

Supplemental Material

Table S1

Stimuli: Urban Myths and General Knowledge Questions

Test Item	Answer
You must wait 24 hours before filing a missing persons report with the police.	FALSE
Gum remains in the stomach for 7 years before being fully digested.	FALSE
Thomas Edison invented the lightbulb.	FALSE
During the Salem Witch Trials, alleged witches were burned at the stake.	FALSE
Eating before swimming increases the risk of cramps.	FALSE
Adding salt to a pot of water makes it boil faster.	FALSE
The Great Wall of China is visible from space.	FALSE
Alcohol kills brain cells.	FALSE
Different parts of your tongue are specialized for different tastes (sweet, salty, bitter, etc.)	FALSE
Humans only use approximately 10% of their brains.	FALSE
Most body heat is lost through the top of the head.	FALSE
Waking a sleepwalker is bad for their health.	FALSE
Bananas grow on palm trees.	FALSE
Milk increases mucus.	FALSE
Bats use echolocation because they are blind.	FALSE
Goldfish have a memory span of 3-seconds.	FALSE
Shaving hair makes it grow back thicker and darker.	FALSE
Vikings wore horned helmets.	FALSE
Drinking alcohol warms up your body.	FALSE
Bulls get aggressive when they see the color red.	FALSE
Hair and fingernails continue growing after death.	FALSE
Adding oil to pasta prevents it from sticking together.	FALSE
On average, a person swallows 8 spiders per year in their sleep.	FALSE
From base to peak, Everest is the tallest mountain in the world.	FALSE
When the Pilgrims arrived in America, they first landed at Plymouth Rock.	FALSE
Historically, ninjas wore all-black uniforms.	FALSE
Lightning never strikes the same place twice.	FALSE
Meteors catch fire because of the friction from entering Earth's atmosphere.	FALSE
A penny dropped from the top of a skyscraper could kill a person below.	FALSE
The North Star is the brightest star in the sky.	FALSE
Personalities are influenced by whether a person left-brain or right-brain dominant.	FALSE
Daddy long-legs spiders have deadly venom, but their fangs are too short to pierce human skin.	FALSE
De-oxygenated blood in your veins is blue.	FALSE
Dogs see in black-and-white.	FALSE
Camels store water in their humps.	FALSE
Cracking your knuckles increases the risk of arthritis.	FALSE
Dogs drool instead of sweating.	FALSE

Albert Einstein failed math in grade school.	FALSE
Caffeine dehydrates the body.	FALSE
Coffee is made from beans.	FALSE
Chameleons change color to match the object or surface they are touching.	FALSE
Sugar consumption is linked to hyperactivity in children.	FALSE
Over time, radiation from microwave ovens can increase the risk of cancer.	FALSE
The capital of Australia is Sydney.	FALSE
Wolves howl more when the full moon is visible.	FALSE
Outer space is a vacuum, entirely empty of matter.	FALSE
Touching toads can cause warts.	FALSE
The Morse code distress signal "SOS" stands for "Save Our Ship".	FALSE
Cell phones connect to satellites to make phone calls.	FALSE
Caffeine stunts growth in children.	FALSE
Penguins mate for life.	FALSE
Touching a baby bird will cause the mother bird to reject it.	FALSE
The fruit "orange" was named after the color "orange".	FALSE
Napoleon Bonaparte was shorter than average.	FALSE
During the Middle Ages, few people lived past age 35.	FALSE
The average lifespan of a housefly is 24 hours.	FALSE
Skin wrinkles underwater because water is absorbed into the pores.	FALSE
Sunflowers turn to track the sun across the sky.	FALSE
There are more humans alive today than have ever lived in the history of Earth.	FALSE
Benjamin Franklin suggested that a wild turkey be the symbol of the USA.	FALSE
Fortune cookies were invented in China.	FALSE
A shot of espresso contains more caffeine than a cup of drip coffee.	FALSE
Bathroom door handles have high concentrations of bacteria.	FALSE
Turkey makes you tired because the meat has higher levels of tryptophan than other meats.	FALSE
In the Southern Hemisphere, toilets flush in the opposite direction because of the Coriolis effect.	FALSE
Distilled water is an excellent conductor of electricity.	FALSE
Reading in low light hurts vision.	FALSE
Glass is a slow-moving liquid.	FALSE
Getting rust in a cut causes tetanus.	FALSE
Poinsettia flowers are poisonous.	FALSE
Hot-air hand dryers are more sanitary than paper towels.	FALSE
Sneezes travel at 100 miles per hour.	FALSE
Cockroaches can survive a nuclear blast.	FALSE
A duck's quack does not echo.	FALSE
Quicksand causes victims to sink.	FALSE
Coffee reduces the influence of alcohol.	FALSE
Breath mints and mouthwash prevent breathalyzers from detecting alcohol.	FALSE
Sharks do not suffer from cancer.	FALSE
Antibiotics kill viruses, like the flu.	FALSE
Diamonds are formed when coal undergoes high pressure.	FALSE

A Geiger Counter is used to detect radiation.	TRUE
Spinach is high in iron.	TRUE
The giraffe is the tallest mammal.	TRUE
The chemical formula for water is H ₂ O.	TRUE
The Harry Potter book series is the best-selling series of all time.	TRUE
Spiders have eight legs.	TRUE
Celery is a negative-calorie food because it takes more energy to digest than it provides.	TRUE
Blue whales are mammals.	TRUE
The cheetah can run faster than any other animal.	TRUE
There are eight planets in the solar system.	TRUE
The Declaration of Independence was signed in 1776.	TRUE
On average, cats live longer than dogs.	TRUE
Mixing bleach and ammonia is dangerous.	TRUE
On hot days, it is possible to fry an egg on a sidewalk.	TRUE
Humans can only survive 3-4 days without water.	TRUE
The first President of the United States of America was George Washington.	TRUE
Sun exposure lightens hair color.	TRUE
Citrus fruits are high in Vitamin C.	TRUE
Washington, D.C. is the capital of the USA.	TRUE
The USA was originally 13 British colonies.	TRUE
Every state in the USA elects two Senators.	TRUE
A marathon is a 26.2 mile run.	TRUE
Electrons are negatively-charged ions.	TRUE
Texas is larger in size than Hawaii.	TRUE
Most humans alive today have never made a phone call.	TRUE
Adding Viagra to water makes flowers stand up straight.	TRUE
The average cloud weighs over a million pounds.	TRUE
The closest living relative to the dinosaur Tyrannosaurus Rex is the chicken.	TRUE
Glass balls bounce higher than rubber balls.	TRUE
Venus is the planet closest to Earth.	TRUE
Violins have four strings.	TRUE
The Japanese national flag has a red circle in the center.	TRUE
Elephant tusks are made of ivory.	TRUE
The human heart has four chambers.	TRUE
Sharks are fish, not mammals.	TRUE
Fingernails are made of keratin.	TRUE
The ozone layer in the atmosphere absorbs ultraviolet light from the sun.	TRUE
The kiwi bird cannot fly.	TRUE
Caterpillars grow and develop into butterflies.	TRUE
Giant Pandas eat bamboo.	TRUE
If you are paying attention, select "True" and set your confidence rating at 70.	TRUE

Table S2a

Sample 1: Means, standard deviations, and Pearson Product-Moment correlations with confidence intervals

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6
1. Belief Updating	0.75	0.18						
2. RWA	2.35	0.87	-.19* [-.36, -.01]					
3. AOT	5.39	1.06	.47** [.32, .60]	-.62** [-.72, -.50]				
4. Conservatism	2.67	1.25	-.07 [-.25, .11]	.57** [.44, .68]	-.32** [-.47, -.15]			
5. Cognitive Reflection Test	0.69	0.30	.35** [.19, .50]	-.35** [-.49, -.18]	.46** [.31, .59]	-.20* [-.36, -.02]		
6. Intellectual Humility	4.13	0.62	.09 [-.09, .26]	-.48** [-.61, -.34]	.52** [.37, .64]	-.31** [-.46, -.14]	.17 [-.01, .33]	
7. Age	37.95	12.83	.37** [.21, .51]	-.05 [-.22, .13]	.25** [.07, .41]	-.02 [-.20, .16]	.32** [.15, .47]	-.05 [-.23, .13]

Note. *M* and *SD* are used to represent mean and standard deviation, respectively. Values in square brackets indicate the 95% confidence interval for each correlation. * indicates $p < .05$. ** indicates $p < .01$.

Table S2b

Sample 2: Means, standard deviations, and Pearson Product-Moment correlations with confidence intervals

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5
1. Belief Updating	0.73	0.20					
2. AOT	4.41	0.83	.23** [.07, .37]				
3. RWA	2.34	0.83	-.32** [-.45, -.17]	-.34** [-.47, -.19]			
4. SDO	1.76	1.81	-.01 [-.17, .15]	-.45** [-.57, -.32]	.10 [-.06, .26]		
5. Conservatism	2.64	1.15	-.06 [-.22, .10]	-.08 [-.24, .07]	.60** [.49, .69]	.03 [-.13, .18]	
6. Age	38.27	11.71	.23** [.08, .37]	.01 [-.15, .17]	-.08 [-.24, .07]	.02 [-.13, .18]	.11 [-.05, .26]

Note. *M* and *SD* are used to represent mean and standard deviation, respectively. Values in square brackets indicate the 95% confidence interval for each correlation. * indicates $p < .05$. ** indicates $p < .01$.

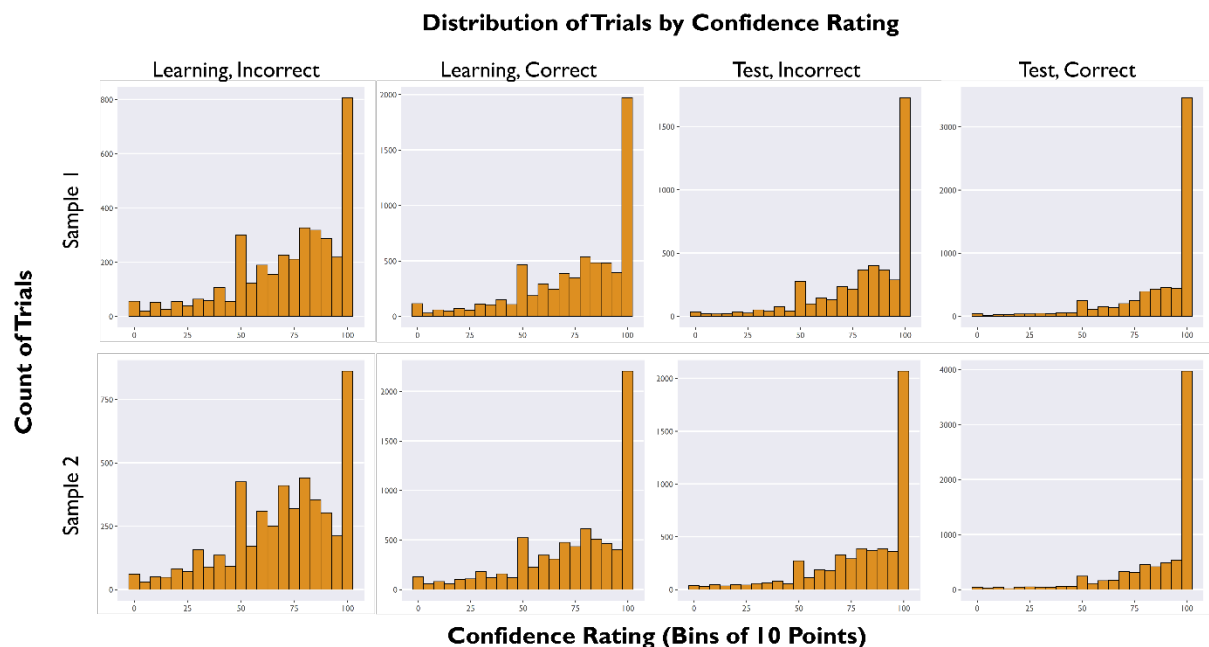


Figure S1. Histograms depicting the distribution of incorrect trials by confidence rating during the feedback learning task (i.e., prediction error on incorrect trials). Distributions are separated by sample (1 or 2), session (learning or test), and baseline accuracy (correct or incorrect). Overall, the stimulus set successfully probed commonly held erroneous beliefs. As intended, the majority of the stimulus items were endorsed with very high confidence.

Gender Differences. We did not find any gender differences for our main variables of interest.

Men and women did not significantly differ on average RWA scores (Sample 1: $t(126) = -1.20$, $p = 0.232$; Sample 2: $t(152) = 0.10$, $p = .923$) or AOT scores (Sample 1: $t(126) = 0.75$, $p = .457$; Sample 2: $t(152) = -1.48$, $p = .142$). Average belief updating scores also did not differ between men and women (Sample 1: $t(126) = 1.05$, $p = .297$; Sample 2: $t(152) = 0.57$, $p = .572$).

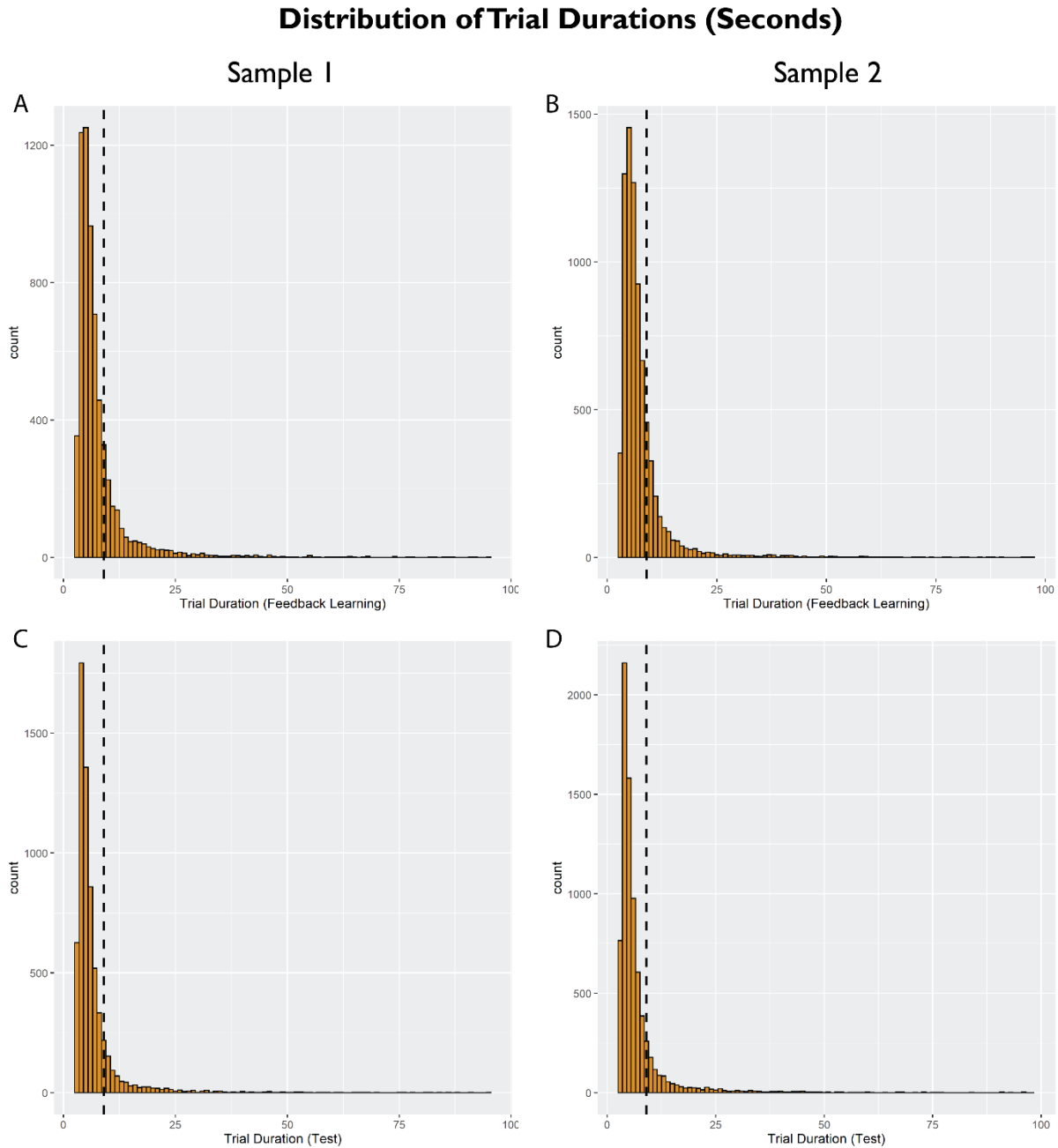


Figure S2. Histograms of trial durations, subset by session and sample. Dotted black line denotes the 80th percentile cutoff (9 seconds) applied to exclude slow trials that may reflect inattention or cheating. A) Sample 1, feedback learning phase. B) Sample 2, feedback learning phase. C) Sample 1, test phase. D) Sample 2, test phase.

Table S3

*Logistic Regression Estimates for the Effect of RWA on Belief Updating
Prediction Error Binned to Equate Number of Observations Per-Bin*

Belief Updating: Session 1				
<i>Predictors</i>	<i>Odds Ratios</i>	<i>SE</i>	<i>CI</i>	<i>p</i>
(Intercept)	6.81 ***	0.17	4.83 – 9.59	< 0.001
RWA	0.73 *	0.13	0.57 – 0.93	0.012
Prediction Error	1.07 ~	0.03	1.00 – 1.14	0.055
Session	0.25 ***	0.12	0.20 – 0.32	< 0.001
RWA * Prediction Error	0.99	0.04	0.92 – 1.06	0.815
RWA * Prediction Error * Session	1.07 *	0.03	1.00 – 1.13	0.039
Observations	4368			
Marginal R ²	0.142			
Belief Updating: Session 2				
<i>Predictors</i>	<i>Odds Ratios</i>	<i>SE</i>	<i>CI</i>	<i>p</i>
(Intercept)	10.00 ***	0.19	6.85 – 14.59	< 0.001
RWA	0.56 ***	0.15	0.42 – 0.75	< 0.001
Prediction Error	0.93 ~	0.04	0.86 – 1.00	0.067
Session	0.24 ***	0.13	0.19 – 0.31	< 0.001
RWA * Prediction Error	1.00	0.04	0.93 – 1.09	0.934
RWA * Prediction Error * Session	1.09 *	0.03	1.02 – 1.16	0.012
Observations	4867			
Marginal R ²	0.125			

* $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$

Note. These models use an alternate binning scheme for the prediction error variable. Number of observations per bin is equated, but not the range of confidence ratings. Range of prediction error values for each bin are as follows: 1 = [0,50], 2 = (50,68], 3 = (68,82], 4 = (82,96], 5 = (96,100].

Table S4

*Logistic Regression Estimates for the Effect of AOT on Belief Updating
Prediction Error Binned to Equate Number of Observations Per-Bin*

Belief Updating: Sample 1				
<i>Predictors</i>	<i>Odds Ratios</i>	<i>SE</i>	<i>CI</i>	<i>p</i>
(Intercept)	6.59 ***	0.17	4.73 – 9.18	<0.001
AOT	1.64 ***	0.13	1.28 – 2.12	<0.001
Prediction Error	1.08 *	0.04	1.01 – 1.16	0.035
Session	0.25 ***	0.12	0.20 – 0.32	<0.001
AOT * Prediction Error	1.07 ~	0.04	1.00 – 1.15	0.052
AOT * Prediction Error * Session	0.89 ***	0.03	0.84 – 0.94	<0.001
Observations	4368			
Marginal R ²	0.191			
Belief Updating: Sample 2				
<i>Predictors</i>	<i>Odds Ratios</i>	<i>SE</i>	<i>CI</i>	<i>p</i>
(Intercept)	10.50 ***	0.19	7.17 – 15.38	<0.001
AOT	1.71 ***	0.15	1.27 – 2.30	<0.001
Prediction Error	0.91 *	0.04	0.84 – 0.98	0.017
Session	0.25 ***	0.13	0.19 – 0.32	<0.001
AOT * Prediction Error	0.94	0.04	0.87 – 1.02	0.141
AOT * Prediction Error * Session	0.99	0.03	0.93 – 1.06	0.775
Observations	4867			
Marginal R ²	0.107			

* $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$

Note. These models use an alternate binning scheme for the prediction error variable. Number of observations per bin is equated, but not the range of confidence ratings. Range of prediction error values for each bin are as follows: 1 = [0,50], 2 = (50,68], 3 = (68,82], 4 = (82,96], 5 = (96,100].

Table S5

Logistic Regression Estimates for the Effect of Conservatism on Belief Updating

Belief Updating: Sample 1				
<i>Predictors</i>	<i>Odds Ratios</i>	<i>SE</i>	<i>CI</i>	<i>p</i>
(Intercept)	7.90 ***	0.23	5.04 – 12.39	<0.001
Conservatism	0.78	0.19	0.54 – 1.13	0.187
Prediction Error	1.01	0.04	0.93 – 1.10	0.784
Session	0.25 ***	0.12	0.20 – 0.32	<0.001
Conservatism * Prediction Error	1.03	0.04	0.95 – 1.12	0.493
Conservatism * Prediction Error * Session	1.03	0.03	0.98 – 1.08	0.292
Observations	4368			
Marginal R ²	0.095			
* $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$				
Belief Updating: Sample 2				
<i>Predictors</i>	<i>Odds Ratios</i>	<i>SE</i>	<i>CI</i>	<i>p</i>
(Intercept)	11.38 ***	0.24	7.11 – 18.21	<0.001
Conservatism	1.09	0.20	0.73 – 1.63	0.673
Prediction Error	0.92	0.05	0.83 – 1.00	0.063
Session	0.25 ***	0.13	0.19 – 0.32	<0.001
Conservatism * Prediction Error	0.94	0.05	0.85 – 1.03	0.172
Conservatism * Prediction Error * Session	1.04	0.03	0.98 – 1.10	0.165
Observations	4867			
Marginal R ²	0.087			
* $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$				

Note. Conservatism was calculated as the average of two questions that asked participants to rate self-reported social and economic conservatism on a 5-point Likert scale (*very liberal ... very conservative*).

Table S6

Logistic Regression Estimates for the Effects of SDO on Belief Updating

<i>Predictors</i>	Belief Updating (Sample 2)			
	<i>Odds Ratios</i>	<i>SE</i>	<i>CI</i>	<i>p</i>
(Intercept)	11.04 ***	0.24	6.96 – 17.50	<0.001
SDO	0.86	0.19	0.59 – 1.26	0.436
Prediction Error	0.92	0.05	0.84 – 1.01	0.079
Session	0.25 ***	0.13	0.19 – 0.32	<0.001
SDO * Prediction Error	1.04	0.05	0.95 – 1.14	0.438
SDO * Prediction Error * Session	0.99	0.03	0.93 – 1.06	0.745
Observations	4867			
Marginal R ²	0.084			

* $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$