

## Video game trains people to better discern truth from lies—and how to spot deceptive behavior

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All liars have classic tells: the lack of eye contact, the fidgeting, the overly elaborate stories. Except when they don't.

In fact, researchers say, the most adept deceivers often don't present any of those signs and, further, the average observer's tendency to rely on such <u>visual cues</u> impedes their ability to tell when someone is lying. But those detection skills can be improved markedly with as little as one hour of training.

That is among the primary findings of new research from Norah Dunbar, a UC Santa Barbara professor of communication who has been studying deception and credibility for 20 years, now online in the journal *Computers in Human Behavior*. The publication culminates a National Science Foundation-funded project to develop a video <u>game</u> that trains participants in <u>deception detection</u>.

That game, VERITAS (Veracity Education and Reactance Instruction through Technology and Applied Skills), has now been built and tested repeatedly with college students and with <u>law enforcement</u> officers.

And it works.

"This was a proof of concept prototype to see if we can move the needle, and it seems that we can," said Dunbar, chair of UCSB's communication



department and faculty research affiliate with the Center for Information Technology and Society, who recently presented her research to members of Congress at special event put on by NSF. "Even a single session can improve the ability to accurately detect truth and lies."

Looking at whether or not participants could tell the difference between truth and lies, on average, players at the start of the game scored "not much better than chance—about 56 percent accurate. By the end of the game they're 68 percent accurate, and that's just playing for about an hour. Law enforcement participants started the game with higher accuracy, 62 percent, and improved to 78 percent. That's a big jump."

The game presents players with two different scenarios—one revolves around a job interview, the other a workplace theft—and challenges them to discern whether the actors in those scenarios are lying or telling the truth. They're also asked to identify the basis of their conclusion.

"Sometimes they guess right but are using incorrect cues, so we give feedback about what cues they should use instead," Dunbar explained. "There are some reliable cues for deception but the average person doesn't know about them. The average person thinks a lot of myths and stereotypes and they use their biases and make judgments based on things that aren't very accurate or scientific.

"If a person said, 'I think she wasn't truthful because wasn't looking at me,' the game would tell them, 'Eye contact not a reliable cue, instead you should rely on these real cues,'" she continued. "We try to teach people not to look for individual cues, like tapping a foot or looking up. There is no Pinocchio's nose, no one thing that will tell you definitively if someone is lying. People will be different, and do different things."

Here's where the training comes in. VERITAS improves knowledge of



deceptive behavior, Dunbar said, by coaching participants to watch for clusters of cues, or patterns. One such cluster (and potential red flag): uncertainty, tension and cognitive load. Call it a liar's trifecta.

"Lying is cognitively difficult—you have to think about what you know, what you already said, what the other person said, if you're consistent—so liars will often indicate that they are thinking harder," Dunbar explained. "They might repeat themselves a lot, or repeat your questions before answering, or wait longer to answer. Those are all cognitive load cues. A liar may show signs of uncertainty or what we call a 'lack of embracement' of their story. They might seem tense—stiff, rigid, not gesturing much—like they're trying not to show anything. We call it 'freeze mode' and it's very unnatural.

"There is no one cue that's our magic bean to tell us when someone is lying," Dunbar added, "but all these cues added up together—that says something."

Intriguingly, when asked to assess statements made by actors in the game, most VERITAS players defaulted to the same determination: truth. That commonality reflects what is known as truth bias, "which is that we guess truth when we feel there is no good reason to suspect lying."

"One interesting finding is that people tend to be better at detecting truthful statements, because of that truth default," said Dunbar. (She also is studying how people develop trust when they are lying as part of a Multidisciplinary University Research Initiative grant funded by the Department of Defense.) "Their accuracy in assessing lies is often below 50 percent because they don't guess 'lie' often enough. And the game doesn't make them more accurate in guessing lies, but it does improve accuracy in guessing truth and overall knowledge about deception."



"We compared results from the game to those from a Powerpoint lecture and found that with the game, people were more engaged, they were more motivated, they got better at detecting <u>truth</u> and they improved their knowledge about deception detection," Dunbar added. "So it holds a lot of promise in how to train people how to detect lies."

Which is why she hopes to expand it.

With broad potential for application in a range of fields, VERITAS in its current iteration already has great success rates. And those numbers would surely grow, Dunbar said, with an extended version.

"If we get more funding we would like to make more scenarios for the game," she said. "Lie detection is an important skill in the medical community. Doctors sometimes have trouble telling if patients are being truthful—opioid seekers, for instance. I had someone contact me to say he wanted to use it for insurance fraud investigators. There are a lot of situations where it could be useful."

**More information:** Norah E. Dunbar et al. Reliable deception cues training in an interactive video game, *Computers in Human Behavior* (2018). DOI: 10.1016/j.chb.2018.03.027

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