

**Nachshon, I., & Feldman, B. (1980). Vocal indices of psychological stress: A validation study of the Psychological Stress Evaluator. Journal of Police Science and Administration, 8, 40-53.**

The present study examined the reliability and validity of the Psychological Stress Evaluator (PSE) in the detection of deception. The PSE is designed to capture changes in voice that may be related to stress in the act of deception. Evidence for the PSE in the detection of deception is mixed, and it is not clear whether or not the PSE actually provides information that is useful to detect the act of deception. In the present study, the reliability and validity of the PSE were investigated in a laboratory setting and a field setting. The reliability was measured as the consistency in judgements among PSE evaluators, and the validity was measured as the accuracy in detecting deceptive responses based on PSE evaluations. Also, the effect of arousal levels on the PSE was examined.

In a laboratory study, 20 participants were asked to make deceptive responses in the card test (i.e., low arousal) and the horror picture test (i.e., high arousal test). In the card test, participants chose a number card, and they had to respond, "No, I did not chose this card" to all questions about number cards, including the one they chose. Based on the PSE data, the evaluators judged what number a given participant chose. In the horror picture test, participants saw 26 pictures, including 9 pictures of victims from road accidents. Participants had to respond, "Yes, I like this picture" to all pictures. The PSE evaluators judged which responses were made to the 9 unpleasant pictures of victims from road accidents. In the card test, the reliability was lower than 30 %, and the validity was not better than chance. In the horror picture test, the reliability was about 60 %, but the validity was not better than chance. So, although the arousal level increased the reliability, the accuracy in either test did not exceed the chance level.

In a field study, 56 criminal suspects participated in the card test and in the interrogation interview. In the interrogation interview, they answered questions that were related or unrelated to a crime that they might have committed. The card test was the same as the laboratory study, and in the interrogation interview, the PSE evaluators judged if deceptive responses were made to questions related to the crime or unrelated to the crime. In the card test and in the interrogation interview, the reliability was about 50 % on average. Neither in the card test nor in the interrogation interview, was the validity better than chance. Thus, both the laboratory study and the field study provided no support for the validity of the PSE in the detection of deception.