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Case studies of behavioral anomalies: a potential way to consider several behavior simultaneously

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When one is interested in lying behavior, several criteria can be taken into account as cohesion between verbal, paraverbal, nonverbal indicators and the context. This principle of cohesion, that can be used to distinguish spontaneous and deliberate facial expressions of emotion, defined any inconsistency or any deviations from usual behavior as a potential cues of deception. Thus, lie detection can be based on an overall analysis of behavior to be maximized, that is a shared characteristic of people with high performance in credibility assessment (e.g., wizard; see Ekman & O'Sullivan, 2006).

Recently, this principle of cohesion was renamed behavioral anomalies and adapted for training FBI's agents. Results of this training showed that identifying behavioral anomalies has a positive effect on lie detection (Matsumoto, Hwang, Skinner, & Frank, 2012). In fact, cohesion requires the coding of verbal, para-verbal and nonverbal behaviors, although it is technically difficult to do this on all behaviors at the same time. A less time-consuming approach is to consider only a few number of inconsistencies when assessing credibility.

In this presentation, three case studies from real issues illustrate this approach of credibility assessment. For instance, in a specific context, an indicator such as head shaking (for "no") with verbal content (e.g., "I agree with you") could be considered as behavioral anomalies, showing a lack of congruence. The first case can illustrate a factual lie, where synchronization between verbal response and the associated *emblem* is abnormal. The second and third case studies illustrate an emotional lie and more specifically a simulation of anger, through the notion of timing. For example, a facial delay of anger expression compared to what is said. Although behavioral anomalies are not direct deception cues, they lead to be more vigilant about what is being said in a perspective of credibility assessment.

Quote the study : Mery, M., Delmas, H., Demarchi, S., Tijus, C., & Urdapilleta, I. (august 2015). Case studies of behavioral anomalies: a potential way to consider several behavior simultaneously. *Decepticon: international conference on deceptive behavior*, Cambridge, United Kingdom.