Behavioral Profiling at U.S. Airports

Behavioral profiling is the latest development in U.S. airport security. The Transportation Security Administration began experimenting with the technique last December at about a dozen airports. At each, six T.S.A. employees who had once been routine screeners were given four days of classroom training, three days of field practice, and sent out to identify suspicious passengers.

Two weeks ago, following the reported liquid bomb plot in England, T.S.A. officials said they want to expand the new program, and train and redeploy hundreds of routine screeners at the nation's largest airports by the end of next year.

Meanwhile, just one week after the implementation of more stringent carry-on limitations following the British bomb scare, a 59-year-old white woman from Vermont boarded a Washington-bound United Airlines jet at London's Heathrow airport, carrying in her bag an unspecified number of cigarette lighters, matches, a screwdriver, hand lotion, and bottled liquids—causing the plane to be escorted by F-15 Air Force jets, diverted to Boston, and thoroughly searched on the tarmac by bomb-sniffing dogs.

How she managed to get those banned items through heightened carry-on screening is still unclear. What is clear, though, is that Catherine Mayo helped expose the real fault line in airport security: the basic search.

This should not come as news. Almost five years ago, Richard Reid, the "shoe bomber," managed to board a U.S.-bound plane carrying explosives—only three months after 9/11. Reid *was* identified—using behavioral pattern recognition and Israeli-style interview techniques—as extremely suspicious by the security detail at the Paris Charles de Gaulle airport. He was delivered to the French police and subjected to lengthy interrogation. However, he was never properly searched.

Behavioral profiling—especially the watered-down, cut-rate version that the T.S.A. has in plan for us—is not going to help in this respect. In fact, it is only going to make air travel less safe. Learning to defeat poorly-trained routine screeners is a lot easier than learning to fly a jumbo jet. The likely result is that our newly-minted "behavioral detection officers"—and all our routine secondary screening capacity—will be searching the wrong passengers. This reflects a larger lesson about profiling that, tragically, we seem unable to learn.

Before diverting hundreds of routine screeners to embark on an entirely dubious profiling strategy at great expense, air travel would be a lot safer if we invested in the basic search—either by hiring more and better trained routine screeners to perform searches on all passengers or by imposing prison-visitation-style restrictions on access to aircrafts.

Behavioral profiling is by no means a new technology. The study of facial expressions has been a rich field in psychology since at least the mid-1960s, when Paul Ekman, a psychology professor at the University of California at San Francisco, began researching how facial muscle movement relates to human emotion. Inspired by virtuosic face readers, Ekman catalogued several thousand facial muscle combinations and put together the Facial Action Coding System (FACS)—an intricate and detailed, five-hundred-page catalogue of meaningful facial expressions.

Over the course of thirty years of laboratory experiments, we have learned a lot about face reading—though not all of it is promising. As Ekman himself noted in 1999, "Almost all [the studies] have found that accuracy is close to chance." A comprehensive review published in 2000 of the 39 studies conducted after 1980 found an overall accuracy rate of 56.6 percent—slightly better than a coin toss. In the studies that computed the accuracy of detecting lies separately, however, the rate of accuracy was only 44 percent—meaning that the subjects would have done a lot better if they had closed their eyes and guessed.

A few studies have found that certain elite, highly trained groups may beat chance under specific conditions. In one Ekman study, video-tapes known to contain accurate facial cues of deception were shown to 330 law-enforcement personnel from seven different agencies; of those, one group—agents from the U.S. Secret Service—stood out as being accurate. In another Ekman study, again using videotapes known to contain significant behavioral cues, groups of experienced C.I.A. agents with special interest in lie-detection and of Los Angeles County sheriffs identified as outstanding interrogators—as well as deception-interested clinical psychologists—were able to achieve above-average accuracy.

However, a comprehensive survey of studies involving professional lie-detectors indicates that their accuracy rates were essentially similar to the rates of accuracy in studies involving college student observers—falling within the 45 to 60 percent range—and concluded that "police officers were as (un)successful as university students in detecting deception (accuracy rates around 50%)."

The research suggests that the rare instances where people beat chance are the product either of innate virtuosity or of a combination of specialized recruitment and lengthy training, as in C.I.A. or Secret Service agents. The Israeli security forces, who have at the very least a reputation for being good at this, start with officers—the vast majority of whom have military backgrounds—and subject them to tests in order to select those with above-average intelligence and particularly strong personality types. These recruits are then subjected to nine weeks of training in behavior recognition.

Most of the scientific research, though, involves paid college student actors or suspected criminals exhibiting known cues of deception identified by the FACS. The level of accuracy in detecting trained terrorists or agents posing as terrorists is unknown. The T.S.A. is currently testing an Israeli-developed airport lie-detection machine to see

whether it can identify U.S. undercover agents who are performing make-believe terrorist missions. But there are no results as of yet.

Some anecdotal evidence of behavioral profiling is now becoming mythic—but remains just that, anecdotal. The most common story involves the case of Algerian-born Ahmed Ressam, the millennium bomber, who, on December 14, 1999, was apprehended at Port Angeles in Washington State trying to smuggle bomb-making equipment over the Canadian border. Ressam became a suspect when, during routine border questioning, the Customs agent felt that his itinerary seemed unusual, that he was uncommunicative, and that he acted somewhat nervous.

Raymond Kelly, New York's police commission, was head of U.S. Customs at the time and had implemented a new form of intelligence-based profiling. Under Kelly's leadership, the search success rate at Customs improved 25 percent while the overall number of searches decreased by 75 percent.

Kelly is often portrayed as a pioneer in behavioral profiling, but this is somewhat simplistic. The profile he implemented rested on six factors, only one or two of which were behavioral in nature—whether the person was suspicious in physical appearance or acted nervous. The other four factors involved the results of a canine search, incorrect or suspicious paperwork, and specific intelligence or contraband implicating the suspect. It is unclear how much of the improved search success at Customs turned on the behavioral cues alone.

The success of the Israeli security force at Tel Aviv's Ben Gurion airport is also often chalked to behavioral profiling, but that too is naïve. The remarkable success of the Israelis—no hijacking out of Ben Gurion, ever—is the product of 30 years of intensive security practice, mandatory full searches of every passenger, and a sky marshal program that started in the early 1970s. As Raphael Ron, former head of security at Ben Gurion airport, explains, 100 percent of departing passengers are interviewed and subjected to a one-on-one forensic search, resulting in an average time spent of 57 minutes per person. The amount of checking reaches what Ron calls "a forensic level." Moreover, public awareness has played a tremendous role, with over 80 percent of terrorist bomb plots discovered by the public.

In sum, the best evidence suggests that the rare, promising cases of behavioral profiling involve specially selected, highly-trained Secret Service-type operatives who are watching videotapes containing known visual cues for deception identified by the FACS. This is a far cry from the T.S.A.'s new program: Recruits are T.S.A. routine screeners, a job that requires only a high school degree, GED or its equivalent, and a criminal background check; the screeners are given four days of classroom training in observation and questioning techniques, not the nine-week program that qualified Israeli officers get; and they are sent out to identify terrorists who may have trained to evade behavioral pattern recognition, not videotapes with known visual cues of deception.

The T.S.A. program seems designed to simply placate the U.S. traveler. But it's a dangerous placebo that will likely send hundreds of T.S.A. behavioral detection officers—and other hundreds of routine screeners—down the wrong path. This reveals, again, the fundamental flaw of criminal profiling more generally: Profiling allows perpetrators to avoid detection and even in some cases may increase the number of targeted offenses—read here, terrorist acts.

Rather than divert hundreds of screeners and significant resources pursuing high-tech fantasies at the expense of our safety, we need to get serious and invest the resources in hiring more screeners and training them better to perform routine, mandatory searches. A safer method than behavioral profiling is to search everyone thoroughly, and if not everyone, then the highest number selected at random. Somewhat counter-intuitively, the only way to avoid the danger of trained terrorists escaping detection is to police and search randomly.

Even better, though, would be to restrict carry-on luggage and adopt high-security prison visitation-type measures. Those procedures are simple, rapid, and as a result relatively inexpensive. In my experience, most maximum-security prisons operate in a similar fashion: first I check my briefcase, overcoat, belt, car keys, and all unnecessary items at the reception. I then walk up to a prison guard and take everything out of my pockets—usually my wallet, pen and paper. The guard conducts a thorough pat-down search, and physically inspects my property and shoes. We're done in less than a minute.

Sure, it's not 100 percent fool proof, but it's about as close as we are ever going to get to safe, and, combined with a sky marshal program, would reduce the likelihood of another airborne terrorist incident far more than T.S.A.'s new behavioral profiling program.