

## Chapter 11

# Truth Literacy Training

The Analysis step of SIP found the high leverage point for resolving the root cause of change resistance to solving common good problems is *Raise political truth literacy from low to high*. The previous chapter described how pushing on the high leverage point requires three foundational solution elements: Freedom from Falsehood, No Competitive Servant Secrets, and Truth Literacy Training. This chapter describes the third element.

## Summary of how the training works

**Truth Literacy Training** trains voters on how to tell truth from deception, so they can make sound decisions on who to vote for and what positions to support.

The training first describes what political truth literacy is and why it's vitally important to the health of democracy. Then a person learns how to evaluate political statements to determine whether they are true or false, using these tools:

1. **How arguments work.** The basic structure of all arguments is described.
2. **Three rules for the health of democracy.** These are Don't Be a Victim of Doubt, Reward the Truth Teller, and Penalize the Deceiver.
3. **The Strong Evidence Rule.** This lets a person quickly determine if an argument is true, false, or its truth cannot be determined.
4. **How to spot common political fallacies.** These are cherry picking, flawed application of the Strong Evidence Rule, ad hominem attack, appeal to emotion, strawman, false dilemma, and false fact lie.
5. **The Personal Truth Test,** a simple four step procedure for determining if a claim is true, false, or cannot be determined, using the Strong Evidence Rule and the catalog of common political fallacies.

## Truth Literacy Training study design

To demonstrate how Truth Literacy Training could work and to test its effectiveness, Thwink.org performed a study. The goal was *to take the first empirical steps to develop methods for measuring and raising truth literacy*. A few definitions must be stated:

**Deception** is a statement (or live action, such as in video or TV) that distorts the truth. The purpose of deception is to create false beliefs that create behavior favorable to the deceiver.

**Truth literacy** is the ability to tell truth from deception. The higher a person's truth literacy, the higher the percentage of deceptive claims they can spot and not be fooled.

**Truth quotient (TQ)** is a measure of a person's truth literacy in terms of their average ability to correctly process deceptive arguments in terms of how true an argument's claim is, on a scale of zero to 100%. 100% is perfect truth literacy, which is not realistically possible due to the complexity and continual evolution of real-world deception. There are two types of TQ.

**Logical truth quotient (LTQ)**, is the ability to logically tell if a deceptive claim is true or false, as measured by the percentage of falsehoods detected in deceptive statements.

**Democratic truth quotient (DTQ)**, is the ability to vote correctly given a deceptive statement made by a politician, as measured by the percent correct for the vote questions (described later) for deceptive statements.

### The voting rules

Voting correctly requires following these three rules, which are part of the training. Here's a summary of the rule training material:

Rule 1. **Don't Be a Victim of Doubt** – If you cannot determine the truth of a politician's claim, then don't feel pressured into making a decision. If you do, you have become a victim of the strategy of fear, uncertainty, and doubt. This occurs when fear of being wrong and uncertainty of information lead to doubt, such as thinking something is mostly false when it's actually false, or half true or mostly true when it's completely true. Instead, realize you have insufficient information and cannot decide. For example, on your vote: *It would make no difference.*

Rule 2. **Reward the Truth Teller** – If you discover a politician has told the truth, then when you vote or take action you should strongly support the politician or the source of the truth. In this manner we encourage more truth tellers. For example, this would have a: *Very large impact on voting for them.*

What if two or more politicians tell the truth in an effort to gain a person's support? Then the finer shade of discrimination is to reward the politician whose claim does the best job of optimizing the common good. How that's determined is beyond the scope of this training.

Rule 3. **Penalize the Deceiver** – If you discover a politician has attempted to deceive you, then when you vote or take action you should strongly oppose the politician or the source of the deception. This will have the effect of reducing attempted deception. For example, this would have a: *Very large impact on voting against them.*

## Study hypotheses

The study centers on a hypothesis the study itself cannot test. Given the indispensable role of the voter feedback loop in modern democracy, we propose what can be called the **Minimum DTQ Requirement**: *A certain minimum DTQ is required for a sustainable healthy democracy, defined as one that can consistently achieve its top common good governance goals sustainably.*

The reason a certain minimum DTQ is required is the main root cause of systemic change resistance to solving large-scale common good problems is low truth literacy, and in particular, low DTQ. This is a critical insight. It is not enough for citizens to have high Logical Truth Literacy (LTQ). They must be able to correctly translate that knowledge into Democratic Truth Literacy (DTQ), in order to take correct action. Correct action was measured by the vote question, described in Study Questions.

The study was designed to test these hypotheses:

- H1. TQ can be accurately measured in two ways: LTQ and DTQ.
- H2. LTQ and DTQ are currently low in the average voter.
- H3. LTQ and DTQ can be raised to high via Truth Literacy Training.
- H4. Truth Literacy Training on LTQ alone is insufficient to raise DTQ to above the minimum DTQ for a healthy sustainable democracy.
- H5. Training on LTQ and DTQ persists but falls over time.
- H6. The fall in H5 may be eliminated with sufficient refresh training.

These hypotheses apply only to democratic governments, since only democracies have the ruler accountability feedback loop, also called the voter feedback loop.

A “healthy sustainable democracy” is one able to solve its critical common good problems. These include the top problems in the three pillars of sustainability: economic, environmental, and social. In today’s world, the climate change and war (aka geo-political conflict) problems head the list. Not far behind are poverty, high inequality of wealth, systemic discrimination, recurring large recessions, and more. We refer to these as common good problems.

To support testing H5 and H6, a two-part longitudinal study was used. Both questionnaires employed training followed by questions. The second was preceded by additional questions to measure fall in LTQ and DTQ. The second used a shorter amount of training, called refresh training.

## Treatment groups

To test the hypotheses, three randomly assigned treatment groups were used:

**Group 1** received training on a neutral topic, using text and questions that approximated the text length and training time length required for group 3. (Control group)

**Group 2** received training on how to tell if a political claim was true or false, by spotting the pattern of fallacy or non-fallacy used. (Claim training)

**Group 3** received the same training as group 2 plus training on how to vote correctly by applying the voting rules. (Claim plus vote training)

## Study questions

The study consisted of an online questionnaire. TQ was measured by presenting typical but contrived (to reduce bias) non-hot politician statements. The statements were presented in random order. Each statement contained a claim and was followed by three questions: The **truth question**, the **probe question**, and the **vote question**.

1. The politician said (the claim.) How true do you feel that claim is?

False, Mostly false, Half true, Mostly true, True, Cannot decide

2. What is the main reason for your decision in the above question? (Text box)

3. If the election were held today and this was all the information you had, how much impact would what the politician claimed have on your decision to vote for or against the politician? [Raw answer numbers are included.]

1. Very large increase in support.
2. Large increase in support.
3. Medium increase in support.
4. Small increase in support.
5. It would make no difference.
6. Small increase in opposition.
7. Medium increase in opposition.
8. Large increase in opposition.
9. Very large increase in opposition.

## The cherry picking fallacy

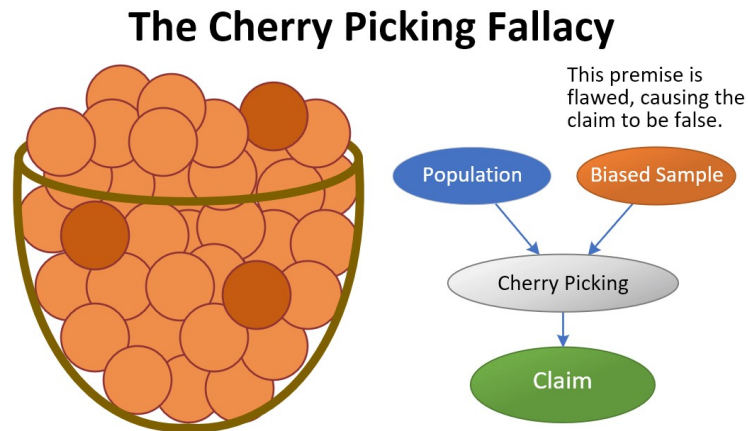
The first area in claim training was learning how to spot cherry picking, which appears in step one of the Personal Truth Test. Below is the actual text used. This was followed by questions and answer discussion:

**Cherry picking** occurs when the premises in an argument are biased. The name “cherry picking” comes from picking only the ripe cherries in a basket of cherries to provide evidence to someone the basket contains only ripe cherries. The evidence has been cherry picked, so it’s biased. Cherry picking is very common and is one of the many types of fallacies used to fool people into believing something is true, when it’s actually false.

The fallacy of cherry picking uses two main premises:

1. The **population** the sample is picked from, such as a basket of 100 cherries.
2. The **sample** drawn from the population, such as 3 cherries.

How cherry picking works looks like this:



The population is the entire basket of cherries. A sample is how many cherries you draw from the basket. This population has 97 unripe and 3 ripe cherries. Suppose you draw a sample from the basket. If the sample is only the 3 ripe cherries, then that’s a biased sample and the claim is false. Cherry picking has occurred.

Here’s the key to understanding how cherry picking works:

If the sample is not representative of the population then it’s biased and cherry picking has occurred. Cherry picking is also known as a **biased sample**.

## The Strong Evidence Rule

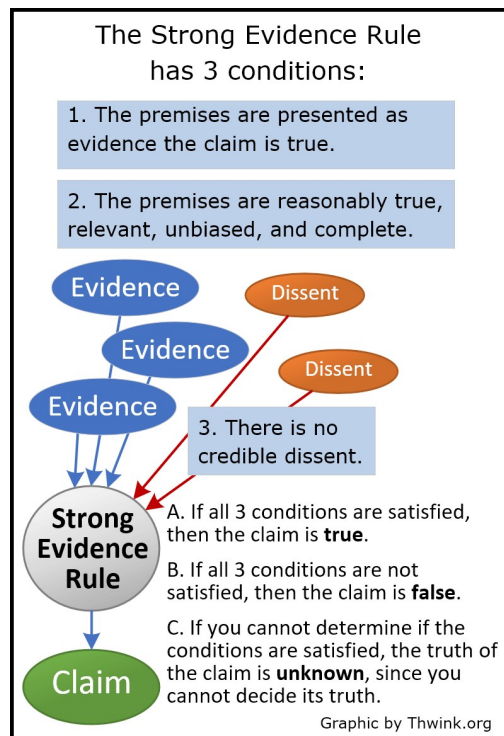
Training on cherry picking was followed by learning the Strong Evidence Rule. Below is the actual text used. This was followed by questions and answer discussion:

For typical political statements, the most common rule of logic that is not fallacious is the **strong evidence** rule:

If the premises are presented as evidence the claim is true, and the premises are all reasonably true, relevant, unbiased, and complete, and there is no credible dissent, then the claim is true.

It's lightning in a bottle. It's the surprisingly simple but powerful rule that has built the world we live in, because this is how juries think when charged with determining guilt or innocence "beyond a reasonable doubt." It's how scientists think when testing a complex hypothesis. It's how sharp managers and smart people think when weighing the evidence behind an important decision. And so on. In short, the strong evidence rule is by far the most common rule for making correct complex decisions based on evidence.

To apply the Strong Evidence Rule, follow steps A, B, and C as listed in the diagram.



## The Personal Truth Test

Truth Literacy Training revolves around mastery of the Personal Truth Test. Below is the actual text and format used in the training:

### The Personal Truth Test

**Step 1.** Check the premises. If they're biased, the rule of logic is **cherry picking** and the claim is *false*.

**Step 2.** Check to see if the premises are being presented as evidence the claim is true. If so, then the rule of logic is the **Strong Evidence Rule**.

A. If the premises are all reasonably true, relevant, unbiased, and complete, and there is no credible dissent, then the claim is *true*.

B. If these conditions are not satisfied, then the claim is *false*.

C. If you cannot tell if the conditions are satisfied, then the truth of the claim is *unknown* and you cannot decide its truth.

**Step 3.** Check to see if the rule of logic is a fallacy or not. If it's a fallacy, then the claim is *false*. See the list of **Common Political Fallacies** above to help on this step.

**Step 4.** If it's not a fallacy and the claim follows from the premises and the rule of logic, then the claim is *true*. But if the claim doesn't follow from the premises and the rule of logic, then the claim is *false*.

### Notes

1. If the claim is false, apply the **Penalize the Deceiver** rule and *strongly oppose* the deceiver. For example, this would have a *Very large impact on voting **against** them*.

2. If the claim is true, apply the **Reward the Truth Teller** rule and *strongly support* the truth teller. For example, this would have a *Very large impact on voting **for** them*.



## Questionnaire panel layout

A form of online computer-based training (CBT) was used, using a browser such as Firefox or Chrome, and our own software and server. The user interface consisted of three main panels as shown. The extra buttons and text at the top are for administrator testing and disappear for normal users, leaving just “Decision Making – Version E14.”

The first questionnaire was version 14, due to thirteen months of pretesting with earlier versions to perfect the content, support hypothesis development, do the programming, and improve the complex user interface and usability. It took a long time and considerable research effort, by Jack Harich and Montserrat Koloffon, to reach the point where the training was highly effective.

**Outline**

- Getting Started
  - Introduction
  - The importance of this survey
  - Instructions
- Review Section
  - 1. Pickpocketing ✓
  - 2. Falling Tourism ✓
  - 3. Balance the Budget ✓
  - The concept of truth literacy
  - How arguments work
  - Three rules for health of democracy
  - Cherry Picking ✓
  - The Strong Evidence Rule ✓
  - Common Political Fallacies ✓
  - The Personal Truth Test ✓
  - Suggestions ✓
- Decision Making Section
  - Tour Scammers ✓
  - Trade Agreement Treaty ✓**
  - Stripped Eagle ✓
  - Teacher Shortage ✓
  - Highway System Maintenance ✓
  - Asteroid Could Strike ✓
  - Crime Is On the Rise ✓
  - Lower Traffic Accident Rates ✓
  - Expert Witness ✓
  - Drug Addiction ✓
  - Unemployment ✓
  - Import Tariff ✓
  - National Minimum Wage ✓
  - Golden Opportunity ✓
  - Water Quality Tourists Sick ✓
  - Highest Quality of Life ✓
  - Dumping ✓
- End Section
  - Feedback Questions ✓
  - Demographics ✓
- Completion

**Decision Making - Version E14**  
In Progress - For Testing

Correct Answers: 0% Expand Reset TO 3 Show buttons Short break

**Trade Agreement Treaty**

Speaking on behalf of Rutania at a global summit, the vice-president of Rutania said, "We are pleased to see such progress on the trade agreement treaty. Free trade helps us all. But some tariffs are needed to help out developing countries and industries. There are only two choices here. If we design the treaty right, we are all going to benefit. But if we design it wrong, too many nations will suffer. **Therefore, we must take every precaution to design it right instead of wrong.**"

42. The politician said "Therefore, we must take every precaution to design it right instead of wrong." How **true** do you feel that claim is?

☒ False ☐ Mostly false ☐ Half true ☐ Mostly true ☐ True ☐ Cannot decide

43. What is the main reason for your decision in the above question?

False dilemma

44. If the election were held today and this was all the information you had, how much impact would what the politician claimed have on your decision to vote for or against the politician?

☐ Very large impact on voting for them.  
☐ Large impact on voting for them.  
☐ Medium impact on voting for them.  
☐ Small impact on voting for them.  
☐ It would make no difference.  
☐ Small impact on voting against them.  
☐ Medium impact on voting against them.  
☐ Large impact on voting against them.  
☒ Very large impact on voting against them.

**Reference Material**

**False fact lie** - This occurs when a false premise is knowingly presented as the truth. For example, Russian President Vladimir Putin promotes an ideology centering on the "fact" that Russia is being victimized by the rest of the world, notably the West and the US. That fact is totally false.

**Strawman** - This occurs when the original argument is replaced with a weaker one. The weaker argument is "knocked down like a flimsy strawman" and shown to be false, which implies the original argument is also false.

For example, "You ask if I have proof my plan will work. That doesn't matter, because no one can prove with 100% certainty a plan will work. What you should be asking is does my plan make good sense. Of course it does."

**The Personal Truth Test**

**Step 1.** Check the premises. If they're biased, the rule of logic is **cherry picking** and the claim is **false**.

**Step 2.** Check to see if the premises are being presented as evidence the claim is true. If so, then the rule of logic is the **Strong Evidence Rule**.

A. If the premises are all reasonably true, relevant, unbiased, and complete, and there is no credible dissent, then the claim is **true**.

B. If these conditions are not satisfied, then the claim is **false**.

C. If you cannot tell if the conditions are satisfied, then the truth of the claim is **unknown** and you **cannot** decide its truth.

**Step 3.** Check to see if the rule of logic is a fallacy or not. If it's a fallacy, then the claim is **false**. See the list of **Common Political Fallacies** above to help on this step.

The screenshot is from Group 3 for the first questionnaire. All answers are complete, as indicated by the small checks for each section in the Outline panel. Since this is a very long questionnaire requiring hard thinking and occasional answer changes, users can navigate to any section in the middle panel (the questionnaire itself) by clicking on a section title in the Outline. Or they can scroll the middle panel up and down. The right panel contains reference material.



When a user begins the questionnaire, only a small portion of the Outline is shown. As training proceeds in the *Getting Started* and *Review Section* of the Outline, more sections in the Outline are revealed. After a training item is complete and the next one started, answers in previous items can be viewed but not changed.

After training is complete, users take an enforced 5-minute break. After that the *Decision Making Section* appears. This is the main questionnaire and contains 17 statements. One, **Trade Agreement Treaty**, is selected. Here the user has answered the three questions correctly, with their reason being the argument contains a false dilemma.

Statement order is randomized. Four statements contain true claims. The rest are false. Once all 17 statements are answered, the *End Section* appears. Once those questions are answered the *Completion* section appears.

### Dispelling the illusion of invulnerability

Early pretesting found that users were not taking the training seriously. They were speeding through the questionnaire and getting wildly varying LTQ and DTQ scores, many of which were low. That changed after we encountered a 2002 paper on *Dispelling the Illusion of Invulnerability: The Motivations and Mechanisms of Resistance to Persuasion*.<sup>119</sup> The authors found that inoculation by exposure to a “weakened form” of a persuasive attack was not enough to confer resistance to persuasion. Their second experiment showed that “our participants’ sense of *unique invulnerability* to deceptive ads left them unmotivated to use defenses against such ads.” This illusion of invulnerability caused subjects to believe they were not susceptible to deception, with the result that “they did not resist the ads containing illegitimate authorities [a form of deception] more effectively than did controls.” (Italics added in these quotes.)

This was corrected in the third experiment. “In Experiment 3, we sought to dispel these illusions of invulnerability *by demonstrating in an undeniable fashion that participants can be fooled* by ads containing counterfeit authorities.” This builds on the work of Aiken et al., who:

...specified three stages of perceived susceptibility to risk—a critical determinant of health behavior. “First, individuals are assumed to become aware of a health hazard (awareness), then to believe in the likelihood of the hazard for others (general susceptibility), *and finally to acknowledge their own personal vulnerability* (personal susceptibility)”

Experiment 3 contained “a procedure that gave some participants *undeniable evidence* that they had been susceptible to the persuasive impact of an illegitimate authority-based ad.” The procedure worked. Resistance to persuasion improved significantly. The authors concluded that “Thus, instilling resistance required more

than merely asserting participants' vulnerability. *Effective resistance required a clear demonstration of this vulnerability.*"

To demonstrate to participants that they are not invulnerable to deception, we changed the initial part of the training. After participants answer questions for the first three statements and before any training has occurred, they read the section on *The concept of truth literacy*.

Below is the actual text from this section for an actual participant. In this case the first two answers are wrong, as expected. Through pretesting we found the change worked. participants were now getting consistently high truth literacy scores, because they were highly motivated to learn how to avoid being deceived.

### The concept of truth literacy

Let's consider just the "how true" question in the above three statements. The correct answers are:

Statement 1. Pickpocketing – False. Statement 2. Falling Tourism – False. Statement 3. Balance the Budget – True.
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Your answers were *Half true*, *Mostly false*, and *True*.

You can use the Outline on the left to review the statements and your answers by clicking on "1. Pickpocketing" and so on. **How did you do?** When done, click on "The concept of truth literacy" to return here.

If you got all the answers right, congratulations. However, here's how other people did. In a past survey with 34 participants, none got the answer to the first question right. Three got the answer to the second question right. On the third question 19 people got the answer right.

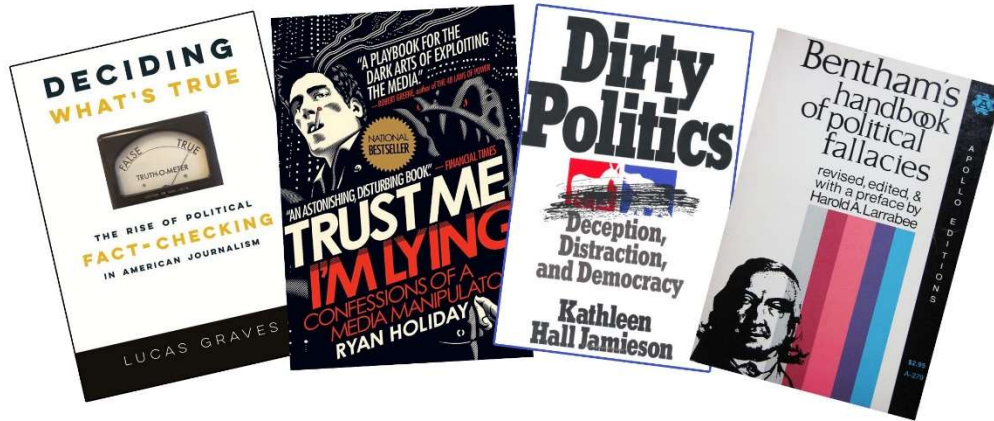
Why are the first two questions so hard? *It's because they use clever forms of deception, which makes it terribly difficult to determine how true the claims are.*

The reason so many people got the third question right is it's not deceptive. Generally, it's much easier to spot the truth as opposed to deception, because we are so used to processing true statements from people we talk to, books we read, and so on.

The above statements are typical of political appeals. We see statements like these all the time.

What we don't see is a label on each statement telling you how true it is. That's up to you to decide.

However, it's incredibly hard to determine the truth of statements like these because of *the power of deception*. Political deception works so well that there is LOTS of it. The world is full of lies, spin, half-truths, appeals to emotion instead of logic, biased samples, and countless other ways to deceive people. Stop and think for a few seconds about all the deception you've seen lately coming from politicians.



This creates a critical problem, because democracy depends on citizens being able to tell truthful politicians from deceptive ones on voting day. If citizens cannot tell the difference, they will tend to elect too many deceptive politicians who work for themselves and powerful special interests, instead of for The People and the common good.

Fortunately, there's a solution to this problem.

Here's the solution. The reason citizens are so easily fooled by deceptive statements is **low truth literacy**. The average person has never been trained in telling truth from deception, so their truth literacy is low. Because it's low, they are unable to reliably tell truth from deception.

For example, the average person is unable to instantly see that the claims in the first two statements are false, because they both use the **cherry picking** fallacy.

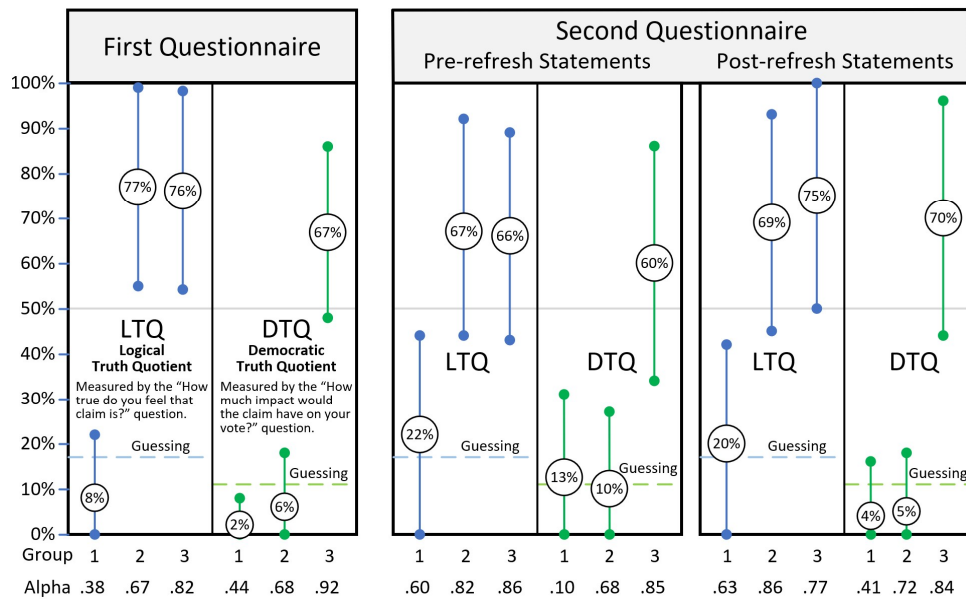
**Truth literacy** is the ability to tell truth from deception. Universal truth literacy is just as important to the health of democracy as reading literacy, because if people cannot “read” the truth they are blind to what the truth really is. They are easily controlled by any politician who uses deception to hoodwink the masses into supporting him and his positions.

This completes description of the study design.

## Study results

The first questionnaire was run on Wednesday evening, October 2, 2019 using a Prolific online panel and our own software for the online questionnaire. Subjects were United States residents. Average age was 31 years old, with a range of 22 to 51, 49% female. Average completion time was 85 minutes, including a 5-minute break half way through. Number of participants in the three groups was 30, 30, and 33. Average completion time was 85 minutes, extremely long for a questionnaire.

Figure 1 summarizes study results. We begin with discussion of the first questionnaire.



**Figure 1.** Average scores, 95% confidence intervals, and Cronbach's alpha for answers to deceptive statements. Guessing levels are shown. Treatment groups were:

- 1 – Trained on neutral topic
- 2 – Trained on claims
- 3 – Trained on claims and vote

**Logical truth quotient (LTQ)**, the ability to *logically* tell if a deceptive claim is true or false, was measured by the percent correct for the truth questions for deceptive statements. LTQ is naturally low, at 8% for group 1. Voters not trained in truth literacy can spot a fallacy in a deceptive political statement an average of only 8% of the time.

**Democratic truth quotient (DTQ)**, the ability to *vote* correctly given a deceptive statement made by a politician, was measured by the percent correct for the vote questions for deceptive statements. DTQ is also naturally low, at 2% for group 1. *This is a crucial finding and appears to explain why change resistance to*

*solving common good problems, including sustainability, is so stubbornly high.* While the study cannot say 8% and 2% are accurate measures, we feel the results indicate political truth literacy is low instead of medium or high.

Because political truth literacy is naturally low, voters are easily fooled into voting for politicians who do not work for the common good, but instead work for the uncommon good of powerful special interests (mainly large for-profit corporations) or the politicians themselves. The latter includes the current rise of authoritarians, like Putin, Trump, Erdogan, and Orban: “The transition from democracy to personality cult [aka authoritarianism] begins with a leader who is willing to lie all the time, in order to discredit the truth as such. The transition is complete when people can no longer distinguish between truth and feeling”.<sup>120</sup> “The ideal subject of totalitarian rule is not the convinced Nazi or Communist, but people for whom the distinction between fact and fiction, and the distinction between true and false, no longer exist.”<sup>121</sup>

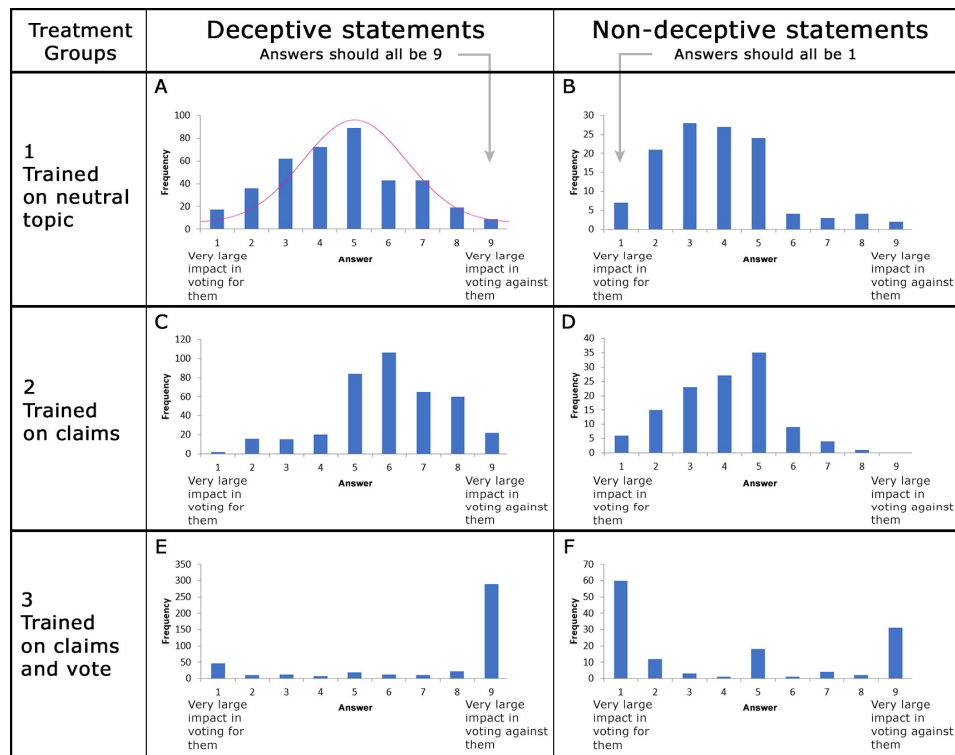
DTQ for group 2 was 6%, a deeply counterintuitive discovery. We expected it to be low, but not that low. The 6% means that even if voters have been trained on how to tell if a deceptive claim made by a politician is true or false, they are unable to correctly translate that knowledge into how to vote correctly. Group 2, which received claim training but not vote training, averaged spotting falsehood 77% of the time, but could translate that knowledge into voting correctly only 6% of the time. The claim training made almost no difference on voting correctly.

For group 2, LTQ was 77% and DTQ was 6%. This supports *Hypothesis 3. DTQ is considerably lower than LTQ.* This has alarming consequences for the health of democracy

The key data is DTQ for groups 1 and 3. The large increase, from 2% to 67%, a 65-point rise, is extremely good news. *The increase suggests the solution element may be capable of resolving the root cause of low political truth literacy.* Group 3 training took only about one hour, suggesting that Truth Literacy Training, such as in education systems and online training, will not require that much of a person’s time.

### Examination of vote question data

Figure 2 contains distributions of the vote question answers. The correct answer is 9 for deceptive and 1 for non-deceptive statements. Even small deviation from the correct answer for deceptive statements matters, since that indicates a person has been partially deceived, and that adds up, due to the power of cumulative exposure to media deception.<sup>122</sup> Deviation from correct answers for non-deceptive statements means a person doesn’t understand how to best support those politicians who speak the truth about what’s best for their constituents. Let’s examine the three treatment groups.



**Figure 2.** Distributions of vote question answers for the first questionnaire.

*Group 1. Trained on neutral topic* – While the effect surely varies across political units and study samples, we hypothesize that the first row approximates how voters in democracies behave today. In chart A there's more support than opposition in response to a deceptive political claim. This has not gone unnoticed by politicians willing to engage in deception. Also notice how close the data comes to a normal distribution centered on the midpoint. This indicates a person's level of truth literacy is largely due to random factors (environmental and genetic chance) rather than the formal education seen in charts C and E.

*Group 2. Trained on claims* – The second row offers slightly more comforting results. In chart C, citizens trained on how to determine the truth of claims but not trained in how to vote, intuitively lean in the correct directions on vote answers to deceptive statements. But very few choose the correct answer. A surprising percentage chose answer 5, "It would make no difference." That's like saying "It doesn't matter to me at all if a politician tells the truth or not." But yet it must, if democracy is to thrive.

Similar observations apply to the other incorrect answers. For example, answers 4 and 6 are like saying "It barely matters to me if a politician tells the truth

or not.” Deviations from correct answers are why the vote training in group 3 is required.

*Group 3. Trained on claims and vote* – The third row, if we could get enough voters there, would resolve the root cause of low political truth literacy. For the solution element to work, we estimate only 5% to 15% of an electorate needs effective training since most elections are close. The biggest training impact would be on uncommitted young and swing voters. Voters already strongly committed to a false ideology will tend to resist change due to the deceptive power of motivated reasoning. Training is not urgently needed for voters already supporting truth telling politicians. This suggests that initially, training should target those who would benefit the most. In the long-term, all citizens should be trained.

## Second questionnaire results

The second questionnaire was run 26 days later, with a 20% dropout rate, using a second set of statements to avoid memory effects. The second questionnaire consisted of three parts: pre-refresh statements and questions, refresh training, and post-refresh statements and questions. The refresh training involved reading the same reference material from the first questionnaire and answering 4 short questions instead of the twenty some much longer questions in the first questionnaire. Refresh training averaged about 30 minutes, versus about 60 minutes for initial training. The same general patterns in the first questionnaire were seen.

The data that matters the most, DTQ for group 3, declined from 67% in the first questionnaire to 60% in the second questionnaire for pre-refresh statements. This is a decline of only 7 points, a favorable result. After the refresh training, DTQ for group 3 rose to 70%, about what it was in the first questionnaire, also a favorable result.

However, LTQ for group 1 was 22% and 20% for the pre-refresh and post-refresh statements, versus 8% for the first questionnaire. This indicates that spotting deception was substantially easier in the second questionnaire statements. This also suggests there was more than the 7-point decline noted above and that the refresh training may not have worked as well as the 70% indicated. A more accurate measure of training persistence and refresh results would require further statement testing/development and rerunning the study using balanced statements of equal difficulty in the first, second, and even later questionnaires. During this work the training could be improved as needed.

The second set of statements was developed after the first questionnaire was run. Without realizing it, we structured them slightly differently and frequently omitted stating how strongly supported the premises were. This caused the second set to be substantially easier than the first set, as it made fallacies easier to spot. This problem is easily corrected.

As expected, the results show that regular refresh training of some type will be continually required. This need not come only from traditional forms of continuing education, but can also come from general exposure to a truth-literacy-oriented culture, where political truth literacy is deemed to be the most important literacy of them all if democracy is to function as designed.

Peering into the future, what might a truth-literacy-oriented culture look like? The key cultural trait might be something like:

“Marketplace Deception Protection Skills.... A person who is skilled in deception protection will have well-learned mental procedures designed to detect, neutralize, resist, correct for, and penalize deception attempts.... More broadly, consumers adept at deception self-protection will learn to warn and protect friends, kin, and loved ones.... Most broadly, consumers must learn to adopt a deception protection goal as their default....”<sup>123</sup>

### Support for the hypotheses

**Hypothesis 1.** *TQ can be accurately measured in two ways: LTQ and DTQ.*

Hypothesis 1 was weakly supported for those not receiving Truth Literacy Training. Cronbach’s alpha was .38 and .44 for T1, the neutral training topic group. We theorize this is low because since these participants are untrained, they are forced to guess a lot. Guesses have low internal consistency.

Hypothesis 1 was almost supported for those receiving only claim training, with alphas of .67 and .68 for T2. These alphas were much lower than those for T3. We attribute this to the confusion induced by not being training on the vote question, but being asked that question and forced to guess. This causes confusion on the truth question and reduces internal consistency.

Hypothesis 1 was well supported for those receiving full Truth Literacy Training, with alphas of .82 and .92 for T3.

**Hypothesis 2.** *LTQ and DTQ are currently low in the average voter.* This was well supported. The average voter has never received the equivalent of Truth Literacy Training. Their LTQ and DTQ were very low, 8% and 2% for Group 1.

**Hypothesis 3.** *LTQ and DTQ can be raised to high via Truth Literacy Training.* This was well supported.

**Hypothesis 4.** *Truth Literacy Training on LTQ alone is insufficient to raise DTQ to above the minimum DTQ for a healthy sustainable democracy.* This hypothesis is why the second treatment group, training on claims alone, exists.

Hypothesis 4 was well supported. The average vote score for those receiving claim training alone was 4%. This shot up to 67% for the group receiving claim and vote training.

We found this astonishing. Even if a person has been trained on how to tell whether a political claim is true or false, they are unable to translate the truth or



falsity of a claim into correct action. Instead, they choose all sorts of answers for the vote question. From our point of view this doesn't make sense. In a time when political deception is so rampant and the truth is so rare, why would anyone NOT want to strongly penalize deceivers? Why would anyone NOT want to strongly reward truth tellers? Isn't that what's required is we want democratic governments to work for the best interests of voters? We suspect the reason for this behavior is hardly anyone has received the equivalent of Truth Literacy Training.

**Hypothesis 5.** *Training on LTQ and DTQ persists but falls over time.* This was well supported by second questionnaire results.

**Hypothesis 6.** *The fall in Hypothesis 5 may be eliminated with sufficient refresh training.* This was weakly supported by second questionnaire results. However, we expect the problems described in the second set of statements can be eliminated, as discussed.

All in all, the study was successful. It basically confirmed the SIP analysis results, that raising political truth literacy from low to high is a potent high leverage point. Let's examine the theory explaining why this is so.

## How Truth Literacy Training can nullify the deceptive power of motivated reasoning

Truth Literacy Training is similar to the preemptive aspect of inoculation theory. As described by Cook and Ecker in a paper on *Neutralizing misinformation through inoculation: Exposing misleading argumentation techniques reduces their influence*, **inoculation theory** “proposes that people can be ‘inoculated’ against misinformation by being exposed to a refuted version of the message beforehand.”<sup>124</sup> Innovating by training on logic pattern recognition instead of misinformation correction, as we have done, Cook and Ecker found that inoculating subjects by training on spotting false balance and fake expert strategies “neutralized” the negative influence of misinformation on perceived scientific consensus on climate change.

*Inoculation by logic pattern recognition training can potentially nullify the deceptive power of motivated reasoning, a well-established theory explaining how political decision making works.* **Motivated reasoning theory** explains why once a person is fooled into believing deceptive goals and facts, they become highly partisan and their false beliefs are unshakable. Instead of thinking logically, they behave as “*The Rationalizing Voter*,” the title of Milton Lodge and Charles Taber's magnum opus, 2013, that summarized decades of empirical research on motivated reasoning. Lodge and Taber found that: “In short, citizens are often partisan in their political information processing, motivated more by their desire to maintain prior beliefs and feelings than by their desire to make ‘accurate’ or otherwise optimal

decisions.” (p149) When a prior belief is false (such as non-whites are inferior or climate change denial), deception has occurred.

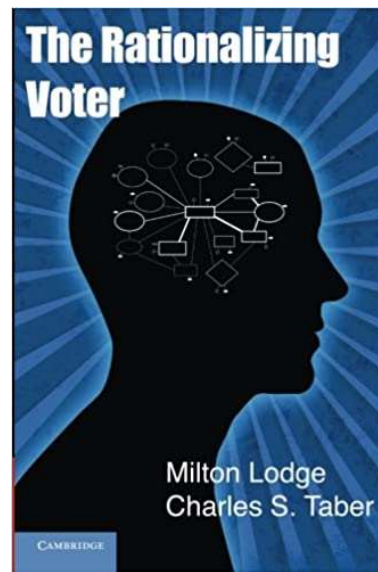
The purpose of deception is to create a false belief that benefits the deceiver at the expense of the deceived. False beliefs can be broadly divided into two types: False goals and false facts used to rationalize false goals. In democratic politics, false goals are those that do not benefit the common good.

False beliefs are created and strengthened by fallacious arguments, which work when someone fails to spot a fallacy. But once a person learns the spot-the-pattern of truth or deception technique of Truth Literacy Training, they are inoculated. Fallacies they have been trained on, or logic they cannot identify, can no longer be used to fool them into a false belief, so they never believe the false belief in the first place or may question a false belief already held. This depends on the level of truth literacy a person has attained.

The premise of motivated reasoning theory is that all reasoning is motivated to achieve either **accuracy goals** (slow thinking) or **partisan goals** (directional, fast thinking). One’s reasoning sometimes must be accurate even if slower, or you cannot solve the problem of how to design a research program. Accuracy goals motivate people to “seek out and carefully consider relevant evidence so as to reach a correct or otherwise good-enough conclusion” (p150). Reasoning can also be partisan, to support (true or false) prior beliefs. Partisan goals motivate people “to apply their reasoning powers in defense of a prior, specific conclusion” (p150). In a series of experiments, Lodge and Taber found that rapid (measured in milliseconds) partisan goal reasoning (hot cognition) is the default in “evaluation of political leaders, groups, and issues” (p92).

Summarizing their results in the final chapter, Lodge and Taber concluded that the false beliefs entrenched in the minds of voters, and the preference of the human mind for the fast thinking of goal motivated reasoning over the slow thinking of accuracy motivated reasoning, can have ominous effects:

Looking over the experimental evidence, what we find is biased processing at every stage of the evaluative process, with the strength of associative priming effects [prior true or false beliefs] far exceeding our expectations and, truth be told, far beyond our comfort zone. Even when we ask participants to stop and think, to be even handed in their appraisal of evidence and arguments, we find



precious little evidence that they can overcome their prior attitudes or override the effects of incidental primes [Information presented in the experiments to test its effect]. ... We believe the chief reason we find bias everywhere is because it is rooted in the very architecture of memory.... (p227)

On the next page, the authors offer some hope:

People of course do learn new concepts and associations and can override their habitual ways of thinking and behaving, but this is unlikely unless people become aware of a *consequential* flaw in their reasoning and are motivated to counter its influence on perceptions and evaluations. (p228, italics are in the original)

This “consequential flaw in their reasoning” can be revealed by use of “dispelling the illusion of invulnerability,” as discussed earlier on page 276. After the illusion is punctured, such as with the “Concept of truth literacy” mechanism used in Truth Literacy Training, voters are motivated to take the extra effort required to use slow accuracy reasoning instead of fast goal reasoning to make important political decisions.

Next, we broaden our considerations to include other researchers besides Lodge and Taber.

Political deception strategies work because they successfully exploit the power of false partisan beliefs (misinformation) to drive voter decisions in desired directions. “Misinformation occurs when people hold incorrect factual beliefs and do so confidently. The problem plagues political systems and is exceedingly difficult to correct.”<sup>125</sup> Solution is commonly framed as “how to correct misinformation” (ibid) and “finding what kinds of corrections are most effective”.<sup>126</sup> However, “the motivational component of political misinformation implies that the prospects for correcting false beliefs are dim”.<sup>127</sup>

We argue the prospects are dim because the solution strategy of “correcting false beliefs” is fundamentally wrong. The Summary of Analysis found the low leverage point of the change resistance subproblem to be “More of the truth: identify it, promote it, magnify it.” Misinformation correction, such as with fact checking and news pointing out the truth obscured by misinformation, finds the real truth and then promotes it. Kuklinski’s solution<sup>128</sup> for political misinformation correction, “hit [them] between the eyes with the right facts,” is a magnify-the-truth strategy, as are repeated inspirational statements like “The climate emergency is a race we are losing, but it is a race we can win” by the United Nations.<sup>129</sup> As SIP explains, the reason these solutions are ineffective is solutions pushing on low leverage points are doomed to failure. They can help some. But they cannot cause the desired mode change.

Far more effective is to push on the high leverage point of raise political truth literacy from low to high. Solution elements like Truth Literacy Training and Cook and Ecker's approach provide **a high-speed heuristic** that encourages accuracy reasoning to be used instead of partisan reasoning when confronted with new potentially false inputs, *because accuracy reasoning is now fast instead of slow, and usually correct instead of so easily deceived*. A person's important political beliefs will now tend to be true instead of false, depending on their level of truth literacy. With enough training and experience in how to "read" the truth by pattern recognition (claim training), and how to use that knowledge to act correctly (vote training), sufficiently correct accuracy thinking can approach the speed of partisan thinking, and can thus become the reasoning default when new important political arguments or facts are encountered, or old ones need review.

A **heuristic** is a shortcut method of some kind for problem solving, where the method is not guaranteed to lead to the best solution. The purpose of heuristics is to reduce the cognitive load and increase the speed of decision making.

*Based on the SIP Analysis and study results, it appears that the key strategy for nullifying the deceptive power of motivated reasoning is to provide that high-speed heuristic.* The heuristic described in this chapter is spotting patterns that let you rapidly apply the Personal Truth Test. The patterns to look for are the basic structure of the argument, and then depending on which is present, the Strong Evidence Rule or common political fallacies. Once these patterns are identified the truth of the claim usually follows instantly, in real time, because you are now truth literate.

The human mind was designed to learn, remember, and spot patterns. Examples are language, people's faces, the telltale signs a predator is probably near (like an abnormally quiet forest or footprints), and the clothing and behavior patterns that let you tell if a person is probably rich or poor. For efficiency and survival of the fittest, the mind is a high-speed pattern processor. With practice, pattern recognition occurs quickly and largely subconsciously.

*But if one has never learned a pattern it cannot be spotted.* Low truth literacy results from lack of a method like the Personal Truth Test and too small a collection of truth literacy patterns to be able to spot most cases of falsehood or truth. Without these a person cannot "read" the truth. This is identical to reading and writing illiteracy, where a person has not learned enough letter, word, and grammar patterns for reading and writing fluently.

To summarize, Truth Literacy Training provides a way for citizens of all kinds, including not just voters but politicians, writers, and news show hosts, to spot the truth. However, more is needed. Truth Literacy Training alone provides no irresistible incentive for corrupt politicians to start telling the truth. For that we need: