**Supplementary Materials**

for

# Beyond "fake news": The role of analytic thinking in the detection of inaccuracy and partisan bias in news headlines

## Section 1: Descriptive statistics

**Table S1.** Descriptive statistics for MTurk sample. Responses for which participants selected the option indicating that they were unwilling to ever share political news on social media were removed from the social media sharing analysis. Cognitive Reflection Test (CRT), Age, Education: $N = 996$; Perceived accuracy: $N = 502$; Social media sharing: $N = 302$.

| Measure | Scale | Mean | SD | Skew | Kurtosis |
|---|---|---|---|---|---|
| False news (perceived accuracy) | 0-1 | 0.23 | 0.24 | 1.22 | 3.87 |
| Hyperpartisan news (perceived accuracy) | 0-1 | 0.37 | 0.23 | 0.42 | 2.86 |
| True news (perceived accuracy) | 0-1 | 0.72 | 0.22 | -0.87 | 3.75 |
| False news (social media sharing) | 0-1 | 0.31 | 0.30 | 0.81 | 2.60 |
| Hyperpartisan news (social medial sharing) | 0-1 | 0.34 | 0.28 | 0.70 | 2.67 |
| True news (social media sharing) | 0-1 | 0.41 | 0.26 | 0.48 | 2.67 |
| CRT (accuracy) | 0-7 | 3.79 | 2.20 | -0.21 | 3.41 |
| Age | | 34.80 | 10.80 | 1.32 | 4.72 |
| Education | 1-8 | 4.23 | 1.30 | -0.07 | 2.53 |

**Table S2.** Descriptive statistics for Lucid sample. Responses for which participants selected the option indicating that they were unwilling to ever share political news on social media were removed from the social media sharing analysis. Cognitive Reflection Test (CRT), Berlin Numeracy Test (BNT), Age, Education: $N = 977$; Perceived accuracy: $N = 483$; Social media sharing: $N = 220$.

| Measure | Scale | Mean | SD | Skew | Kurtosis |
|---|---|---|---|---|---|
| False news (perceived accuracy) | 0-1 | 0.28 | 0.25 | 1.04 | 3.61 |
| Hyperpartisan news (perceived accuracy) | 0-1 | 0.39 | 0.24 | 0.34 | 2.79 |
| True news (perceived accuracy) | 0-1 | 0.63 | 0.26 | -0.68 | 2.92 |
| False news (social media sharing) | 0-1 | 0.43 | 0.31 | 0.29 | 2.11 |
| Hyperpartisan news (social medial sharing) | 0-1 | 0.43 | 0.31 | 0.34 | 2.13 |
| True news (social media sharing) | 0-1 | 0.47 | 0.30 | 0.16 | 2.04 |
| CRT (accuracy) | 0-7 | 1.87 | 1.72 | 0.96 | 3.41 |
| BNT (accuracy) | 0-4 | 0.64 | 0.96 | 1.58 | 4.91 |
| Age | | 45.39 | 16.65 | 0.12 | 1.88 |
| Education | 1-8 | 4.33 | 1.92 | -0.06 | 1.86 |

## Section 2: Preregistered primary hypotheses

### 2.1 Democrats and Republicans

Our preregistered analysis plan was to use the Democratic versus Republican partisanship question to operationalize political partisanship (see methods section). However, during peer review it was argued that the Hillary Clinton versus Donald Trump preference question should be used to operationalize political partisanship in the primary analysis (see methods section). Consequently, for analyses reported in the main text political partisanship (i.e., Democrat versus Republican) is operationalized as a Clinton versus Trump preference, while the preregistered analyses that use the Democratic versus Republican partisanship question operationalize political partisanship are reported here. Importantly, results are almost identical to results reported in main paper demonstrating that results are robust to these alternative operationalizations of partisanship (compare Table 1 to Table S3, Table 2 to Table S4, Table 3 to Table S5, and Table 4 to Table S6).

**Table S3:** Correlation (Pearson *r*) between Cognitive Reflection Test performance and perceived accuracy as a function of the political slant of the headline (Pro-Democrat vs Pro-Republican), the partisanship of the participant (Democrat, Republican) (partisanship is operationalized as identifying as Democratic versus Republican on continuous measure), and headline type (False vs Hyperpartisan vs True). MTurk sample: Democrat $N = 322$; Republican $N = 180$. Lucid sample: Democrat $N = 265$; Republican $N = 218$. *** p < .001; ** p < .01; * p < .05.

| | | Pro-Democrat slant | | | Pro-Republican slant | | |
|---|---|---|---|---|---|---|---|
| Sample | Partisanship | False | Hyperpartisan | True | False | Hyperpartisan | True |
| MTurk | Democrat | -.31*** | -.03 | .22*** | -.28*** | -.20*** | .23*** |
| | Republican | -.55*** | -.34*** | -.22** | -.40*** | -.28*** | .25*** |
| Lucid | Democrat | -.21*** | -.08 | .20** | -.22*** | -.28*** | .16** |
| | Republican | -.20** | -.13 | -.08 | -.10 | -.18** | .01 |

**Table S4:** Correlation (Pearson *r*) between Cognitive Reflection Test performance and accuracy discernment as a function of the political slant of the headline (Pro-Democrat vs Pro-Republican), the partisanship of the participant (Democrat, Republican) (partisanship is operationalized as identifying as Democratic versus Republican on continuous measure), and form of discernment (True-False vs True-Hyperpartisan). MTurk sample: Democrat $N = 322$; Republican $N = 180$. Lucid sample: Democrat $N = 265$; Republican $N = 218$. *** p < .001; ** p < .01; * p < .05.

| | | Pro-Democrat slant | | Pro-Republican slant | |
|---|---|---|---|---|---|
| Sample | Partisanship | True-False | True-Hyperpartisan | True-False | True-Hyperpartisan |
| MTurk | Democrat | .39*** | .23*** | .35*** | .33*** |
| | Republican | .37*** | .15* | .47*** | .40*** |
| Lucid | Democrat | .33*** | .29*** | .30*** | .36*** |
| | Republican | .12 | .06 | .10 | .18** |

**Table S5:** Correlation (Pearson *r*) between Cognitive Reflection Test performance and willingness to share as a function of the political slant of the headline (Pro-Democrat vs Pro-Republican), the partisanship of the participant (Democrat, Republican) (partisanship is operationalized as identifying as Democratic versus Republican on continuous measure), and headline type (False vs Hyperpartisan vs True). Responses for which participants selected the option indicating that they were unwilling to ever share political news on social media were removed from this analysis. MTurk sample: Democrat $N = 190$; Republican $N = 112$. Lucid sample: Democrat $N = 130$; Republican $N = 90$. *** p < .001; ** p < .01; * p < .05.

| | | Pro-Democrat slant | | | Pro-Republican slant | | |
|---|---|---|---|---|---|---|---|
| Sample | Partisanship | False | Hyperpartisan | True | False | Hyperpartisan | True |
| MTurk | Democrat | -.25*** | -.19* | -.06 | -.36*** | -.39** | -.21** |
| | Republican | -.50*** | -.50*** | -.49*** | -.31*** | -.40*** | -.25** |
| Lucid | Democrat | -.21* | -.12 | -.01 | -.22* | -.30*** | -.30*** |
| | Republican | -.20 | -.11 | -.19 | -.03 | -.06 | .07 |

**Table S6:** Correlation (Pearson *r*) between Cognitive Reflection Test performance and sharing discernment as a function of the political slant of the headline (Pro-Democrat vs Pro-Republican), the partisanship of the participant (Democrat, Republican) (partisanship is operationalized as identifying as Democratic versus Republican on continuous measure), and form of discernment (True-False vs True-Hyperpartisan). Responses for which participants selected the option indicating that they were unwilling to ever share political news on social media were removed from this analysis. MTurk sample: Democrat $N = 190$; Republican $N = 112$. Lucid sample: Democrat $N = 130$; Republican $N = 90$. *** p < .001; ** p < .01; * p < .05.

| | | Pro-Democrat slant | | Pro-Republican slant | |
|---|---|---|---|---|---|
| Sample | Partisanship | True-False | True-Hyperpartisan | True-False | True-Hyperpartisan |
| MTurk | Democrat | .17* | .17* | .14* | .17* |
| | Republican | .06 | .00 | .07 | .18 |
| Lucid | Democrat | .23** | .19* | -.12 | -.02 |
| | Republican | .01 | -.15 | .14 | .18 |

## 2.2 Accuracy judgments versus willingness to share

We preregistered an intention to compare participant accuracy judgments versus participant willingness to share. The purpose of this analysis was to examine whether people are worse at discerning between low and high quality news content for willingness to share judgments relative to accuracy judgments. Specifically, we would expect there to be an interaction between condition and type given the hypothesis that people do not generally consider truth when making judgments about sharing. Since this was secondary to the hypotheses that are the focus of the main text, we will report these analyses in supplementary materials.

We used a mixed-design three-way repeated measures ANOVA with mean proportion of "yes" responses entered in the following design: 2 (Condition: Accuracy, Sharing) between subjects x 3 (Type: False, Hyperpartisan, True) within subjects x 2 (Consistency: Politically Consistent, Politically Inconsistent). Mauchly's Test indicated that the assumption of sphericity had been violated for both the effect of Type and the interaction between Type and Political Concordance. Because the Greenhouse-Geisser estimates of sphericity were $\varepsilon > .75$ for both the MTurk sample and the Lucid sample ($\varepsilon = .753$ and $\varepsilon = .988$ respectively) we followed the recommendation of (Field, 2017) and used the Huynh-Feldt correction, which

we applied across all statistical tests for consistency. The predicted interaction between condition and type was found in the MTurk and the Lucid sample. See Tables S7 and S8.

**Table S7.** MTurk sample. Mixed-design three-way repeated measures ANOVA with mean proportion of "yes" responses entered in the following design: 2 (Condition: Accuracy, Sharing) between subjects x 3 (Type: False, Hyperpartisan, True) within subjects x 2 (Consistency: Politically Consistent, Politically Inconsistent) (partisanship is operationalized as identifying as Democratic versus Republican on continuous measure). Accuracy $N = 257$; Sharing $N = 302$. *** p < .001; ** p < .01; * p < .05.

| *Source* | *df* | *SS* | *MS* | *F* | *p* | $\eta_p^2$ |
|---|---|---|---|---|---|---|
| *Within-Subjects Effects* | | | | | | |
| Consistency | 1 | 25.814 | 25.814 | 230.094 | <.001 | 0.292 |
| Consistency * Condition | 1 | 1.869 | 1.869 | 16.66 | <.001 | 0.029 |
| Error(Consistency) | 557 | 62.49 | 0.112 | | | |
| Type | 1.648 | 49.473 | 30.017 | 390.726 | <.001 | 0.412 |
| Type * Condition | 1.648 | 19.685 | 11.943 | 155.465 | <.001 | 0.218 |
| Error(Type) | 918.046 | 70.527 | 0.077 | | | |
| Consistency * Type | 1.995 | 1.822 | 0.913 | 26.169 | <.001 | 0.045 |
| Consistency * Type * Condition | 1.995 | 0.699 | 0.35 | 10.036 | <.001 | 0.018 |
| Error(Consistency * Type) | 1111.134 | 38.771 | 0.035 | | | |
| *Between-Subjects Effects* | | | | | | |
| Intercept | 1 | 569.33 | 569.33 | 1977.43 | <.001 | 0.780 |
| Condition | 1 | 12.231 | 12.231 | 42.483 | <.001 | 0.071 |
| Error (Condition) | 557 | 160.368 | 0.288 | | | |

**Table S8.** Lucid sample. Mixed-design three-way repeated measures ANOVA with mean proportion of "yes" responses entered in the following design: 2 (Condition: Accuracy, Sharing) between subjects x 3 (Type: False, Hyperpartisan, True) within subjects x 2 (Consistency: Politically Consistent, Politically Inconsistent) (partisanship is operationalized as identifying as Democratic versus Republican on continuous measure). Accuracy $N = 220$; Sharing $N = 220$. *** p < .001; ** p < .01; * p < .05.

| *Source* | *df* | *SS* | *MS* | *F* | *p* | $\eta_p^2$ |
|---|---|---|---|---|---|---|
| *Within-Subjects Effects* | | | | | | |
| Consistency | 1 | 22.848 | 22.848 | 168.319 | <.001 | 0.278 |
| Consistency * Condition | 1 | 0.123 | 0.123 | 0.904 | .348 | 0.002 |
| Error(Consistency) | 438 | 59.456 | 0.136 | | | |
| Type | 1.736 | 18.675 | 10.755 | 180.360 | <.001 | 0.292 |
| Type * Condition | 1.736 | 11.373 | 6.55 | 108.842 | <.001 | 0.200 |
| Error(Type) | 760.558 | 45.352 | 0.06 | | | |
| Consistency * Type | 2 | 0.144 | 0.072 | 2.206 | .111 | 0.005 |
| Consistency * Type * Condition | 2 | 0.228 | 0.114 | 3.493 | .031 | 0.008 |
| Error(Consistency * Type) | 878 | 28.665 | 0.033 | | | |
| *Between-Subjects Effects* | | | | | | |
| Intercept | 1 | 541.824 | 541.824 | 1469.011 | <.001 | 0.770 |
| Condition | 1 | 0.226 | 0.226 | 0.611 | .435 | 0.001 |
| Error (Condition) | 438 | 161.550 | 0.369 | | | |

## Section 3: Preregistered robustness checks

We pre-registered a series of exploratory analyses as robustness checks.

### 3.1 Self-identified Democrats and Republicans

We assigned participants to political groups on the basis of what party they self-identified with from four options: Democrat, Republican, Independent and "other". Only participants who identified as Democrat or Republican were retained for analysis. This enabled us to focus on those participants who explicitly identify with one of the two major parties. Results were similar to those reported in the main paper. See Tables S9-S12.

**Table S9.** Correlation (Pearson *r*) between Cognitive Reflection Test performance and perceived accuracy as a function of the political slant of the headline (Pro-Democrat vs Pro-Republican), the partisanship of the participant (Democrat, Republican), and headline type (False vs Hyperpartisan vs True). MTurk sample: Democrat $N = 221$; Republican $N = 124$. Lucid sample: Democrat $N = 182$; Republican $N = 153$. *** p < .001; ** p < .01; * p < .05.

| | | Pro-Democrat slant | | | Pro-Republican slant | | |
|---|---|---|---|---|---|---|---|
| Sample | Partisanship | False | Hyperpartisan | True | False | Hyperpartisan | True |
| MTurk | Democrat | -.36*** | .03 | .20** | -.29*** | -.24*** | .24*** |
| | Republican | -.50*** | -.31*** | -.18* | -.39*** | -.25** | .22* |
| Lucid | Democrat | -.22** | -.08 | .20** | -.19* | -.28*** | .20** |
| | Republican | -.26** | -.09 | -.06 | -.11 | -.15 | -.03 |

**Table S10.** Correlation (Pearson *r*) between Cognitive Reflection Test performance and accuracy discernment as a function of the political slant of the headline (Pro-Democrat vs Pro-Republican), the partisanship of the participant (Democrat, Republican), and form of discernment (True-False vs True-Hyperpartisan). MTurk sample: Democrat $N = 221$; Republican $N = 124$. Lucid sample: Democrat $N = 182$; Republican $N = 153$. *** p < .001; ** p < .01; * p < .05.

| | | Pro-Democrat slant | | Pro-Republican slant | |
|---|---|---|---|---|---|
| Sample | Partisanship | True-False | True-Hyperpartisan | True-False | True-Hyperpartisan |
| MTurk | Democrat | .40*** | .15* | .37*** | .36*** |
| | Republican | .36*** | .18* | .45*** | .38*** |
| Lucid | Democrat | .32*** | .28*** | .32*** | .40*** |
| | Republican | .20* | .03 | .08 | .12 |

**Table S11.** Correlation (Pearson *r*) between Cognitive Reflection Test performance and willingness to share as a function of the political slant of the headline (Pro-Democrat vs Pro-Republican), the partisanship of the participant (Democrat, Republican), and headline type (False vs Hyperpartisan vs True). Responses for which participants selected the option indicating that they were unwilling to ever share political news on social media were removed from this analysis. MTurk sample: Democrat $N = 142$; Republican $N = 75$. Lucid sample: Democrat $N = 96$; Republican $N = 70$. *** p < .001; ** p < .01; * p < .05.

| | | Pro-Democrat slant | | | Pro-Republican slant | | |
|---|---|---|---|---|---|---|---|
| Sample | Partisanship | False | Hyperpartisan | True | False | Hyperpartisan | True |
| MTurk | Democrat | -.25** | -.14 | .04 | -.38*** | -.40*** | -.22** |
| | Republican | -.45*** | -.47*** | -.43*** | -.16 | -.34** | -.15 |
| Lucid | Democrat | -.20* | -.12 | .01 | -.25* | -.30** | -.33*** |
| | Republican | -.20 | -.15 | -.27* | -.04 | -.08 | .03 |

**Table S12.** Correlation (Pearson *r*) between Cognitive Reflection Test performance and sharing discernment as a function of the political slant of the headline (Pro-Democrat vs Pro-Republican), the partisanship of the participant (Democrat, Republican), and form of discernment (True-False vs True-Hyperpartisan). Responses for which participants selected the option indicating that they were unwilling to ever share political news on social media were removed from this analysis. MTurk sample: Democrat $N = 142$; Republican $N = 75$. Lucid sample: Democrat $N = 96$; Republican $N = 70$. *** p < .001; ** p < .01; * p < .05.

| | | Pro-Democrat slant | | Pro-Republican slant | |
|---|---|---|---|---|---|
| Sample | Partisanship | True-False | True-Hyperpartisan | True-False | True-Hyperpartisan |
| MTurk | Democrat | .26** | .25** | .14 | .19* |
| | Republican | .09 | .09 | .00 | .20 |
| Lucid | Democrat | .22* | .22* | -.13 | -.06 |
| | Republican | -.12 | -.21 | .10 | .16 |

### 3.2 Strong partisans

As a preregistered robustness check, we retained only those participants who used the extremities of the six-point Democratic versus Republican partisan scale to indicate their political preference: either “Strongly Democratic” or “Strongly Republican”. This enabled us to focus on those participants who identified strongly with one of these parties. Because we expected these samples to be considerably smaller than the full sample, we preregistered an intention to examine political consistency (i.e., politically consistent vs politically inconsistent) rather than Democrats and Republicans separately to increase the size of each cell and, thus, statistical power. We found no evidence that analytic thinking is associated with judging politically consistent hyperpartisan or false news headlines to be more accurate as predicted by the motivated reasoning account. By contrast, we found that in many (although not all) cases analytic thinking was associated with judging false news and hyperpartisan news to be less accurate. Results were comparable for willingness to share judgments, but few of the predicted associations were significant for sharing discernment. See Tables S13-S16.

**Table S13.** Correlation (Pearson *r*) between Cognitive Reflection Test performance and perceived accuracy as a function of the partisanship slant consistency of the headline (consistent vs inconsistent) and headline type (False vs Hyperpartisan vs True). MTurk sample: *N* = 111. Lucid sample: *N* = 152. *** p < .001; ** p < .01; * p < .05.

| | Partisanship consistent slant | | | Partisanship inconsistent slant | | |
|---|---|---|---|---|---|---|
| Sample | False | Hyperpartisan | True | False | Hyperpartisan | True |
| MTurk | -.47*** | -.02 | .27** | -.35*** | -.28** | .30** |
| Lucid | -.22** | -.04 | .23** | -.30*** | -.30*** | .07 |

**Table S14.** Correlation (Pearson *r*) between Cognitive Reflection Test performance and accuracy discernment as a function of the partisanship slant consistency of the headline (consistent vs inconsistent), and form of discernment (True-False vs True-Hyperpartisan). MTurk sample: *N* = 111. Lucid sample: *N* = 152. *** p < .001; ** p < .01; * p < .05.

| | Partisanship consistent slant | | Partisanship inconsistent slant | |
|---|---|---|---|---|
| Sample | True-False | True-Hyperpartisan | True-False | True-Hyperpartisan |
| MTurk | .49*** | .20* | .47*** | .51*** |
| Lucid | .33*** | .25** | .38*** | .37*** |

**Table S15.** Correlation (Pearson *r*) between Cognitive Reflection Test performance and willingness to share as a function of the partisanship slant consistency of the headline (consistent vs inconsistent) and headline type (False vs Hyperpartisan vs True). Responses for which participants selected the option indicating that they were unwilling to ever share political news on social media were removed from this analysis. MTurk sample: *N* = 77. Lucid sample: *N* = 74. *** p < .001; ** p < .01; * p < .05.

| | Partisanship consistent slant | | | Partisanship inconsistent slant | | |
|---|---|---|---|---|---|---|
| Sample | False | Hyperpartisan | True | False | Hyperpartisan | True |
| MTurk | -.26* | -.28* | -.03 | -.42*** | -.33** | -.26* |
| Lucid | -.14 | -.15 | -.06 | -.30** | -.28* | -.37** |

**Table S16.** Correlation (Pearson *r*) between Cognitive Reflection Test performance and sharing discernment as a function of the partisanship slant consistency of the headline (Consistent vs Inconsistent), and form of discernment (True-False vs True-Hyperpartisan). Responses for which participants selected the option indicating that they were unwilling to ever share political news on social media were removed from this analysis. MTurk sample: *N* = 77. Lucid sample: *N* = 74. *** p < .001; ** p < .01; * p < .05.

| | Partisanship consistent slant | | Partisanship inconsistent slant | |
|---|---|---|---|---|
| Sample | True-False | True-Hyperpartisan | True-False | True-Hyperpartisan |
| MTurk | .29* | .36*** | .08 | .09 |
| Lucid | .14 | .07 | -.17 | -.11 |

**Section 4: Non-preregistered exploratory analyses**

In addition to the pre-registered exploratory analyses reported above, we also conducted non-preregistered exploratory analyses as additional robustness checks.

**4.1 Berlin Numeracy Test**

For our primary analyses analytic thinking was indexed using the CRT. However, other measures of cognitive sophistication (broadly construed) may also predict media truth discernment.

We used factor analysis to examine whether items in the CRT and the BNT load onto different factors. Figure S1 show a scree plot. The inflection point appears at factor two. Moreover, at first point where the Eigen value is below 1.0 is at factor two. These results suggest it is appropriate to extract two factors.

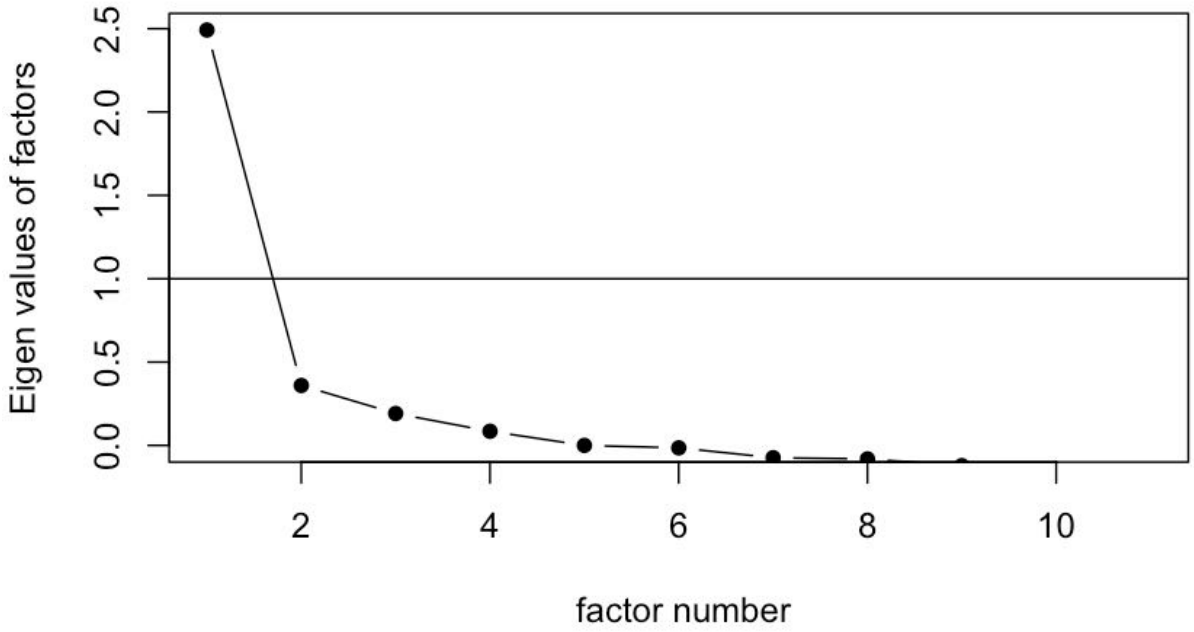



**Figure S1.** Scree plot.

We conducted a factor analysis with two factors and varimax ration. Table S17 shows the factor loading scores. Six out of seven CRT items load more heavily on factor 1 than factor 2, and all four BNT items load more heavily on factor 2 than factor 1. This suggests that these scales tap into different underlying factors (theorised to be analytic cognitive style and numeracy) and it could be worthwhile to examine the extent to which numeracy predicts accurate reasoning about misinformation (Pennycook & Ross, 2016).

**Table S17.** Factor matrix (with two factors and promax rotation).

| Item | Factor 1 | Factor 2 |
|---|---|---|
| CRT_1 | 0.43 | 0.32 |
| CRT_2 | 0.34 | 0.35 |
| CRT_3 | 0.46 | 0.43 |
| CRT_4 | 0.55 | 0.12 |
| CRT_5 | 0.53 | 0.16 |
| CRT_6 | 0.48 | 0.11 |
| CRT_7 | 0.33 | 0.11 |
| BNT_1 | 0.37 | 0.46 |
| BNT_2 | 0.17 | 0.49 |
| BNT_3 | 0.11 | 0.52 |
| BNT_4 | 0.08 | 0.37 |

For this reason, we conducted exploratory analyses examining relationships between numeracy (assessed using the Berlin Numeracy Test; Cokely, Galesic, Schulz, Ghazal, & Garcia-Retamero, 2012), accuracy judgements, and willingness to share as a function of the political slant of headlines. (The numeracy test was only measured in the Lucid sample, so no MTurk analyses are reported.) For accuracy judgments the correlations when using the Berlin Numeracy Test (BNT) were weaker than for the CRT, but the general pattern was similar. That is, the BNT was generally associated with the ability to discern between low and high quality news content regardless of political concordance in the context of accuracy judgments. However, the BNT did not consistently predict willingness to share or willingness to share discernment. See Tables S18-S21.

**Table S18.** Correlation (Pearson *r*) between Berlin Numeracy Test performance and perceived accuracy as a function of the political slant of the headline (Pro-Democrat vs Pro-Republican), the partisanship of the participant (Democrat, Republican), and headline type (False vs Hyperpartisan vs True). Lucid sample: Democrat $N = 265$; Republican $N = 218$. *** $p < .001$; ** $p < .01$; * $p < .05$.

| | | Pro-Democrat slant | | | Pro-Republican slant | | |
|---|---|---|---|---|---|---|---|
| Sample | Partisanship | False | Hyperpartisan | True | False | Hyperpartisan | True |
| Lucid | Democrat | -.22*** | -.03 | .16* | -.14* | -.25*** | .15* |
| | Republican | -.13* | -.11 | .03 | -.11 | -.12 | .06 |

**Table S19.** Correlation (Pearson *r*) between Berlin Numeracy Test performance and accuracy discernment as a function of the political slant of the headline (Pro-Democrat vs Pro-Republican), the partisanship of the participant (Democrat, Republican), and form of discernment (True-False vs True-Hyperpartisan). Lucid sample: Democrat $N = 265$; Republican $N = 218$. *** $p < .001$; ** $p < .01$; * $p < .05$.

| | | Pro-Democrat slant | | Pro-Republican slant | |
|---|---|---|---|---|---|
| Sample | Partisanship | True-False | True-Hyperpartisan | True-False | True-Hyperpartisan |
| Lucid | Democrat | .30*** | .19** | .23*** | .33*** |
| | Republican | .16* | .16* | .16* | .18** |

**Table S20.** Correlation (Pearson *r*) between Berlin Numeracy Test performance and willingness to share as a function of the political slant of the headline (Pro-Democrat vs Pro-Republican), the partisanship of the participant (Democrat, Republican), and headline type (False vs Hyperpartisan vs True). Responses for which participants selected the option indicating that they were unwilling to ever share political news on social media were removed from this analysis. Lucid sample: Democrat $N = 130$; Republican $N = 90$. *** $p < .001$; ** $p < .01$; * $p < .05$.

| | | Pro-Democrat slant | | | Pro-Republican slant | | |
|---|---|---|---|---|---|---|---|
| Sample | Partisanship | False | Hyperpartisan | True | False | Hyperpartisan | True |
| Lucid | Democrat | -.16 | -.05 | -.02 | -.07 | -.17 | -.12 |
| | Republican | -.10 | -.10 | -.14 | .10 | .07 | .04 |

**Table S21.** Correlation (Pearson *r*) between Berlin Numeracy Test performance and sharing discernment as a function of the political slant of the headline (Pro-Democrat vs Pro-Republican), the partisanship of the participant (Democrat, Republican), and form of discernment (True-False vs True-Hyperpartisan). Responses for which participants selected the option indicating that they were unwilling to ever share political news on social media were removed from this analysis. Lucid sample: Democrat $N = 130$; Republican $N = 90$. *** $p < .001$; ** $p < .01$; * $p < .05$.

| | | Pro-Democrat slant | | Pro-Republican slant | |
|---|---|---|---|---|---|
| Sample | Partisanship | True-False | True-Hyperpartisan | True-False | True-Hyperpartisan |
| Lucid | Democrat | .15 | .04 | -.06 | .07 |
| | Republican | -.07 | -.07 | -.08 | -.04 |

### 4.4 Item-level examination of headlines

In these exploratory analyses we examine headlines at the item-level. See Section 5 for the ordering of the individual headlines shown in Figures S2-S5 below.

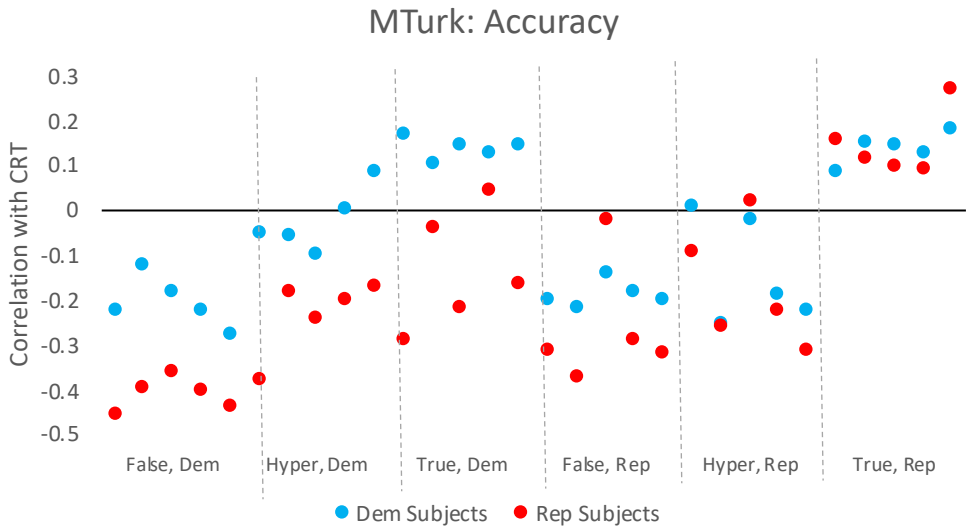



**Figure S2:** Correlation (Pearson *r*) between Cognitive Reflection Test performance and perceived accuracy as a function of the political slant of individuals headline (Pro-Democrat vs Pro-Republican), the partisanship of the participant (Democrat, Republican), and headline type (False vs Hyperpartisan vs True). Democrat $N = 322$; Republican $N = 180$.

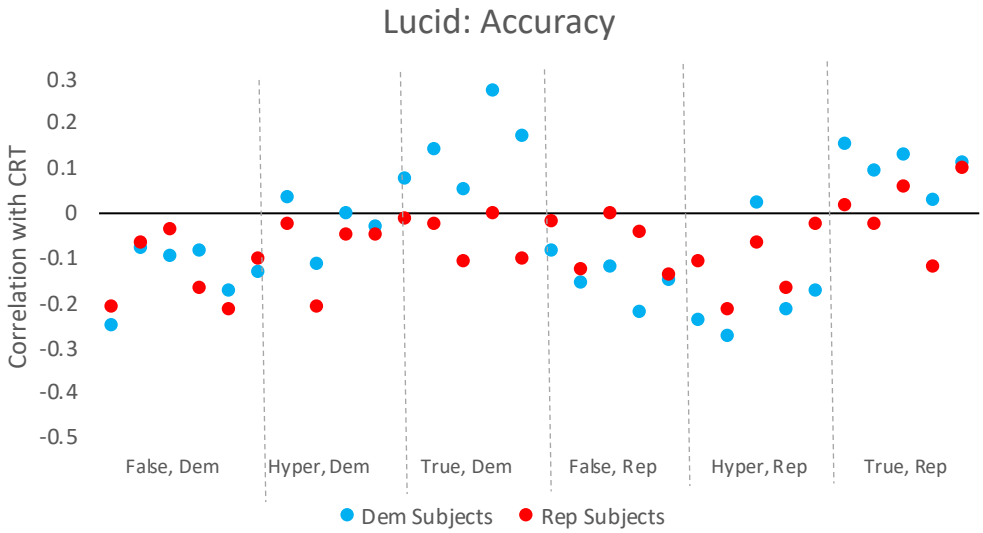



**Figure S3:** Correlation (Pearson *r*) between Cognitive Reflection Test performance and perceived accuracy as a function of the political slant of individuals headline (Pro-Democrat vs Pro-Republican), the partisanship of the participant (Democrat, Republican), and headline type (False vs Hyperpartisan vs True). Democrat $N = 265$; Republican $N = 218$.

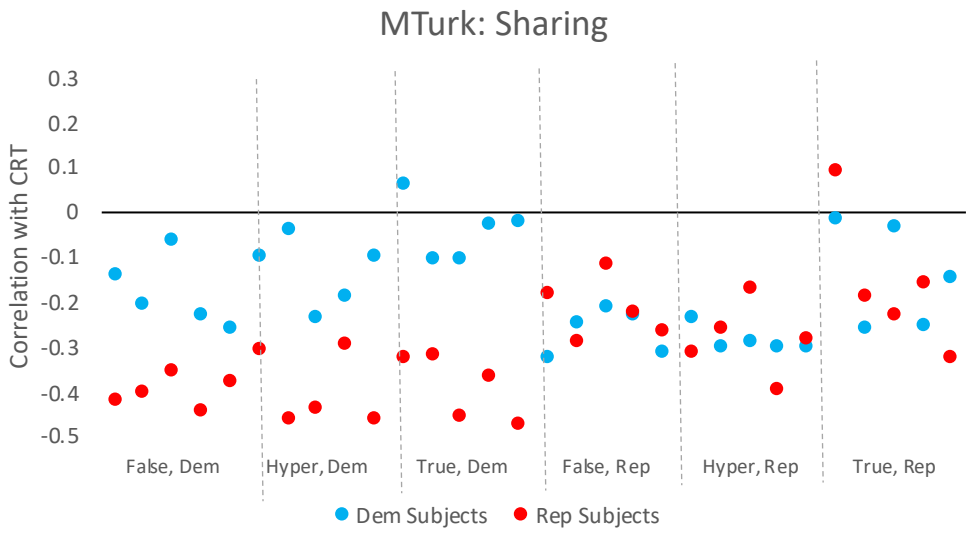



**Figure S4:** Correlation (Pearson *r*) between Cognitive Reflection Test performance and willingness to share as a function of the political slant of individual headlines (Pro-Democrat vs Pro-Republican), the partisanship of the participant (Democrat, Republican), and headline type (False vs Hyperpartisan vs True). Responses for which participants selected the option indicating that they were unwilling to ever share political news on social media were removed from this analysis. Democrat $N = 190$; Republican $N = 112$.

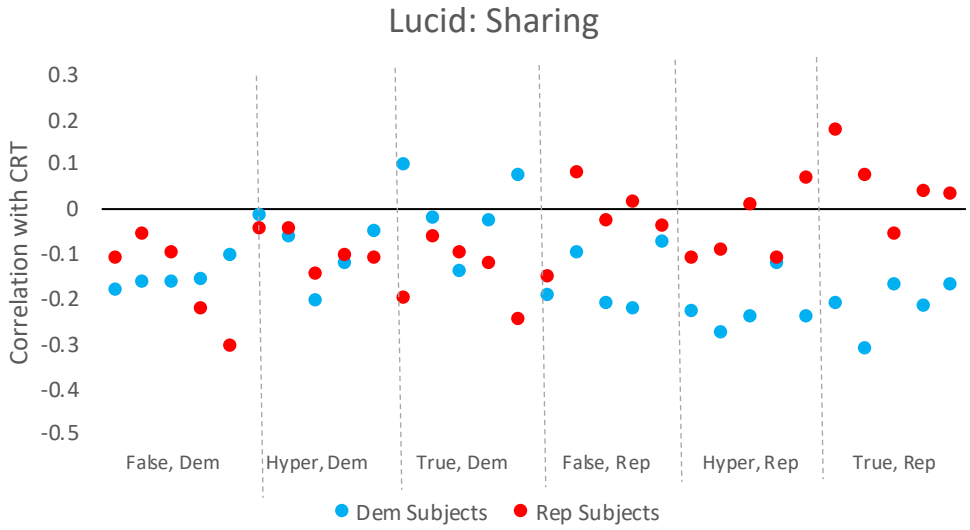



**Figure S5:** Correlation (Pearson *r*) between Cognitive Reflection Test performance and willingness to share as a function of the political slant of individual headlines (Pro-Democrat vs Pro-Republican), the partisanship of the participant (Democrat, Republican), and headline type (False vs Hyperpartisan vs True). Responses for which participants selected the option indicating that they were unwilling to ever share political news on social media were removed from this analysis. Democrat $N = 130$; Republican $N = 90$.

**Section 5: Headlines**

Headline codes in data_preprocessed file
(Headline codes in Qualtrics file and data_raw in parentheses.)

Dem_Fake1 (DemFake6)
Source: USPOLITICSINFO.COM


FBI Uncovers Evidence That 62 Million Trump Voters are All Russian Agents! - Us Politics Info

Anonymous sources within the FBI have revealed to The Times that they have new evidence indicating that everyone who voted for Donald Trump is an agent of the FSB (formerly the...

Dem_Fake2 (DemFake3)
Source: BIPARTISANREPORT.COM

Pennsylvania Federal Court Grants Legal Authority To REMOVE TRUMP After Russian Meddling

The Russian government's interference in the Presidential election could provide legal...

Dem_Fake3 (DemFake18)
Source: BIPARTISANREPORT.COM

W.H. Staffers Defect, Releasing Private Tape Recording That Has Trump Dead Silent

According to reports from the Wall Street Journal, a handful of former employees as well as a former associate of Trump say 45 sometimes taped phone calls in his New York City Trump...

Dem_Fake4 (DemFake19)
Source: WISELIFENOW.COM

White House Erupting In RAGE After Obama Gets Invited To Royal Wedding – Trump Got DENIED - Wise Life Now

Prince Harry and his fiancée Meghan Markle have rejected the advice of politicians and diplomats, and have invited former US President Barack Obama and his wife Michelle to…

Dem_Fake5 (DemFake13)
Source: THE-POSTILLON.COM

Trump wants to deport American Indians to India

Washington (dpo) - As part of his plan to improve national security and combat illegal immigration, US President Donald Trump intends to send around 3 million American Indians back to where they came from – India. He is to sign an executive order to this effect this week.

Dem_Hyp1 (DemHyp8)
Source: DAILYKOS.COM


Trump Says Stupid Things On Fox, Within 2 Hours Prosecutors Use It Against Him In Court.

Trump is the greatest witness Avenatti and Mueller could ask for. This is just hilarious. It doesn't get much crazier than this. And you wonder why his lawyers won't let him interview…

Dem_Hyp2 (DemHyp20)
Source: DAILYKOS.COM

**Trump's cabinet members just can't keep themselves out of court**

Secretary of Housing and Urban Development Ben Carson is the latest high-level Trump pick to face the wrong end of a lawsuit. After Carson suspended a 2015 rule promoting…

Dem_Hyp3 (DemHyp13)
Source: DAILYKOS.COM

**With their tax law a bust, Republicans to run on their old favorite: misogyny**

Republicans don't have much to run on this November. Donald Trump? Good for motivating part of their base, but as good or better at motivating the Democratic base. Their tax law?…

Dem_Hyp4 (DemHyp6)
Source: DAILYKOS.COM

**Republican squabbling, Trump chaos infecting Senate primary races**

Mitch McConnell's hopes of enlarging his very narrow majority in the Senate—or even keeping it—are looking dimmer all the time, thanks to the ongoing Republican civil war and the agent…

Dem_Hyp5 (DemHyp14)
Source: DAILYKOS.COM

**Trump told Comey he didn't spend the night in Moscow. Trump was lying.**

Donald Trump has repeatedly said that he didn't spend a night in Moscow on his 2013 trip to the Miss Universe contest, so the Night of the Golden Shower as described in the Steele…

Dem_Main1 (DemMain9)
Source: WASHINGTONPOST.COM

**Analysis | President Trump has made 3,001 false or misleading claims so far**

The president is now averaging nearly 6.5 false or misleading claims a day — a number that keeps creeping up.

Dem_Main2 (DemMain10)
Source: MSN.COM

**Giuliani: It is possible Michael Cohen paid off other women for Trump**

Giuliani, a lawyer for President Trump, said he does not know of payments to other women and said they may have happened "if it was necessary."

Dem_Main3 (DemMain2)
Source: MSN.COM

Ex-White House ethics chief: Trump's Mar-a-Lago is a 'symbol of corruption'

The former director of the Office of Government Ethics says President Trump's Mar-a-Lago resort is a "symbol of corruption."

Dem_Main4 (DemMain12)
Source: WSJ.COM

U.S. Stocks Tumble After Trump Announces New Import Tariffs

The Dow Jones Industrial Average tumbled more than 400 points, erasing its gains for the year, as investors fretted over the ramifications of new steel and aluminum tariffs announced…

Dem_Main5 (DemMain15)
Source: NYTIMES.COM

Investment Boom From Trump's Tax Cut Has Yet to Appear

Analysts are still waiting for hard evidence that the new tax law is setting off the investment explosion that President Trump and Republicans promised.

Rep_Fake1 (RepFake18)
Source: POLICEUS.INFO

UPDATE: Malia Obama Among 10 Arrested In Racist Antifa Attack - US NEWS

You probably heard that 10 Antifa terrorists were arrested in Cambridge, Massachusetts after they attacked an elderly white woman who was doing nothing but coming out of her local…

Rep_Fake2 (RepFake13)
Source: NYEVENIGNEWS.COM

Eric Schneiderman Helped NXIVM Sell Child Sex Slaves To The Clintons - NY Evening

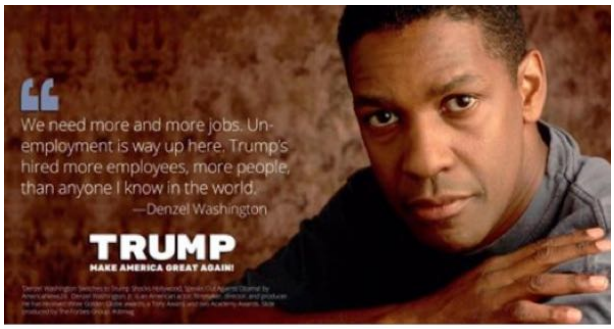
Eric Schneiderman used his position as Attorney General to cover-up the crimes of NXIVM – a cult recently exposed as selling child sex slaves to the Clintons.As President Trump…

Rep_Fake3 (RepFake6)
Source: YOURNEWSWIRE.COM

Haiti Official, Who Exposed The Clinton Foundation, Found Dead

He was due to appear before the Haitian Ethics and Anti-Corruption Commission where he was expected to expose the extent of Clinton Foundation corruption in...

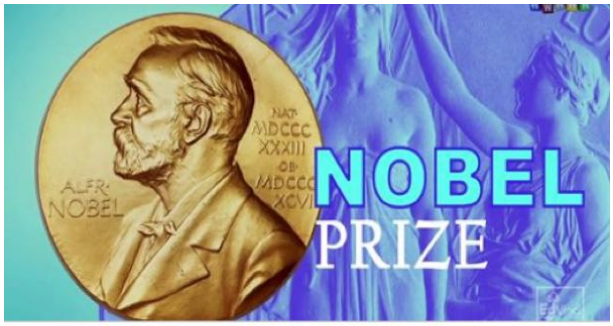
Rep_Fake4 (RepFake16)
Source: USALIBERTYPRESS.COM




**Denzel Washington: With Trump we avoided war with Russia and Orwellian Police State -**

Denzel's recent comments about the "Orwellian Police State" is so very apparent, given the FBI, DNC, Hillary Clinton and Barack Obama scandal inside the administration's treasonous ...

Rep_Fake5 (RepFake7)
Source: DAILYWORLDUPDATE.US




**UPDATE: Trump Has The Votes-Wins Nobel Peace Prize**

The news just broke in Switzerland.

Rep_Hyp1 (RepHyp4)
Source: WESTERNJOURNAL.COM

**Trump Gets Handed a Big Win at the UN, Russia Gets Slapped Down**

'If the Syrian regime uses this poison gas again, the United States is locked and loaded.'

Rep_Hyp2 (RepHyp20)
Source: WESTERNJOURNAL.COM

Alleged 9/11 Mastermind Joins Democrats in Opposing CIA Nominee

'Now I really want her in there...'

Rep_Hyp3 (RepHyp13)
Source: DAILYCALLER.COM

Poll: Melania Trump Is A More Popular First Lady Than Hillary Clinton

A new poll indicates that First Lady Melania Trump is a much more popular first lady than Hillary Clinton was. YouGov reports that Melania is seen positively by 40 percent of America...

Rep_Hyp4 (RepHyp1)
Source: WESTERNJOURNAL.COM

Huge: Trump Announces Plan to Take Hillary Server She Refused to Surrender to FBI

'This can be good news in that we will now counter for the DNC Server...'

Rep_Hyp5 (RepHyp10)
Source: WESTERNJOURNAL.COM

Shock Revelation: Obama Admin Actively Sabotaged Gun Background Check System

The media wanted to pin this on the Trump administration, but testimony from a top FBI official proved them wrong.

Rep_Main1 (RepMain17)
Source: REUTERS.COM


U.S. job growth picks up, unemployment rate falls to 3.9 percent

U.S. job growth increased less than expected in April and the unemployment rate dropped to near a 17-1/2-year low of 3.9 percent as some out-of-work Americans left the labor force.

Rep_Main2 (RepMain20)
Source: MSN.COM

Melania Trump's popularity jumps in new CNN poll

First lady Melania Trump has in recent weeks experienced a significant surge in support, a new CNN poll reveals, including among women and Democrats.

Rep_Main3 (RepMain7)
Source: FOXNEWS.COM

**Trump-backed nominees win US Senate primaries in Pennsylvania, Nebraska**

Pennsylvania could send at least three women Congress next year, breaking the all-male hold on the 18-member U.S. House delegation.

Rep_Main4 (RepMain18)
Source: FORTUNE.COM

**President Trump Pledges 'Strong Action Today' on Immigration**

Trump tweeted "Our Border Laws are very weak" and said Democrats "stand in our way" of new laws

Rep_Main5 (RepMain15)
Source: FOXNEWS.COM

**California Democrat facing possible discipline after sexual misconduct allegations**

Members of the California state Senate are scheduled Wednesday to consider disciplinary action against a Democrat who "more likely than not" made inappropriate sexual advances…

**Section 6: References**

Cokely, E. T., Galesic, M., Schulz, E., Ghazal, S., & Garcia-Retamero, R. (2012). Measuring risk literacy: The Berlin Numeracy Test. *Judgment and Decision Making, 7*(1), 25-47.

Field, A. P. (2017). *Discovering statistics using IBM SPSS Statistics: and sex and drugs and rock 'n' roll* (5 ed.). Ca, USA: Sage.

Pennycook, G., & Ross, R. M. (2016). Commentary: Cognitive reflection vs. calculation in decision making. *Frontiers in Psychology, 7*, 1-4. doi:10.3389/fpsyg.2016.00009