

ADSA14

# Improve TSA Behavior Detection with Engagement

Carl Maccario

May 11, 2016

781.333.0448

[www.centerofnonverbalcommunication.com](http://www.centerofnonverbalcommunication.com)



**CENTER OF NON VERBAL  
COMMUNICATION**



CENTER OF NON VERBAL  
COMMUNICATION

## Detection and Engagement

$$P_d = P_e$$

Probability of Detection = the Probability of Engagement  
engagement a critical piece of BDO (Behavior Detection Officer  
protocols will make the program more effective

TSA Assessor program was focused on engagement with every pax  
and had a 33% detection rate!!! TSA stopped program due to false  
allegations of profiling and pressure from the ACLU.

asking questions that require an individual to elaborate and  
provide details allows you to ask specifics by what info is given  
and ask unanticipated questions

## GAO criticisms of BDO .....

- **GAO Report says 1. no science behind behavior detection-false**
- Research going back 50 years confirms the presence of visibly detectable signs of emotions
- Research going back 50 years confirms the presence of visibly detectable signs of cognitive activity (thinking about their answers)
- DePaulo, B. M., Lindsay, J. J., Malone, B. E., Muhlenbruck, L., Charlton, K., & Cooper, H. (2003). Cues to deception. *Psychological Bulletin*, 129, 74-112. above study is the most recent review of almost 100 years of behavioral science research which supports cues used in the TSA program.

### **More clues based on basic human physiology textbooks:**

(e.g., Janig, W. (2003). The autonomic nervous system and its coordination by the brain. In R. Davidson, K. Scherer, & H. H. Goldsmith (Eds.) *Handbook of Affective Sciences* (pp 135-186). London: Oxford University Press).



CENTER OF NON VERBAL  
COMMUNICATION

## GAO report on TSA Behavior program

1. GAO Report says TSA hasn't caught a terrorist!– base rate of terrorists flying?
2. GAO says behavior observation is only as good as “chance” Program is not just observation!
3. GAO expert(Hartwig) testified that BDOs should be talking to pax not just observing, - They do!!



## Cognitive Engagement

- Cognitive Questioning: Commits an individual to a “story” the security officer can attempt to verify..- requesting more detail or asking unanticipated questions

**E.G. Who else knows your taking this trip? Who can I call to verify what you just told me? Explain to me what you will do once you land?**

- In situations where people are concealing hostile actions, they typically need to conceal, distort, or fabricate information, as well as typically feel emotions (fear of getting caught, contempt at law enforcement, etc.).
- Individuals who fear discovery do not want to be linked to their activities and tend to “avoid and escape” when asked about it.

Almost identical dress.....each wearing one glove on one hand





CENTER OF NON VERBAL  
COMMUNICATION

## Congress asking TSA to reallocate BDOs as TSOs....

- Reality is the aviation security paradigm in this country is driven by several factors that have nothing to do with security!
- Line waits-passengers complaining about waiting in line. **They will wait 25 mins for a Starbucks coffee but not security!**
- Pressure from the airlines to get planes out on time, more flights more \$\$\$\$\$\$
- Pressure from Airlines to the Airport Authorities to TSA
- Congressmen getting complaints from airlines , airport authorities, and passengers about line waits



## Efforts to better detect deception:

- **Lyin' Eyes: Ocularmotor (2012)**
- **Measures of Reading Reveal Deception (used for interviews)**
- Anne E. Cook, Douglas J. Hacker, Andrea K.
- Overall detection 85% -interesting relationship between eye movements, pupil diameter and deception
- Head mounted eye tracker, people with corrective lenses excluded
- 25% of participants were tossed –eye movements were “unanalyzable”
- Caffeine effects eye movement

Emotional and physical state effects dilation (running to interview) TAKE AWAY

- may be successful for visa interviews or national security positions





## Efforts to better detect deception cont.: EYES.....

- **Generalizability of an Ocular-Motor Test for Deception to a Mexican Population**
- **Pooja Patnaik, Dan J. Woltz, Douglas J. Hacker, Anne E. Cook, María de Lourdes Francke Ramm, Andrea K. Webb, John C. Kircher**
- **85% correct classification between guilty and innocent**

**This study extends previous work (Cook) to a different culture- Mexico. In this study a remote eye tracker was used but a chin rest was needed to keep the head still.**

- **Could be useful in lieu of polygraph**