Short Answer: What does the polygraph measure? (in 150 words or less)*

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Polygraph measures the probability of error associated with a categorical conclusion that the test data were obtained from a member of the population represented by the normative sampling distributions for deception or truth-telling. Recorded data are psychophysiological proxies that are correlated at statistically significant levels with differences in response to different test stimuli that occur as a function of deception or truth-telling. The level of significance of a test result can be described in various ways, including as a p-value, confidence level, conditional probability, odds ratio, or other probability metric. Scientific test results are said to be "statistically significant" - supporting a categorical conclusion of deception or truth-telling - if the test result satisfies a stated alpha level that describes a requirement for precision or tolerance for error. Although the polygraph does not detect lies per se, the term "lie detector" has been used as a term of convenience.

* This article is the third in a series by the author of ever-shorter explanations of what the polygraph measures.