

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 fourth 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 Michael Lynch published by the American Polygraph Association in 2022.

The following inaccuracies and omissions were noted on the following pages of the Terminology Reference.

Page 35. Confession criterion

A list of published studies and articles concerning the use of confessions as ground truth omitted some studies that support the use 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 Unpublished doctoral dissertation.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 46. Directed Lie

The following published articles should be included in the list of publications pertaining to the Directed Lie control question.

“Validation of Potential Response Elements in the Directed-Lie Control Question.”

Matte, J.A. & Reuss, R.M. (1999). Published in *Polygraph*, Journal of the American Polygraph Association, Volume 28, Number 2, Pages 124–142.

“An analysis of the Psychodynamics of the Directed Lie Control Question in the Control Question Technique.”

Matte, J.A. (1998). Published in *Polygraph*, Journal of the American Polygraph Association Vol. 27, Nr. 1, 56–67.

Page 54. 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): 889–99.

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 58. Fear of Error

The last sentence states “Empirical support for the inside track is not yet available. See Matte (1996); Nelson & Cushman 2011)”

Corrective Comment

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 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 control (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 67. Hope of Error

As reads in 2022 version of Terminology Reference:

Concept introduced by James Matte, and a central component of his Quadri-Track Technique. Because guilty examinees usually stand to lose something of importance if their deceptions are uncovered by the polygraph, Matte argues that they are hopeful that there will be an error in the outcome. **A challenge to Matte’s hypothesis is that truthful subjects are also deceptive during testing – 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 boldfaced sentence is incorrect and misleading inasmuch as it omits the fact that a **suffix** “regarding the target issue (relevant issue)” follows both the Fear of Error and the Hope of Error questions. See Matte 1978, 1980, 1993, 1996, 2000, 2007, 2011; Mangan et al 2008; Shurany et al, 2009. Furthermore, 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 techniques (2011).

Page 69. 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 70. 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 & Reuss 1989, a 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. The remaining study of Nelson & Cushman 2011 purportedly a study with an opposing view cited by the Terminology Reference 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. It could also not be found in the four APA journals published in 2011.

Page 71. 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 71. 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 87. 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): 889–99.

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 90. 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 102. 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). It could also not be found in the four APA journals published in 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.

Page 126. 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 134. Zone Comparison Technique (ZCT)

Includes the “You Phase,” “Exploratory,” “S-K-Y,” “Federal,” “Integrated,” and “Utah.”

Corrective Comment

Should include the Quadri-Track ZCT.

References

The following references should be added to the references section of the Terminology Reference 2022.

Light, G.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. 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.

Matte, J.A. (Dec. 1978). Polygraph Quadri-Zone Comparison Technique. *Polygraph*, 7(4). 266-280.

Matte, J.A. (November 2011). Commentary on: Horvath F. Palmatier JJ. Critique of Horvath-Palmatier Laboratory study on effectiveness of exclusive v. non-exclusive control questions in polygraph examination. *Journal of Forensic Sciences*, 5 (6). 1664–1667.

Matte, J.A., Backster, C. (2000). A Critical analysis of Amsel's comparative study of the exclusive v. nonexclusive comparison question. *Polygraph*, 29 (3), 261–266.

Matte, J.A., Reuss, R.M. (1989). Validation study on the Quadri-Zone Comparison Technique. *Research Abstract*, LD 01452, Vol. 1502, University Microfilm International.