

IN RESPONSE TO THE STATEMENTS MADE BY MS LIZETTE VOLKWYN REGARDING THE ACCURACY OF POLYGRAPH TESTING IN YOU MAGAZINE

The Southern African Polygraph Federation has taken note of the statements made by Ms Lizette Volkwyn in an article published in You Magazine on 10 January 2023, in which she claimed that “Human lie detectors have an accuracy of about 95%, while polygraph tests are only 60% accurate.” Unfortunately, these statements, among others, made by Ms Volkwyn under the guise of being an expert in the field, were factually incorrect and misleading. To address and correct the information presented in the article, the individual claims will be publicly reviewed in this response.

In the article Ms Volkwyn asserted that polygraph tests are only 60% accurate. In reality there are various polygraph examination techniques designed for various circumstances and uses, with various levels of accuracy, and there are specific criteria that an examination technique must adhere to in order to be considered a valid and reliable technique as stipulated in the ASTM International Standard Guide for PDD Examination Standards of Practice¹ as well as the American Polygraph Association (APA) Standards of Practice². To very briefly summarize the aforementioned APA standards, polygraph examination techniques for evidentiary examinations are those for which there exists at least two published empirical studies, original and replicated, demonstrating an unweighted average accuracy rate of 90% or greater, excluding inconclusive results which shall not exceed 20%. Polygraph examination techniques for paired testing are those for which there exists at least two published empirical studies, original and replicated, demonstrating an unweighted average accuracy rate of 86% or greater, excluding inconclusive results which shall not exceed 20%. Polygraph examination techniques for investigative testing are those for which there exist at least two published empirical studies, original and replicated, demonstrating an unweighted average accuracy rate of 80% or greater, excluding inconclusive results which shall not exceed 20%, and finally those examination techniques used for screening purposes require at least two published empirical studies, original and replicated, demonstrating an unweighted accuracy rate that is significantly greater than chance, and should be used in a “successive hurdles” approach which entails additional testing with validated methods when the screening test is not favourably resolved.

Furthermore, in the Meta-Analytic Survey of Criterion Accuracy of Validated Polygraph Techniques³ it was reported that the combination of all validated techniques, excluding outlier results, produced a decision accuracy of 87% (confidence interval 80% - 94%) with an inconclusive rate of 13%. These findings were consistent with those of the National Research Council’s⁴ conclusions regarding polygraph accuracy. The statement made by Ms Volkwyn regarding the accuracy of polygraph examinations is incorrect and misleading, and neither reflects the accuracy rating of any examination in use today, nor even the minimum criteria for examination techniques to be considered for use.

¹ ASTM (2002). Standard Practices for Interpretation of Psychophysiological Detection of Deception (Polygraph) Data (E 2229-02). ASTM International.

² American Polygraph Association (2019). *Standards of Practice*. [Electronic version] Retrieved January 13, 2012, from <http://www.polygraph.org>.

³ American Polygraph Association (2011). Meta-analytic survey of criterion accuracy of validated polygraph techniques. *Polygraph*, 40(4), 196-305.

⁴ National Research Council (2003). *The polygraph and lie detection*. Washington, D.C.: National Academy of Sciences.

Ms Volkwyn asserted that “polygraph tests monitor a person’s heart rate, oxygen levels and blood pressure,” and claimed, “that people can regulate their blood pressure and can practice being cool and calm, thereby fooling the machine.” The statement is also incorrect, a misrepresentation on how a polygraph examination functions, and reveals a lack of knowledge and understanding of the subject matter and methodology. While it would be impractical to present a complete and all-encompassing presentation on the physiological reaction features, it can be summarized in that a polygraph examination monitors and records a number of physiological indicators that have repeatedly shown to be correlated with deception in structural decision models presently used, and the mechanics of the physiological responses recorded during the examination occur in the context of the autonomic nervous system, which includes both sympathetic and parasympathetic components.⁵ The autonomic nervous system regulates involuntary processes and by implication is not subject to the examinee’s control. The notion that a person can “fool the machine” by “being cool and calm” is inconsistent with, and in contradiction to, essentially all known scientific literature regarding polygraph examinations.

Ms Volkwyn claimed that ‘human lie detectors’ have an accuracy of 95%. Regrettably, this statement does not reflect the available research and publications. Bond and Depaulo⁶ conducted a meta-analysis of over 200 studies and discovered that on average people only reached 54% lie detection accuracy. In their 2008 meta-analysis regarding differences in lie detection ability they found that variance in accuracy rates did not exceed what would be expected by chance alone, which is approximately 50%.⁷ Both of the aforementioned studies tested experts, high and low stakes lies, interaction with the liar as well as exposure to their baseline behaviour. In summary, they found human lie detection to be very poor and produced results similar to guessing.

Jordan et al.⁸ published their findings on the micro-expressions training tool (METT) and whether it improves lie detection. Their findings indicated that the METT did not improve the accuracy of the participants in spotting lies above the level of guessing and did not support the use of METT as a lie detection tool. The Southern African Polygraph Federation has sent a communication to the Paul Ekman Group requesting for research journals or publications pertaining to the accuracy of the METT when used as a lie detection tool and are still awaiting a response.

Considering the above, we believe it to be of interest for Ms Volkwyn to indicate what the basis of her statements were, and additionally, to indicate the length of the training that she had received on the specific subject matter that qualifies her as an expert in the field. Furthermore, we hope that Ms Volkwyn, or at least the publications which provided her the platform to present these statements, will take the opportunity to rectify these inaccuracies in the same way that it was presented.

The polygraph profession has always been plagued by misconceptions and misrepresentations, not to mention unscrupulous characters selling untenable promises. We urge the public to ensure that they are fully informed when employing the services of a polygraph examiner or any person offering detection of deception services, as they have a responsibility toward the persons that have to undergo the test, themselves and the public to ensure that people are only subject to examinations in a manner that is ethical, fair, within its limitations and supported by sufficient empirical evidence. To this end,

⁵ Nelson, R. (2015). Scientific Basis for Polygraph Testing. *Polygraph*, 44(1), 28-61.

⁶ Bond, C. F., & DePaulo, B. M. (2006). Accuracy in deception judgments. *Personality and Social Psychology Review*, 10, 214–234.

⁷ Bond, C. F., & DePaulo, B. M. (2008). Individual differences in judging deception: Accuracy and bias. *Psychological Bulletin*, 134, 477–492.

⁸ Jordan S, Brimbal L, Wallace DB, Kassin SM, Hartwig M, Street CNH. A test of the micro-expressions training tool: Does it improve lie detection? *J Investig Psychol Offender Profil*. 2019;1–14.

please note that there are only two self-regulating professional bodies currently in South Africa that is recognized as divisional members of the American Polygraph Association,⁹ that only accepts members that have qualified from APA recognized training institutions, that require members to undergo continuous training, that require members to adhere to international standards of practice and that offers impartial quality assurance reviews should it be suspected that a member acted in contravention of the regulations of the organisation. These organisations are the Southern African Polygraph Federation,¹⁰ and the South African Professional Polygraph Association.¹¹

For any further information regarding the above matter, please do not hesitate to contact us:

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Kind Regards

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⁹ The American Polygraph Association: www.polygraph.org

¹⁰ The Southern African Polygraph Federation: www.sapfed.org

¹¹ The South African Professional Polygraph Association: <https://polygraph.org.za/>