Study finds flaws in leading security lie detection training tool

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The investigation concludes that the international airport security system, METT - the Micro-Expressions Training Tool, fails to improve lie detection rates beyond levels that can be achieved by simple guesswork. Credit: The University of Huddersfield

Developed by an influential U.S. psychologist, the Micro-Expressions Training Tool, or METT, inspired the hit TV show Lie to Me, which revolved around the uncanny ability of its lead character to tell truth

from falsehood by analysing minute facial tics. And in the real world, METT is being used to train airport personnel to spot people who pose potential security risks.

But a research project involving a University of Huddersfield lecturer has concluded that METT training fails to improve lie detection rates beyond levels that can be achieved by guesswork.

The verdict is reported in a new article which concludes that the failure of METT is highly problematic "given that training in the recognition of micro-expressions composes a large part of a screening system that has become ever more pervasive in our aviation security".

METT is now an element of the Screening Passengers by Observation Technique (SPOT) used in airport security in the USA. This meant that research into its effectiveness was critical, state the article's authors.

One of them is the University of Huddersfield's Reader in Cognitive Psychology Dr. Chris Street, who has made a speciality out of lie detection. He formed a collaboration with colleagues at two universities in the USA who had decided to carry out the first known full test of METT as a lie detection tool.

The findings are revealed in an article that appears in the *Journal of Investigative Psychology and Offender Profiling*.

METT-trained individuals performed no better

METT was developed by the psychologist Dr. Paul Ekman, whose research group was the inspiration for TV series Lie to Me, starring Tim Roth. It is a form of training that aims to improve the detection of the micro-expressions sadness, anger, fear, disgust, contempt and happiness—fleeting expressions can last for as little as half a second.

"Recognising micro-expressions may have some utility as an aid for better recognising facial expressions, but it is more prominently promoted as a potential to aid in detecting deception," according to the new article, which then goes on to state that its research "does not paint an optimistic picture for the utility of METT".

The article describes the research process, which involved 90 students at a U.S. university. Some were randomly selected to receive METT training and some received bogus "placebo" training or none at all. They were shown stimulus videos containing truths and lies, taken from five different deception detection studies. One them was developed by Dr. Street and colleagues.

The success rate of participants in telling truth from lies was then compiled. One of the findings was that METT-trained individuals performed no better than those who received bogus or no training and indeed performed worse than chance—"guessing would have produced marginally better results".

Commenting on the research project, Dr. Street said: "METT is something that most people in the field felt didn't really hold up. The Ekman group argue that these micro-expressions help you to detect lies. But there really hasn't been any evidence to that effect. The problem now is that it has been brought into government usage in the U.S."

More information: Sarah Jordan et al, A test of the micro-expressions training tool: Does it improve lie detection?, *Journal of Investigative Psychology and Offender Profiling* (2019). DOI: 10.1002/jip.1532