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Standard Practices for Interpretation of Psychophysiological Detection of Deception (Polygraph) Data[1]

This standard is issued under the fixed designation E2229; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 These practices establish procedures for the systematic interpretation and analysis of Psychophysiological Detection of Deception (PDD) data.

1.2 Any test data analysis procedure used shall be correctly matched to the PDD examination format. Examiners shall use evaluation methods for which they have been formally trained.

1.2.1 Acceptable test data analysis procedures are those published in refereed or technical journals, and for which published replications of the procedures have confirmed their efficacy.

1.3 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Terminology

2.1 *Definitions of Terms Specific to This Standard:*

2.1.1 *3-position scale, n*—whole number values from –1 to 1 assigned systematically to responses to relevant and comparison questions. These values are summed, and the PDD outcome is governed by specified decision rules for which these sums are used.

2.1.2 *7-position scale, n*—whole number values from –3 to 3 assigned systematically to responses to relevant and comparison questions. These values are summed, and the PDD outcome is governed by specified decision rules for which these sums are used.

2.1.3 *rank, n*—a number assigned to individual responses within a PDD recording hierarchically, according to relative response intensity.

2.1.4 *rank order scoring, n*—assignment of ranks according to relative magnitude of the responses. The PDD outcome is governed by specified decision rules using these ranks.

2.1.5 *respiration line length, n*—sum of the length of the respiration waveform over a fixed time period.

2.1.6 *response amplitude, n*—magnitude of a response from stimulus onset to maximum expression of the response within the response window.

2.1.7 *response duration, n*—period between a phasic response onset and return to baseline.

2.1.8 *response latency, n*—time between stimulus and response onsets.

2.1.9 *response window, n*—the period in which physiological responding normally occurs and recovers after stimulus onset. Response windows vary by channel.

2.1.10 *score, n*—a number systematically assigned to an established set of comparisons within a PDD recording.

2.1.11 *spot score, n*—sum of scores associated with an individual relevant question across all test recordings.

2.1.12 *stimulus onset, n*—commencement of stimulus presentation.

2.1.13 *tonic level, n*—resting or baseline activity level of the examinee.

2.1.14 *total numerical score, n*—sum of scores for an entire series of charts and questions.

3. Summary of Practices

3.1 *Global Evaluation:*

3.1.1 Evaluators utilizing global interpretation shall:

3.1.1.1 Be formally trained in global interpretation.

3.1.1.2 Confirm that the recordings are suitable for global evaluation. If they are not suitable, no evaluation shall be undertaken for the purpose of diagnosing truthfulness or deception. Nothing shall preclude an evaluator from reporting evidence of countermeasures when this evidence exists.

3.1.1.3 Use analysis methods generally recognized to be accurate.

3.1.2 When possible, numerical evaluation shall be preferred over global evaluation.

[1] These practices are under the jurisdiction of ASTM Committee E52 on Forensic Psychophysiology and are the direct responsibility of Subcommittee E52.05 on Psychophysiological Detection of Deception (PDD).

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