A Letter to the Editor Regarding the APA's Terminology Reference for the Science of Psychophysiological Detection of Deception

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Dear Editor:

This critique in the form of a letter-to-the-editor is in response to the publication of the third edition of the *Terminology Reference for the Science of Psychophysiological Detection of Deception*, hereafter referred to as *Terminology Reference*, authored by Donald Krapohl, Mark Handler and Shirley Sturm published by the American Polygraph Association in 2012. It should be noted that this author (Matte) was listed as one of the contributors to this edition but was never consulted.[1]

The following inaccuracies were noted on the following pages of the *Terminology Reference*:

Page 13. Confession criterion.
A list of published studies and articles concerning the use of confessions as ground truth omitted some studies that support the use of confessions.

Corrective Comment.
The following studies supporting the use of confessions as ground truth omitted from the *Terminology Reference* are listed below:

Light, E.D., & Schwartz, J. R. (1999). The relative utility of the forensic disciplines. *Polygraph*, 28(3), 240-258.

Mangan, D.J., Armitage, T. E., & Adams, G.C. (2008). Rebuttal to objections by Iacono and Verschuere, et al. *Physiology & Behavior*, 95(1-2), 29-31.

Mason, P. (1991). *Association between positive urinalysis drug tests and exculpatory examinations.* Unpublished doctoral dissertation. United States Army Criminal Investigation Command. Baltimore, MD.

Page 24. Exclusive (exclusionary) comparison question.
A list of published studies concerning the description and effectiveness of the exclusive comparison question omitted studies and critiques that challenged the results of some of the listed studies.

Corrective Comment.
The following published critiques challenging the results of some of the studies listed in the *Terminology Reference* are listed below:

Matte, J. A. (November 2011). Commentary Horvath, F., Palmatier, J.J. Critique of Horvath-Palmatier Laboratory Study on Effectiveness of Exclusive v. Non-Exclusive Control Questions in Polygraph Examination. *Journal of Forensic Science*, 53(4): 889-899.

Matte, J. A., & Backster, C. (2000). A critical analysis of Amsel's comparative study of the exclusive v. nonexclusive comparison question. *Polygraph*, 29(3), 261-268.

[1] Editor's note: All contributors from the 2002 edition of the *Terminology Reference* were also given credit as contributors for the 2012 edition. We regret any misinterpretation.

Page 26. Fear of Error.
The last sentence states "Empirical support for the inside track is not yet available. See Matte (1996); Nelson & Cushman 2011)"

Corrective Comments.
Empirical support for the inside track is provided in the following published field studies. Furthermore the "Nelson & Cushman 2011" citation could not be found in the References section of the *Terminology Reference* or in the References section of the *Meta-Analytic Survey of Criterion Accuracy of Validated Polygraph Techniques* (2011).

Mangan, D. J., Armitage, T. E., & Adams, G. C. (2008). A field study on the validity of the Quadri-Track Zone Comparison Technique. *Physiology & Behavior*, 95, 17-23.

Matte, J. A., & Reuss, R. M. (1989). A field validation study of the Quadri-Zone Comparison Technique. *Polygraph*, 18(4), 187-202.

Matte, J. A., (1990). *Validation study on the polygraph Quadri-Zone Comparison Technique.* Research Abstract LD 01452, Vol. 1502, 1989. University Microfilm International (UMI, Ann Arbor, MI.

Shurany, T., Stein, E., & Brand, E. (2009). A field study on the validity of the Quadri-Track Zone Comparison Technique. *European Polygraph*, 1, 5-24.

The following is a correct and accurate description of the Fear of Error:

Fear of Error: A theory developed by James A. Matte after extensive field experiments to resolve false positives and reduce inconclusives which revealed that an innocent examinee may show a significant response to relevant test questions as a result of his fear that an error will be made on his test regarding the target issue. The Fear of Error question contains a suffix "regarding the target issue" and is treated as a comparison question that is compared with its neighboring relevant question within the same Track, namely the Hope of Error question "regarding the target issue." The Fear and Hope of Error questions are contained in a Track labeled "Inside Track" within the Quadri-Track Zone Comparison Technique. The innocent examinee's Fear of Error was recognized by Dr. Paul Ekman (1985) who coined the concept as the "Othello Error." The National Research Council of the National Academies of Science's 2003 report (P. 74, 127), cited the innocent examinee's fear of error as a potential for false positives.

Page 30. Hope of Error.
States "Because guilty examinees usually stand to lose something of importance if their deception is uncovered by the polygraph, Matte argues that they are hopeful that there will be an error in the outcome. Alternatively, truthful subjects are being deceptive to probable lie comparison questions, and they too might be hopeful for an error to occur. During testing Matte includes a direct question regarding the examinee's hope of an error, and scores the question as a relevant question. See Matte (1996); Matte & Reuss (1989); Nelson & Cushman (2011).

Corrective Comment.
The above Nelson & Cushman 2011 citation could not be found in the references section of the *Terminology Reference* or in the Meta-Analytic Survey of Criterion Accuracy of Validated Polygraph Technique (2011). Furthermore, the above description fails to acknowledge the presence of the suffix "regarding the target issue" following the Fear and Hope of Error questions, which renders the above statement about truthful subjects being deceptive to probable lie comparison questions also hopeful of an error, as irrelevant and misleading. See Matte 1980, 1993, 1996, 2000, 2007, 2011; Mangan et al 2008; Shurany et al 2009.

The following is a correct and accurate description of the Hope of Error:

Hope of Error: A relevant test question that is compared with the Fear of Error comparison question contained within the Inside Track of the Quadri-Track Zone Comparison Technique. Both the Fear of Error and the Hope of Error questions contain a suffix "regarding the target issue" so that the examinee whether innocent or guilty will associate these two test questions with the target issue for which the examinee is being tested, not the two non-current exclusive control questions contained in separate tracks within the same test. See Matte (1980, 1993, 1996, 2000, 2007, 2011; Mangan, Armitage, Adams 2008; Shurany, Stein, Brand 2009).

Page 32. Inclusive (inclusionary, non-exclusionary) comparison question.
Cites Amsel (1999); Podlesny & Raskin (1978); Horvath(1988); Horvath & Palmatier (2008).

Corrective Comment.
The *Terminology Reference* omitted the following published critiques of the Amsel 1999 and the Horvath-Palmatier 2008 studies which are listed below:

Matte, J. A. (November 2011). Commentary Horvath, F., Palmatier, J.J. Critique of Horvath-Palmatier Laboratory Study on Effectiveness of Exclusive v. Non-Exclusive Control Questions in Polygraph Examination. *Journal of Forensic Science*, 53(4): 889-99.

Matte, J. A., & Backster, C. (2000). A critical analysis of Amsel's comparative study of the exclusive v. nonexclusive comparison question. *Polygraph*, 29(3), 261-268.

Page 33. Inside-issue comparison question.
States "Empirical support is mixed between advocate and independent research. See: Matte (1996); Mangan, Armitage & Adams (2008); Nelson & Cushman (2011); Shurany, Stein & Brand (2009).

Corrective Comment.
Matte 1996 is a textbook, not a study. Should have listed Matte 1989 dissertation and Matte & Reuss 1989 field study published in *Polygraph*, Journal of APA. The studies by Matte & Reuss 1989; Mangan et al 2008; and the Shurany et al 2009 all provide empirical support for the Inside-Issue Comparison question. See also Matte 2011 and 2012. The remaining listed study of Nelson & Cushman 2011, purportedly a study with an opposing view cited by the *Terminology Reference*, appears to be non-existent in that could not be found in the References section of the *Terminology Reference* or in the References section of the Meta-Analytic Survey of Criterion Accuracy of Validated Polygraph Techniques.

Page 33. Inside-issue relevant question.
States "Empirical support is mixed between advocate and independent research. See: Matte (1996); Mangan, Armitage & Adams (2008); Nelson & "Cushman (2011; Shurany, stein & Brand (2009).

Corrective Comment
Same as Inside-issue comparison question.

Page 33. Inside track.
States "Empirical support is mixed between advocate and independent research. See: Matte (1996); Mangan, Armitage & Adams (2008); Nelson & "Cushman (2011; Shurany, stein & Brand (2009).

Corrective Comment
Same as Inside-issue relevant question.

Page 42. Non-exclusive (inclusive or inclusionary) comparison question.
Cites "Amsel (1999); Horvath (1988); Horvath & Palmatier (2008); Podlesny & Raskin (1978).

Corrective Comment
The *Terminology Reference* omitted the following published critiques of the Amsel 1999 and the Horvath-Palmatier 2008 studies which are listed below:

Matte, J. A. (November 2011). Commentary Horvath, F., Palmatier, J.J. Critique of Horvath-Palmatier Laboratory Study on Effectiveness of Exclusive v. Non-Exclusive Control Questions in Polygraph Examination. *Journal of Forensic Science*, 53(4): 889-899.

Matte, J. A., & Backster, C. (2000). A critical analysis of Amsel's comparative study of the exclusive v. nonexclusive comparison question. *Polygraph*, 29(3), 261-268.

Page 44. Othello Error.
See: Ekman (1985).

Corrective Comment
Correctly cited in body of *Terminology Reference* but erroneously cited as Ekman (1992) in the References section.

Page 51. Quadri-Track Zone Comparison Technique.
States "Independent research has to date failed to support the construct of the inside track (see Nelson & Cushman, 2011)." "For a full explanation, see Matte (1996)."

Corrective Comment
Empirical support for the Quadri-Track Zone Comparison Technique is provided in the following published field studies. Furthermore the "Nelson & Cushman 2011" citation purportedly a study with an opposing view could not be found in the References section of the *Terminology Reference* or in the References section of the Meta-Analytic Survey of Criterion Accuracy of Validated Polygraph Techniques (2011). For a full explanation of the Inside Track construct see Matte 1996 and 2011. For confirmation that the Mangan et al and the Shurany et al field studies published in peer-reviewed journals were in fact independent studies, see Matte 2012.

Mangan, D. J., Armitage, T. E., & Adams, G. C. (2008). A field study on the validity of the Quadri-Track Zone Comparison Technique. *Physiology & Behavior*, 95, 17-23.

Matte, J. A., & Reuss, R. M. (1989). A field validation study of the Quadri-Zone Comparison Technique. *Polygraph*, 18(4), 187-202.

Matte, J. A., (1990). *Validation study on the polygraph Quadri-Zone Comparison Technique.* Research Abstract LD 01452, Vol. 1502, 1989. University Microfilm International (UMI, Ann Arbor, MI.

Shurany, T., Stein, E., & Brand, E. (2009). A field study on the validity of the Quadri-Track Zone Comparison Technique. *European Polygraph*, 1, 5-24.

Page 65. Time bar.
States "Research has not supported this hypothesis, however. See: Amsel (1999); Podlesny & Raskin (1978); Horvath (1988); Horvath & Palmatier (2008).

Corrective Comment
The *Terminology Reference* omitted the following published critiques of the Amsel 1999 and the Horvath-Palmatier 2008 studies which are listed below:

Matte, J. A. (November 2011). Commentary Horvath, F., Palmatier, J.J. Critique of Horvath-Palmatier Laboratory Study on Effectiveness of Exclusive v. Non-Exclusive Control Questions in Polygraph Examination. *Journal of Forensic Science*, 53(4): 889-99.

Matte, J. A., & Backster, C. (2000). A critical analysis of Amsel's comparative study of the exclusive v. nonexclusive comparison question. *Polygraph*, 29(3), 261-268.

Page 70. Zone Comparison Technique (ZCT)
Includes the "You Phase," Exploratory," "S-K-Y," "Federal," "Integrated" and Utah."

Corrective Comment
Should include the Quadri-Track ZCT.

Sincerely,

James Allan Matte

References

Ekman, P. (1985). *Telling Lies – A How-To-Guide for all Those Who Want to Detect Lies.* New York, NY: Berkley Books.

Gougler, M., Nelson, R., Handler, M., Krapohl, D., Shaw, P., & Bierman, L. (2011). Meta-Analytic Survey of Criterion Accuracy of Validated Polygraph Techniques. *Polygraph*, 40 (4), 194-305.

Horvath, F. S. (1988). The utility of control questions and the effects of two control question types in field polygraph techniques. *Journal of Police Science and Administration*, 16, 198-209.

Horvath, F. S., & Palmatier, J. J. (2008). Effect of two types of control questions and two question formats on the outcomes of polygraph examinations. *Journal of Forensic Sciences*, 53 (4), 889-899.

Mangan, D.J., Armitage, & T.E., Adams, G.C. (2008). A Field Study on the Validity of the Quadri-Track Zone Comparison Technique. *Physiology & Behavior*, No. 95 (1-2), 17-23.

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Matte, J. A. (1989). *Validation Study on the Polygraph Quadri-Zone Comparison Technique.* Research Abstract, LD 0452, Vol. 1502, 1989. Ann Arbor, MI: University Microfilm International.

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Matte, J. A. (1996). *Forensic Psychophysiology Using the Polygraph: Scientific Truth Verification – Lie Detection.* Williamsville, NY: J.A.M. Publications.

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Matte, J. A. (2011). Psychological Aspects of the Quadri-Track Zone Comparison Technique and Attendant Benefits of its Inside Track. *European Polygraph*, 5(2-16), 41-60.

Matte, J. A. (2012). Critique of Meta-Analytic Survey of Criterion Accuracy of Validated Polygraph Techniques. *European Polygraph*, Vol. 6, Nr. 1(19), 19-44.

Matte, J. A., & Backster, C. (2000). A critical analysis of Amsel's comparative study of the exclusive v. nonexclusive comparison question. *Polygraph*, 29 (3), 261-268.

Matte, J. A., & Reuss, R. M. (1989). A field validation study of the Quadri-Zone Comparison Technique. *Polygraph*, 18(4), 187-202.

National Research Council (2003). *The Polygraph and Lie Detection.* Washington, DC: National Academy of Sciences.

Podlesny, J. A., & Raskin, D. C. (1978). Effectiveness of techniques and physiological measures in the detection of deception. *Psychophysiology*, 15, 344-358.

Shurany, T., Stein, E., Brand, E. (2009). A Field Study on the Validity of the Quadri-Track Zone Comparison Technique. *European Polygraph*, No. 1 (7), 5-23.