accuracy Nudges Have Little to No Effect for U.S. Conservatives: Regarding Pennycook et al.

Crossref, doi 10.31234/osf.io/945na: Rathje, Roozenbeek, Traberg, Van Bavel and van der Linden. Four coauthors are missing from the entry, which the reference list's own style would give as "Rathje S et al." The in-text citation on p. 1330 reads "Rathje et al. 2022", so the body of the article has it right.

## 6. Pennycook and Rand (2019) is printed with the wrong initial

Published, p. 1340:

**Pennycook D** and Rand DG (2019) Lazy, not biased

Corrected:

Pennycook G and Rand DG (2019) Lazy, not biased

Crossref, doi 10.1016/j.cognition.2018.06.011: Gordon Pennycook and David G. Rand. The same author is given correctly as "Pennycook G" in the 2021 Nature entry two lines below, and footnote 2 of the article cites "Pennycook and Rand 2019", so only the initial in this entry is wrong. It appears to have been copied from Rand's.

## 7. Do Facts Matter? is cited with its authors in the wrong order

Published, pp. 1328 and 1340:

Belief in falsehoods may shape political attitudes and behavior in ways that damage democratic accountability (**Einstein and Hochschild** 2015; Nyhan 2020)

**Einstein KL and Hochschild J** (2015) Do Facts Matter? Information and Misinformation in American Politics. Norman, OK: University of Oklahoma Press.

Corrected:

Belief in falsehoods may shape political attitudes and behavior in ways that damage democratic accountability ([Hochschild and Einstein] 2015; Nyhan 2020)

[[Hochschild JL and Einstein KL]] (2015) Do Facts Matter? Information and Misinformation in American Politics. Norman, OK: University of Oklahoma Press.

Library of Congress, LCCN 2014027612: “Do facts matter? : information and misinformation in American politics / Jennifer L. Hochschild and Katherine Levine Einstein”, Norman: University of Oklahoma Press, 2015. Hochschild is the book’s first author. The publisher and the city are as the entry gives them. The entry keeps the place the published list gave it, under E, because moving an entry is a re-presentation of the list rather than a correction to it; a reader looking for it will find it where the article filed it.

## 8. Swire-Thompson is cited under her earlier surname in a 2020 entry

Published, pp. 1331 and 1341:

The use of multiple outcome measures helps mitigate concerns about measurement error  
(**Swire, DeGutis, and Lazer** 2020)

**Swire B, DeGutis J and Lazer D** (2020) Searching for the Backfire Effect

Corrected:

The use of multiple outcome measures helps mitigate concerns about measurement error  
([[Swire-Thompson, DeGutis, and Lazer]] 2020)

[[Swire-Thompson B, DeGutis J and Lazer D]] (2020) Searching for the Backfire Effect

Crossref, doi 10.31234/osf.io/ba2kc, and the published version at doi 10.1016/j.jarmac.2020.06.006, both give Briony Swire-Thompson. The 2017 Royal Society Open Science entry above it is correct as “Swire B”: the name changed between the two papers. As with entry 7, the entry keeps its published place in the list.

## 9. Porter and Wood (2022) is given the title of its preprint

Published, p. 1341:

Porter E and Wood TJ (2022) **Misinformation on the Facebook news feed: experimental evidence**. Journal of Politics 84, 1812-1817.

Corrected:

Porter E and Wood TJ (2022) Political misinformation and factual corrections on the Facebook news feed: experimental evidence. Journal of Politics 84, 1812-1817.

Crossref, doi 10.1086/719271: “Political Misinformation and Factual Corrections on the Facebook News Feed: Experimental Evidence”, The Journal of Politics 84(3), 1812-1817. The volume and the page range are the version of record’s; the title is the OSF preprint’s, which the entry also links. The two are different documents and the entry mixes them.

## 10. Nyhan (2020) is given a month where its issue number belongs

Published, p. 1340:

Nyhan B (2020) Facts and myths about misperceptions. *Journal of Economic Perspectives* **34(August)**, 220-236.

Corrected:

Nyhan B (2020) Facts and myths about misperceptions. *Journal of Economic Perspectives* 34(3), 220-236.

Crossref, doi 10.1257/jep.34.3.220: *Journal of Economic Perspectives* 34(3), 220-236. The doi the entry itself prints encodes the issue as 3. Every other entry in the list that gives an issue gives a numeral.

## 11. Dillard is dated a year before the article it cites appeared

Published, pp. 1328 and 1339:

culminated in an insurrection that policymakers have attributed to misinformation about the “big lie” of election fraud (Dillard **2020**; US House Committee on Energy and Commerce Staff, 2021)

Dillard J (**2020**) Ocasio-Cortez Reveals Past Sexual Assault, Faults GOP over Riot. Bloomberg.

Corrected:

culminated in an insurrection that policymakers have attributed to misinformation about the “big lie” of election fraud (Dillard [[2021]]; US House Committee on Energy and Commerce Staff, 2021)

Dillard J ([[2021]]) Ocasio-Cortez Reveals Past Sexual Assault, Faults GOP over Riot. Bloomberg.

The Bloomberg article is dated 2 February 2021, which the entry’s own URL records in its path, and it reports the aftermath of the 6 January 2021 attack on the Capitol. Its author is Jarrell Dillard, so the initial is right. Dated 2020 the entry describes a report published before the event it reports.

## 12. Shin and Thorson (2017) carries a capital left over from its title case

Published, p. 1341:

Shin J and Thorson K (2017) Partisan selective sharing: the biased diffusion of fact-checking messages on **social Media**. *Journal of Communication* 67(2), 233-255.

Corrected:

Shin J and Thorson K (2017) Partisan selective sharing: the biased diffusion of fact-checking messages on social media. *Journal of Communication* 67(2), 233-255.

The published title is “Partisan Selective Sharing: The Biased Diffusion of Fact-Checking Messages on Social Media” (doi 10.1111/jcom.12284). The reference list sets titles in sentence case, and the M of Media is the only capital left standing from the original.

## Found while preparing the remastered edition

The entries below were found by reading every word of the article and its appendix against the published PDF while a corrected re-typesetting was being prepared, which is a finer sieve than any pass this repository had run. The last two describe properties of the appendix’s regression tables that the reproduction measures rather than values in a single cell.

### 13. A sentence break in the appendix has lost its space

Figures 4, 5, 6 display the coefficient **estimates. These** regressions return p-values below 0.05

**Corrected:** Figures 4, 5, 6 display the coefficient estimates. These regressions return p-values below 0.05

Found by reading the appendix against its own PDF while preparing the remastered edition. The two sentences are run together with no space after the full stop.

### 14. Confidence intervals in the appendix regression tables are printed low bound last

12.97 (2.01) \*\*[16.91, 9.03\*\*]

**Corrected:** the seven regression tables print **144 of their 492 intervals with the bounds transposed**, so that the interval reads from its upper limit to its lower one. The cell quoted above, the first in appendix table 1, should read [9.03, 16.91]. Every interval whose estimate is negated by the table code is affected and no other is.

The deposited script negates an estimate and both of its interval bounds without reversing them, so a two-sided interval comes out backwards whenever the sign is flipped. The bounds themselves are right and the reproduction returns the same two numbers for every affected cell; only their order on the page is wrong. The remastered edition sets all seven tables from the reproduction, so every interval in it reads from its lower limit to its upper one.

### 15. Significance markers in the appendix regression tables were set by comparing strings

**205** of the 492 cells in the seven regression tables carry a significance marker.

**Corrected:** 256 of them have a p-value below 0.05. The marker is on the wrong cells: “0.0144” sorts before “0.05” and earns a star, while “1.28e-10” sorts after it and does not, so the most significant estimates in these tables are among the unstarred ones.

The deposited table script reshapes each fit with a function whose identifier columns omit a character column, which coerces every value in the reshaped frame to a string; the surviving comparison with 0.05 is then a comparison of two strings rather than of two numbers. It is deterministic and reproducible: running the deposit’s own script prints the published tables verbatim, star pattern included. As with entry 14, the remastered edition sets the tables from the reproduction, so its marker follows the p-value.

## The attitude estimates

The entry below changes a reported effect rather than correcting a misprint, and it is set out here rather than earlier because the numbering of this note is append-only: an entry that has been published can already have been cited, so a later finding is added at the end and no earlier entry moves.

### 16. The attitude effects are attenuated by a filter that does not filter

This note’s other entries correct what the article prints. This one corrects what the article concludes from a quantity its own code miscomputed, so it is set out at more length. The finding is not new to this reproduction: the repository has recorded the defect since the rewrite was built, in the reproducibility report rather than here, on the reasoning that the fault lay in the deposited code rather than in the article. That reasoning was wrong. Where a defect in the code reaches the printed page, a reader is misled by the page, and whose mistake it was does not change what the reader takes away.

the effects of fact-checks and misinformation on subsequent attitudes are **smaller than one-quarter of a point**

**Corrected:** the effects of fact-checks and misinformation on subsequent attitudes are **0.80 of a point and 0.74 of a point respectively**

each **smaller than half a point**

**Corrected:** **0.80 and -0.74 points**

Both sentences describe the pooled effects on the feeling thermometers of the people and institutions the claims are about. The deposit’s loop over those targets subsets with `filter(all_panels_long, fc == fc, topic_short_2 == topic_short_2)`, where each bare name resolves to the column rather than to the loop variable that shadows it, so both conditions compare a column with itself and neither subsets anything. Every target model is therefore fitted on all eight panels pooled, including respondents never shown the claim, which dilutes each estimate toward zero and understates its standard error. The loop extracts those two values one row at a time in order to subset, so the intent is not in doubt.

Fitting the models on the sample the loop intends gives a correction effect of 0.80 points (SE 0.36) and a misinformation effect of -0.74 points (SE 0.31), both significant at the 5 per cent level, against published estimates near 0.2. An independent audit prepared for Ethan Porter in June 2026 recomputed these from the deposited data and reached the same two figures to three decimal places.

The article’s qualitative claim survives and its magnitude does not. Facts still move beliefs far more than they move attitudes, by a factor of roughly thirteen rather than the fifty-five the published figures imply. This is the only entry in this note that changes a reported effect rather than a misprint.

## The three-wave persistence tables

The two entries below correct appendix Tables 6 and 7, which report the persistence of the correction effect to Wave 3. Both were found by setting those tables from the reproduction rather than reproducing the published pages as images, which is what the remastered edition now does with all seven regression tables: a table that has to be rebuilt cell by cell is read far more closely than a table that is photographed. The first corrects a column of labels the deposit’s own script emptied. The second corrects the numbers.

### 17. The Wave column is empty on every Wave 3 row of the three-wave tables

14 of the 42 rows of appendix Tables 6 and 7 print nothing in the Wave column.

**Corrected:** every one of them is a **Wave 3** row. The edition sets w3 in those cells and returns each group of rows to the order w1, w3, ratio.

The deposited table script builds the three-wave tables with the two-wave tables’ factor levels, c(“w1”, “w2”, “ratio”), so every w3 value becomes NA. xtable prints NA as an empty cell, and the sort on that factor puts the rows carrying it last, which is also why each group reads w1, then ratio, then an unlabelled row. The same line is right where it appears earlier in the same file for the two-wave tables, whose waves those levels are. Table 6’s numbers are unaffected and every one of its cells reproduces. Table 7’s are not, for the reason entry 18 gives.

### 18. The adjusted three-wave table reports models of the wrong outcomes

**\*\*3.81 (3.63) [-3.32, 10.95\*\*]**

**Corrected:** the Wave 1 row of appendix Table 7 should read **-9.06 (3.75)\* [-16.45, -1.68\*\*]**. **The cell quoted above is that experiment’s Wave 3 estimate, printed on its Wave 1 line.** All 21 cells of the table\*\* are wrong where they stand: 7 hold an estimate that belongs to another row of the same table, and 14 hold estimates of an outcome the table does not report.

The deposit’s adjusted three-wave block regresses outcome\_w3 for both its Wave 1 and its Wave 2 models and outcome\_w2 for its Wave 3 model, and instruments outcome\_w2 rather than outcome\_w3 in the ratio. The unadjusted block immediately above it pairs each wave with its own outcome, and so does the covariate-adjusted block for the conditional effects below it, so this is a

copy-and-paste slip rather than a modelling decision. The two models it leaves untouched say so outright: the Wave 3 model and the ratio carry the two-wave block's outcome and, in the ratio, its whole covariate string, so the three-wave block is the two-wave block pasted and only half re-edited. Its other trace on the page is Figure 4, whose bottom-left panel draws the Wave 1 and the Wave 2 point at the same height because they are the same estimate. The unadjusted table beside it, Table 6, is unaffected and reproduces in every cell. **This entry is the reason entry 4 changes a conclusion.** The ratio row of the published Table 7 carried a significance marker and an interval excluding zero, and it was the article's only statistical support for the claim that fact-check effects remain detectable more than two weeks after exposure. Instrumented on the outcome the table names, the estimate is smaller and its interval spans zero.