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Efficacy of speech content actuarial data in detecting deception

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At present objective forensic methods for distinguishing between genuine and deceptive eyewitness accounts are limited. The purpose of this research was to pilot test whether actuarial data could be used to detect deception in individuals who are independent of the original database from which the actuarial data were derived. Healthy military personnel participated in Phase One and created an actuarial database for a manual and a cognitive task. Each was then randomized to a truthful or deceptive condition prior to participating in a cognitive interview. Interview transcripts were used to calculate speech content variables (response length, unique word count and type-token ratio) for truthful and deceptive accounts. In phase two participants were randomized to a truthful or deceptive status with respect to the manual and cognitive tasks. Speech content variables were calculated from the Cognitive Interview transcripts.

Using decision criteria based on the Phase One actuarial data, we were able to correctly classify Phase Two participants at rates significantly greater than chance (i.e. 85%). These data support the idea that speech content based actuarial data can be used to significantly discriminate between deceptive and truthful accounts provided by people who claim or deny specific experiences and for whom no baseline data is available. Future research may clarify whether database information generalizes to tasks that are similar – but not identical to- those from which the databases are derived.

Biography

CA Morgan III, MD, MA has completed his Medical Degree at the age of 26 years from Loma Linda University School of Medicine; after completing his residency in Psychiatry at Yale in 1990, he joined the Yale faculty. Dr. Morgan completed his degree in History of Medicine at Yale in 1996 and his Forensic Fellowship at Yale in 2001. He has published more than 100 peer reviewed scientific papers in reputed journals and is a recognized world expert in Post Traumatic Stress Disorder, Selection and Assessment of Special Operations military personnel. Dr. Morgan received the Patriot Award in 2008 for his service to the Special Operations community of the United States; He was awarded the 2010 Sir Henry Wellcome Medal and Prize for his research on sustaining cognitive performance in soldiers under stress. Dr. Morgan's work has been featured on 20/20, in the New York Times, New Scientist, and on the Discovery.

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