DE GRUYTER
OPEN

EUROPEAN
POLYGRAPH

Volume 12 • 2018 • Number 1 (43)

**DOI:** 10.2478/ep-2018-0003

Tuvya T. Amsel*
Tel Aviv
Israel

# Inconsistent Polygram

## Непоследовательный полиграф

**Key words:** polygram, inconsistent polygram

The psychophysiological responses monitored by and during a polygraph test are recorded and displayed on the Polygram (polygraph chart) and later evaluated and analyzed by the examiner, either by global evaluation or by numerical analysis. While the global analysis tend to **subjectivity**, the numerical analysis which is a: "Systematic assignment of numbers to physiologic responses, along with decision rules, so that PDD (polygraph) data analysis **is more objective** and standardized…" [1] The numerical chart analysis is a: "Method of rendering polygraph decisions that are based exclusively on numeric values that have been assigned to physiological responses recorded during a structured polygraph examination. The numerical approach does not consider extra-polygraphic information such as case facts or examinee behaviors. The numerical approach has four primary components. They are: feature identification, numerical value assignment, computation of the numerical values, and decision rules. Current numerical approaches include the Backster, Federal, Matte, Horizontal, and Utah method, and the automated computer algorithms." [2]

* ta@amsel.co.il

Polygraph charts numerical analysis became a standard practice with most examiners. The systematic assignment of numerical value to the physiological response standardized the analysis. Numerous researches demonstrated its superiority over the global approach. Yet, some critiques expressed their concern that the numerical analysis turns the examiner into a calculator that ignores information such as: case data, examinees' verbal and nonverbal clues and alike or as Richard Arther wrote: "The polygraph expert who has been taught to depend l00% upon the charts and totally ignore gestures is a technician and not a polygraphist." [3]

While my training as well as my experience taught me to "believe my charts" and give a very little consideration to other information, in some instance, charts are confusing to the point that rendering a decision is impossible. For example: in a case in where an analysis spot of the first chart totaled – 2, the second chart + 1 and the third chart totaled +1 as well, totaling the three charts to zero, a grand total representing an inconclusive test result.

What causes this phenomenon and what should the examiner do in such cases is the concern of this article.

## Chart anomalies

Confusing or contradicting charts appear in various ways, such as:

- In the spot analysis of a single chart we witness contradicting responses between the different channels, for example: the EDA response is positive while the Cardio or Respiration response is negative.
- An analysis spot sub total of one chart is positive while the analysis spot of one or of the other two charts are negative.
- A combination of the two.
- A contradiction between the sub total and the grand total of two different analysis spots that have the same meaning such as: "Have you taken that money from the envelope?" (-4) and "Have you taken that money?" (+1).

## Anomalies' Sources

Some plausible explanations to chart anomalies are:

- Lack of correlation between the spot questions, in where one question represents a bigger threat to the examinee than the other,
- One of the spot questions is phrased in a broader manner and it triggers association to some other somehow related issues.

- One of the spot questions may have a double meaning to the examinee,
- The enveloping comparison questions of one spot are less or more effective than the other,
- Mental distraction occurring during a single spot because of word association,
- A remark made by the examiner between charts that impacted the examinee in later charts,
- An artifact (such as: deep breath, yawn, etc.) that was identified as a reaction,
- The examinee is "dragging" a response from prior question (lack of homeostasis i.e. tonic level or physiological norm).

Some scholars will use these examples as the reason to why we should not rely ONLY on the numerical analysis and the necessity to integrate into our final opinion "out of chart data". Regardless of the validity of this claim, and I personally consider it as invalid, there are some remedies that the examiner should practice in order to reduce chart anomalies to minimum.

## Remedies

- The "wonder pill" to most difficulties that we face, is conducting a proper and comprehensivepretestin where the relevant and comparison questions are thoroughly discussed and understood by the examinee (This can be achieved by asking the examinee to explain the meaning of the questions).
- During the test, before asking a question make sure that the examinee has recovered and returned to his physiological norm ("chart purity").
- Before starting to numerically score the charts take a global look at the chart in order to identify unique individual patterns such as: deep breath before every answer, etc. in order to avoid scoring them as a reaction.
- Scoring the charts apart of the test.
- Re scoring the charts the following day after the test.
- Asking another examiner to score your charts.
- Make sure that you have not analyzed an artifact.
- Make sure that the respiration channel had not effected other channel (deep breath tend to impact other channels and "draw" artificial reactions).
- Make sure that you have only scored the reaction within the scoring window which start once the question was identified by the examinee and ends 5 seconds after the answer.
- Run additional charts.
- Rephrase the relevant or the comparison question before running an additional chart or charts.

- Adding an extra chart in where the spot question is enveloped with different comparison questions.
- Do not restrict yourself to the spot grand total; consider the general TENDENCY/ TREND toward where the score is pointing. As in the example in where a spot analysis of the first chart totaled – 2, the second chart +1 and the third chart totaled + 1 as well, totaling the three charts to zero, a grand total representing an inconclusive test result. To ignore the **tendency** that erupted, which clearly point toward a truthful examinee, would be unjust. It seems like the examinee's responses in the first chart could be attributed to his or her anxiety, which gradually lessened as the test developed.
- Use your discretion and keep in mind that none of the examinees are "text book" models so you should adopt yourself to him and not vise versa.
- Retest the examinee by another examiner.

## Discussion

Critiques may argue that the suggestion to use discretion support the global analysis followers. Thou on the surface it might seem so, it is not, simply because the suggested discretion is relying on **"in chart data"** rather than on **"out of chart data"** that is being applied by the global analysts.

Keep in mind that we are examining human beings and not "text book" model robots which call for a more flexibility and if needed improvising approach rather than being a rigid technician who follows the "text book" instruction to the dot. Yet, in spite of the need to be more flexible your decision should exclusively rely on your charts.

## References

[1] Krapohl D., Handler M., Strum S. (2012), *Terminology Reference for the Science of Psychophysiological Detection of Deception*.

[2] *Ibidem*.

[3] Arther R.O. (1980), *Observing Gestures, Part 4*, The Journal of Polygraph Science, 14, 5.