

Appendix: Descriptive statistics and multinomial models

This Appendix provides descriptive statistics for the dependent variables and independent variables included in the main paper, along with full multivariate results. All data are from a 2019 online survey conducted by YouGov on our behalf. Data and replication materials are available via the Harvard Dataverse. The full survey includes 2,500 respondents; 58 respondents who were unable to answer a partisan identification item are excluded.

The dependent variable draws on data from twelve fact-opinion differentiation questions in which respondents were asked to determine whether each claim was a statement of fact or a statement of opinion. Figure 1 displays the success rate for Democrats (including leaners), independents, and Republicans.

Data from the twelve fact-opinion differentiation items were used to construct a dependent variable with three outcomes: the proportion of responses that indicated accuracy, the proportion of responses that indicated partisan error, and the proportion of responses that indicated unbiased error. Table 1 depicts the overall distribution on the dependent measure. Tables 2, 3, and 4 disaggregate the dependent variable by party (Republicans, including leaners; Democrats, including leaners; and pure independents). The dependent variable for multivariate analyses is combined into a matrix, which is interpreted as counts for each combination of observed response proportions, as shown in Table 5. Using this dependent variable, two grouped multinomial logit models were estimated. Results are summarized in Figure 1 and Figure 2 in the main paper, and full results are discussed below.

Table 6 displays descriptive statistics for all cases for all independent variables except the partisan indicators. Tables 7, 8, and 9 disaggregate the descriptive statistics for the three partisan categories. Minimums and maximums refer to observed values. For current events knowledge, the minimum possible value is 0, but the minimum observed value is 1. For civics knowledge, cognitive ability, education, pro-Democratic affective polarization, and pro-Democratic affective polarization, the full range of possible scale values is observed.

The grouped multinomial models were estimated using the `nnet` package in R. In multinomial logit, one outcome on the dependent variable is used as the contrast category; in our models, the contrast, or omitted, option is accurate response. Tables 10 and 11 below report the output from the models for the effects of political sophistication (corresponding with Figure 1 in the paper) and pro-party affective polarization (corresponding with Figure 2 in the paper). These tables show the log-odds coefficients, which are the standard output but are difficult to interpret. Tables 12 and 13 report the same models, but the coefficients are in relative risk ratios. A risk ratio of less than one means a decreased probability for that category relative to the baseline (accurate response), and a risk ratio greater than one indicates an increased probability for that category compared to the baseline.

Probability estimates and confidence intervals are computed using the `predictions` function in the `marginaleffects` package in R. The function uses model-fitted values to compute predicted probabilities (intervals) for each category of the dependent variable over the range of an independent variable while holding all other independent variables at their mean. Additionally, for Figure 1 in the main paper, both dichotomous party variables are held at zero. For Figure 2 in the main paper, pro-party affective polarization is varied across its full range for one party while the level for the opposing party is held constant at 0.

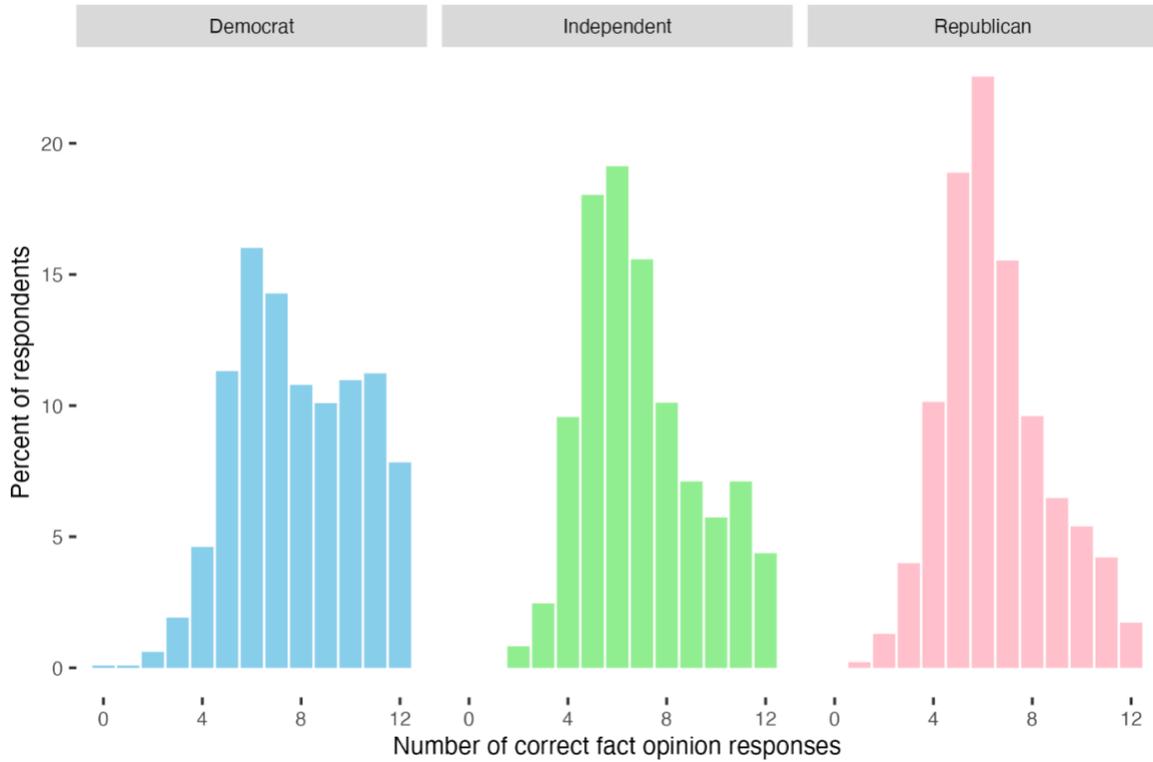


Figure 1. Accurate fact-opinion differentiation for Democrats, independents, and Republicans.

Table 1. Dependent variable descriptive statistics (all cases; N = 2,440).

	Mean	S.D.	Median
Accurate response	0.27	0.32	0.17
Partisan error	0.29	0.24	0.33
Unbiased error	0.44	0.33	0.33

Table 2. Dependent variable descriptive statistics (Republicans; N = 927).

	Mean	S.D.	Median
Accurate response	0.18	0.26	0.00
Partisan error	0.26	0.24	0.17
Unbiased error	0.56	0.28	0.67

Table 3. Dependent variable descriptive statistics (Democrats; N = 1,147).

	Mean	S.D.	Median
Accurate response	0.36	0.35	0.33
Partisan error	0.31	0.25	0.33
Unbiased error	0.33	0.33	0.33

Table 4. *Dependent variable descriptive statistics (independents; N = 366).*

	Mean	S.D.	Median
Accurate response	0.24	0.31	0.08
Partisan error	0.27	0.23	0.17
Unbiased error	0.49	0.33	0.50

Table 5. *Dependent variable counts by each distribution of outcomes.*

Accurate response	Partisan error	Unbiased error	Count
0.00	0.00	1.00	254
0.00	0.17	0.83	177
0.00	0.33	0.67	300
0.00	0.50	0.50	171
0.00	0.67	0.33	173
0.00	0.83	0.17	54
0.00	1.00	0.00	12
0.17	0.00	0.83	53
0.17	0.17	0.67	143
0.17	0.50	0.33	136
0.17	0.83	0.00	41
0.33	0.00	0.67	79
0.33	0.33	0.33	122
0.33	0.67	0.00	51
0.50	0.00	0.50	30
0.50	0.17	0.33	96
0.50	0.50	0.00	85
0.67	0.00	0.33	81
0.67	0.33	0.00	121
0.83	0.00	0.17	42
0.83	0.17	0.00	155
1.00	0.00	0.00	122

Table 6. Descriptive statistics for independent variables (all cases).

	<i>N</i>	Mean	<i>S.D.</i>	Median	Minimum	Maximum
Age	2442	54.10	15.37	57.00	19	93
Civics knowledge	2440	4.87	1.46	6.00	0	6
Current events knowledge	2434	7.34	1.93	8.00	1	10
Cognitive ability	2433	5.09	2.26	5.00	0	8
Education	2442	2.88	1.49	3.00	0	5
Pro-Democratic affective polarization	2442	30.00	34.73	6.25	0	100
Pro-Republican affective polarization	2442	25.52	33.75	0.00	0	100

Table 7. Descriptive statistics for independent variables (Republicans).

	<i>N</i>	Mean	<i>S.D.</i>	Median	Minimum	Maximum
Age	927	57.42	14.53	59.00	19	93
Civics knowledge	927	5.00	1.31	6.00	1	6
Current events knowledge	925	7.29	1.87	8.00	1	10
Cognitive ability	924	4.99	2.17	5.00	0	8
Education	927	2.67	1.45	2.00	0	5
Pro-Democratic affective polarization	927	1.19	7.50	0.00	0	89.75
Pro-Republican affective polarization	927	58.41	28.22	66.50	0	100

Table 8. Descriptive statistics for independent variables (Democrats).

	<i>N</i>	Mean	<i>S.D.</i>	Median	Minimum	Maximum
Age	1149	52.27	15.71	56.00	19	91
Civics knowledge	1147	4.85	1.48	6.00	0	6
Current events knowledge	1145	7.46	1.92	8.00	1	10
Cognitive ability	1145	5.22	2.30	6.00	0	8
Education	1149	3.14	1.49	4.00	0	5
Pro-Democratic affective polarization	1149	57.87	28.64	65.25	0	100
Pro-Republican affective polarization	1149	0.65	4.77	0.00	0	68.75

Table 9. Descriptive statistics for independent variables (independents).

	N	Mean	S.D.	Median	Minimum	Maximum
Age	366	51.42	14.89	54.00	19	92
Civics knowledge	366	4.57	1.72	5.00	0	6
Current events knowledge	364	7.08	2.10	7.00	1	10
Cognitive ability	364	4.91	2.35	5.00	0	8
Education	366	2.61	1.49	2.00	0	5
Pro-Democratic affective polarization	366	15.47	24.04	0.00	0	96.25
Pro-Republican affective polarization	366	20.29	28.34	0.25	0	95.25

Table 10. Effects of political sophistication on fact-opinion differentiation: Log-odds.

	Partisan error	Unbiased error
Civics knowledge	-0.01 (0.06)	-0.21*** (0.06)
Current events knowledge	0.02 (0.04)	-0.07** (0.04)
Cognitive ability	-0.21*** (0.03)	-0.26*** (0.03)
Education	-0.21*** (0.04)	-0.25*** (0.04)
Age	0.03*** (0.00)	0.03*** (0.00)
Republican	0.12 (0.19)	0.44** (0.17)
Democrat	-0.19 (0.17)	-0.67*** (0.16)
Constant	0.36 (0.36)	2.87*** (0.33)
Number of cases		2424
Pseudo R ²		0.25
Akaike Information Criterion		4677.22

Note: The contrast category is accurate response. Standard errors are in parentheses.

*** $p < .01$, ** $p < .05$, * $p < .10$

Table 11. Effects of partisan affective polarization on fact-opinion differentiation: Log-odds.

		Partisan error	Unbiased error
Pro-Democratic polarization	affective	0.00 (0.00)	-0.01** (0.00)
Pro-Republican polarization	affective	0.02*** (0.00)	0.01*** (0.00)
Civics knowledge		-0.07 (0.06)	-0.22*** (0.06)
Current events knowledge		0.00 (0.04)	-0.06* (0.04)
Cognitive ability		-0.20*** (0.03)	-0.26*** (0.03)
Education		-0.19*** (0.04)	-0.23*** (0.04)
Age		0.02*** (0.00)	0.03*** (0.00)
Republican		-0.70*** (0.23)	-0.14 (0.21)
Democrat		0.11 (0.21)	-0.19 (0.19)
Constant		0.42 (0.37)	2.78*** (0.33)
Number of cases			2424
Pseudo R ²			0.27
Akaike Information Criterion			4617.24

Note: The contrast category is accurate response. Standard errors are in parentheses.

**** $p < .01$, ** $p < .05$, * $p < .10$*

Table 12. Effects of political sophistication on fact-opinion differentiation: Risk ratio.

	Partisan error	Unbiased error
Civics knowledge	0.99 (0.06)	0.81*** (0.06)
Current events knowledge	1.02 (0.04)	0.93** (0.04)
Cognitive ability	0.81*** (0.03)	0.77*** (0.03)
Education	0.81*** (0.04)	0.78*** (0.04)
Age	1.03*** (0.00)	1.03*** (0.00)
Republican	1.12 (0.19)	1.55** (0.17)
Democrat	0.83 (0.17)	0.51*** (0.16)
Constant	1.44 (0.36)	17.63*** (0.33)
Number of cases		2424
Pseudo R ²		0.25
Akaike Information Criterion		4677.22

Note: The contrast category is accurate response. Standard errors are in parentheses.

*** $p < .01$, ** $p < .05$, * $p < .10$

Table 13. Effects of partisan affective polarization on fact-opinion differentiation: Risk ratio.

		Partisan error	Unbiased error
Pro-Democratic polarization	affective	1.00 (0.00)	0.99** (0.00)
Pro-Republican polarization	affective	1.03*** (0.00)	1.01*** (0.00)
Civics knowledge		0.93 (0.06)	0.81*** (0.06)
Current events knowledge		1.00 (0.04)	0.94* (0.04)
Cognitive ability		0.82*** (0.03)	0.77*** (0.03)
Education		0.83*** (0.04)	0.79*** (0.04)
Age		1.02*** (0.00)	1.03*** (0.00)
Republican		0.50*** (0.23)	0.87 (0.21)
Democrat		1.12 (0.21)	0.82 (0.19)
Constant		1.62 (0.37)	16.16*** (0.33)
Number of cases			2424
Pseudo R ²			0.27
Akaike Information Criterion			4617.24

Note: The contrast category is accurate response. Standard errors are in parentheses.

**** p < .01, ** p < .05, * p < .10*