The Validity and Comparative Accuracy of Voice Str Analysis

as Measured by the CVSA: A Field Study Conducted in a Psychophysiological Context,

a federally funded study conducted by Dr. John Palmatier in cooperation with the Michigan State Police.

SUMMARY OF RESEARCH FINDINGS

In 1988 a new device was developed and marketed, called the Computer Voice Stress Analyzer (CVSA), which has high accuracy in detecting deception, according to the manufacturer. The CVSA has since been the subject of a series of university-grade laboratory studies, none of which found this device capable of detecting either stress or deception at levels above chance. The marketers of the device point to the large body of testimonials they have gathered as evidence of efficacy, and suggest that laboratory studies are inadequate to validate the CVSA since they lack the realism needed to create the types of reactions found in real world criminal settings. In order to overcome this shortcoming, the researcher set about collecting field data to test the CVSA.

Fifty confirmed deceptive cases from criminal investigations were collected from the field, in addition to fifty confirmed truthful cases. The voice data were recorded during live law enforcement polygraph examinations with studio grade recording equipment following the CVSA manufacturer's written testing protocol. The voice recordings were then played through the CVSA, and the graphic outputs from the device were interpreted by trained CVSA examiners who did not know beforehand whether the examinees were actually truthful or deceptive.

The CVSA examiners were not able to distinguish truth tellers from deceivers at higher than chance levels in this study. Only one examiner was able to render a statistically significant result, and that was an accuracy of much less than chance with truthful examinees. Moreover, inter-examiner agreement for the CVSA examiners, though statistically significant, was quite poor. Several post hoc analyses were conducted, based on manufacturer's objections to the findings, to determine whether disappointing CVSA performance was the result of confounding experimental factors, such as the testing examiner, impedance mismatching, and scoring rules. **All analyses consistently found chance-level performance for the CVSA, regardless how the data were reanalyzed. The study conclusively demonstrated that the CVSA device and technique are not able to discriminate between truthful or deceptive statements in law enforcement settings, as predicted by the body of laboratory findings. The converging lines of evidence make a powerful case that the CVSA has no validity as a deception detection technology.**