

Behavior

Bruce Bower reports from Washington, D.C., at the annual meeting of the American Psychological Association

To catch a liar . . .

Numerous laboratory studies have found that people often cannot see through the lies of others. And don't expect a "how-to" manual for aspiring deception detectives anytime soon. A new study indicates that the best lie catchers display no awareness of their rare ability or the strategies they use to ferret out fabricators.

"We don't know what makes a person a good lie catcher," says Mark G. Frank of the University of California, San Francisco, who directed the study. "No personality characteristic has yet been linked to this ability."

Frank's team videotaped 20 male college students telling lies to an experimenter described to them as an expert in lie detection. Volunteers first devised an alibi for the mock theft of \$50 left in the laboratory and then offered an opinion about a controversial social issue, such as capital punishment, either consistent with or contrary to their actual sentiments.

A total of 79 male and female college students carefully perused the videos and most of them correctly identified liars about half the time, a rate that could be achieved merely by guessing, Frank asserts. But a few participants nearly always separated liars from truth-tellers. Those who excelled at detecting lies about the mock theft proved equally adept at separating true from false opinions. However, they reported no awareness of their skill and could think of no specific reasons for their success at sniffing out liars.

Good lie catchers may track facial expressions and other nonverbal signs with particular ease, Frank proposes. Studies are now underway to investigate this possibility.

"For now, our data suggest that the ability to detect other people's lies generalizes across situations," he contends.

. . . first practice to deceive

If you hanker to improve your lie-catching skills, try gearing up for the challenge by concocting some of your own falsehoods, asserts Bella M. DePaulo of the University of Virginia in Charlottesville. Studies in her laboratory indicate that people identify videotaped liars more accurately after first fibbing to an experimenter.

This strategy may sensitize participants to the motivation and demeanor of liars, DePaulo theorizes.

"People know more about the differences between lies and truths than they realize," she contends. "Unconscious knowledge about deception often doesn't feed into judgments about deception."

DePaulo and University of Virginia colleague Kathy L. Bell find that the proper motivation helps activate unconscious insights into deception. In one experiment, men holding traditional views of masculinity identified videotaped liars more accurately after an experimenter told them that the ability to detect deceptions would help them in business and other competitive situations. Similarly, women holding traditional views of femininity performed better on the test after the experimenter told them that lie-catching aptitude would help them in interpersonal relationships.

The improvements in deception detection charted by DePaulo and others usually prove modest, notes Paul Ekman of the University of California, San Francisco. DePaulo agrees, but says even small boosts to judgmental accuracy can make a big cumulative difference across different social situations.

Expert lie detection requires more than a close personal acquaintance with deception, Ekman asserts. For example, criminal psychopaths show no better accuracy at identifying videotaped liars than do college students, he says.

Most people may learn to ignore behaviors that others refuse responsibility for, from obvious gaffes — such as burping in public — to the subtler intricacies of lying, Ekman argues.

Environment

Why lead may leave kids short

Several studies have shown that high levels of lead in the blood can hinder a child's growth (SN: 9/21/91, p.189). To explore why, Carol A. Huseman of the University of Nebraska Medical Center in Omaha and her co-workers studied 12 children for up to one year, measuring growth rates and levels of hormones that play pivotal roles in regulating growth.

Six children were studied before and after chelation therapy to reduce their toxic levels of lead (41 to 81 micrograms per deciliter of blood). Lead levels in the other six (5 to 38 µg/dl) did not warrant chelation, Huseman says.

In the August PEDIATRICS, her team now reports diminished levels of two secretions — growth hormone and insulin-like growth factor-1 (IGF-1) — among children in the higher-lead group. In contrast to the low-lead group, children requiring chelation also grew far more slowly than normal. Following therapy, however, each lead-chelated child experienced a growth spurt; in one case, the bone-growth rate almost tripled.

The researchers also assayed several growth-hormone characteristics every 20 minutes throughout one 24-hour period prior to chelation therapy in two children with extremely high blood-lead levels. Nearly all of the features studied in this pair — such as average and peak nighttime growth-hormone concentrations, and the number of hormone pulses released into the blood — compared unfavorably with values seen in normal short children, and even in children suffering from growth-hormone neurosecretory dysfunction.

Earlier work by the Omaha group showed that high levels of lead inhibit thyroid-stimulating hormone, a pituitary-gland secretion that also helps regulate growth. In the new study, when Huseman's team administered drugs to stimulate the pituitary gland's release of growth hormone, all 12 children produced levels of the hormone that fell within a normal range. Taken together, Huseman says, these findings suggest lead's role in limiting height may occur early in the chemical chain of events regulating bone growth, perhaps in the brain.

Indeed, says Mark Hartman of the University of Virginia in Charlottesville, the new study suggests that the pituitary may be able to respond, but is not doing so because lead keeps the brain from secreting enough of the hormones that trigger the pituitary's growth-hormone release. However, Huseman adds, the new data cannot rule out that lead may also affect height more directly — by inhibiting IGF-1, which stimulates cell proliferation in the "growth plate" at the ends of bones.

Gulf war oil spill update

Last year, from June to October, investigators with the International Atomic Energy Agency marine environment lab in Monaco sampled sediment, fish, and shellfish at Persian Gulf sites from Kuwait south to Oman. Their goal: a mapping and quantification of environmental damage attributable to oil released as a result of last year's Persian Gulf war. In the Aug. 20 NATURE, they now report finding that "severe oil pollution was restricted primarily to the Saudi Arabian coastline within about 400 kilometers from the spillages."

Elsewhere, the team observed less oil contamination than they had witnessed in prewar surveys of the same area. They attribute this to a war-related curtailment of normal oil production and transport — activities that typically dump some 2 million barrels of oil into Gulf waters annually.

Finally, the researchers found that even in the most heavily contaminated sediments, levels of polycyclic aromatic hydrocarbons (PAHs) — here used as a marker of combustion products spewed from oil wells ignited during the war — "were relatively low." Indeed, they found that the PAH levels were "comparable" to those recorded in the Baltic Sea, along the northeastern U.S. coast, and in United Kingdom estuaries.