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Limited response to Marcin Gołaszewski's Conclusions From the Meta-Analytic Survey of Criterion Accuracy of Validated Polygraph Techniques

Key Words: polygraph techniques, APA Report, validation techniques

A lengthy article entitled "Validated Techniques and Scoring Models for PDD Test Data Analysis – Conclusions from the 2011 APA Report" authored by Marcin Gołaszewski and published in *European Polygraph*, Volume 6, Number 4(22), 2012, listed eight polygraph techniques as having been approved as *validated techniques* by the American Polygraph Association. The aforesaid article singled out two polygraph techniques, namely the Integrated

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Zone Comparison Technique (IZCT) and the Matte Quadri-Track Zone Comparison Technique (MQTZCT), as "outliers", because the Meta-Analytic Survey (MAS) "indicated that statistical data are inconsistent with the distribution of results from all other techniques and are called **outliers.**[1] Therefore one ought to look at these data with great caution. All the more so because the IZCT and the MQTZCT have not been verified by independent researchers. Furthermore, the APA drew attention to some shortcomings in the validation process of these techniques."

It should be noted that Gołaszewski's article mentions and references the 2012 Terminology Reference for the Science of Psychophysiological Detection of Deception (Krapohl, Handler, Sturm 2012) in addition to the Meta-Analytic Survey as the basis of his critical comments regarding the MQTZCT, which is the focus of this limited response. It also must be noted that Gołaszewski's article fails to cite and reference the "Critique of Meta-Analytic Survey of Criterion Accuracy of Validated Polygraph Techniques" published in *European Polygraph* (Matte 2012a), and the critique in the form of "A Letter-to-the Editor Regarding the APA's Terminology Reference for the Science of Psychophysiological Detection of Deception" published in *Polygraph* (Matte 2012b).[2] An evaluation of a study is not complete without the inclusion of its published critiques, which may reveal serious errors, omissions and bias, as was found in the Meta-Analytic Survey and described in detail in the aforementioned critiques.

In addition to stating that the MQTZCT had not been verified by independent researchers, the article further stated that:

"Moreover, the developer of MQTZCT reported a near-perfect correlation coefficient of 0.99 for the numerical scores. He suggested an unprecedented high rate of inter-scorer agreement, which is unexpected bearing in mind the complexity of the method. In addition to this, scores were not provided for those cases that were not scored correctly."

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[1] Outliers are numbers in the data set that are extremely high or extremely low, compared to the rest of the data. The mean may not be a fair representation of the data, because the average is easily influenced by outliers of very large or very small values in the data set that are not typical.

[2] Critique of Meta-Analytic Survey of Criterion Accuracy of Validated Polygraph Techniques, (Matte 2012a), and A Letter-to-the-Editor Regarding the APA's Terminology Reference for the Science of Psychophysiological Detection of Deception. (Matte 2012b) are available for review and download at www.mattepolygraph.com.

First of all, the MQTZCT was validated by three separate field studies: Matte, Reuss 1989a,1989b[3]; Mangan, Armitage, Adams 2008; Shurany, Stein, Brand (2009). The Mangan et al 2008 and the Shurany et al 2009 field studies were separate studies, independent of the Matte, Reuss 1989 study and the developer of the MQTZCT (Matte). The manner in which these three studies were conducted and their independence from each other is fully described in the aforesaid Critique published in *European Polygraph* (Matte 2012a).

Secondly, the statement that the unprecedented high rate of inter-scorer agreement is unexpected due to the complexity of the method is not only inaccurate but reflects a lack of knowledge regarding the MQTZCT, which became evident in the Terminology Reference's erroneous description of the Inside Track, a major component of the MQTZCT[4] (Matte 2012b). The format of the MQTZCT and resultant polygraph charts used for scoring of the physiological data are in fact simpler to evaluate and score than some other validated polygraph techniques, inasmuch as the MQTZCT isolates each relevant question for comparison with the neighboring control question immediately preceding it within the same track, and hence is non-selective, whereas some other validated techniques require that the polygraphist select one of the two control questions flanking the relevant question for comparison, a selective approach requiring additional psychophysiological evaluation affecting the decision process. Furthermore, once the scores have been assigned in each tracing of each track, the polygraphist merely has to tally the total scores from the three tracks for a grand total score, which is married to a conclusion table for a decision of truth, deception or inconclusive. The process is logically structured and standardized.

In addition, the data in the Matte-Reuss 1989a field study (Table 10-C) shows that the average score per chart for the truthful was +6 and for the deceptive -9; hence for three charts the average score for the truthful would be +18 and the deceptive -27. The score threshold for the truthful for three charts is +9 and the deceptive -15, which provides a margin of accuracy of 9 points for the truthful and 12 points for the deceptive before inconclusive results would occur. Moreover, in order for the blind reviewer to commit a false negative (FN) or false positive (FP) error, he would have to travel from -27 past Zero

[3] Matte, Reuss 1989a, 220-page doctoral dissertation and 1989b abridged version of the same field study published in *Polygraph*, 18(4), 1989 are available for review and download at www.mattepolygraph.com.

[4] D. Krapohl and M. Handler, authors of the Terminology Reference, were also members of the APA Committee that authored the Meta Analytic Survey.

to +9, a distance of 36 points to arrive at a false negative, and +18 past Zero to -15, a distance of 33 points to arrive at a false positive, respectively. Therefore, the margin of accuracy as shown in the Matte-Reuss field study provides a significant score buffer for the blind reviewer, which no doubt contributed to the near-perfect correlation coefficient of 0.99 for the numerical scores in that study.

In addition, the statement that the MQTZCT's near-perfect correlation coefficient of 0.99 is unprecedented fails to acknowledge the fact that in the Mangan et al 2008 field study, 30 confirmed cases were blind scored by two polygraphists, which resulted in one error in 60 cases blind scored for a correlation coefficient of .983, which was provided to the APA Committee with all of the score sheets, yet no mention of this is made in their report. The fact that 10 of those confirmed cases were randomly selected from 2007 cases because there were insufficient numbers of confirmed cases in 2006, may have been the reason for its omission from the MAS report; however, it should have made no difference inasmuch as the details and results of those confirmed cases were all unknown to the blind reviewers. Hence, two independent reliability studies were conducted on the MQTZCT, reflecting a similar high rate of inter-scorer agreement. Furthermore, the Mangan et al field study showed that the average score per chart for the Truthful was +7.1 and the Deceptive -10.0, resulting in a three chart score of +21.3 for the Truthful, and -30.0 for the Deceptive, thus providing a buffer of 12.3 points for the Truthful and 15.0 points for the Deceptive before inconclusive results would occur. This score buffer gave the blind scorers in the above mentioned confirmed cases a similar margin of accuracy against false positives and false negatives as found in the Matte-Reuss 1989 study, to wit: 36.5 points (FP) and 39 points (FN), respectively.

Thirdly, the aforesaid article states "In addition to this, scores were not provided for those cases that were not scored correctly." This statement is grossly inaccurate inasmuch as the Matte, Reuss 1989 field study and the Mangan, Armitage, Adams 2008 field study both reported 100 percent accuracy, with no errors to report. The Shurany, Stein, Brand 2009 field study reported two errors and zero inconclusives. The raw data for the two errors in the Shurany et al study were included in the completed study data provided by Shurany to Chief Investigator Nelson. Nelson had previously acquired incomplete data of the study from Barry Cushman, who released it without authorization from Shurany. Therefore all of the raw data from all three field studies were in fact provided to the APA Committee.

In all fairness to Marcin Gołaszewski, it is most likely that this author's critique in the form of a Letter-to-the-Editor of APA regarding the *Terminology Reference,* which was published in *Polygraph* in December 2012 and not accessible to Europeans until late January or February 2013, was not available to Gołaszewski when he submitted his Conclusions from the 2011 APA Report for publication in *European Polygraph.* Furthermore, this author's Critique of the Meta-Analytic Survey published in *European Polygraph* in 2012 may also have not been available to Gołaszewski at the time he submitted his Conclusions article for publication in *European Polygraph.* It is not unusual for articles submitted to peer-reviewed journals to remain in the publishing queue for several months to more than a year before publication. Therefore the purpose of this author's Limited Response to Gołaszewski's article is to introduce the two cited critiques to his article to correct the record, not fault Gołaszewski's excellent scholarship. Only when all the facts are known can the truth prevail.

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