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Jan Widacki*
Andrzej Frycz Modrzewski
Krakow University
Krakow, POLAND

When should the Polygraph Stimulation Number Test be Performed?

In his recently published monograph *Badania poligraficzne – podręcznik dla zawodowców*, literally "Polygraph testing – a handbook for professionals", Jerzy Konieczny recommends performing the stimulation number test as the first in the series, opening the examination (Konieczny 2009, 151, 155). Besides him, a few other authors recommend that this test begins the examination.

In *Truth and Deception*, a work that has become a classic, J. Reid and F. Inbau (1976, 38) recommend using the stimulation test second, after conducting the first test of control questions, and before its repetition.

Similarly, Abrams recommends using the stimulation number test second (Abrams 1989, 120). The US Army polygraph school adopted the stimulation test administered as the second test (Matte 1996, 308–312). There were also several other authors who compared the changes in reaction intensity in

* jan.widacki@gmail.com

control question tests (CQT) separated with a stimulation (number) test (see: Senese 1978; Matte, Reuss 1989).
This order of tests – control question test, stimulation number test, and repeated control question test – is also recommended in numerous works of Polish literature (e.g. Widacki 1981, 98; Widacki 2008, 377).
Tests were carried out in this order in practical polygraph examinations performed in Poland.

The justification for this order of conducting tests was the assumption that having learned the results of the stimulation number test, a subject who answered the critical questions in the first control question test deceptively will become convinced that his or her reactions to critical questions are recognizable, and shall react more strongly in the repeated control question test. In turn, a subject who answered the critical questions in the first test truthfully, but was afraid that his or her reactions may be improperly interpreted, will calm down after the control question test, becoming assured that the result of the examination will remove any unfair suspicion from him or her.

This theoretical assumption was verified in Polish research. Analyzing polygraph recordings of 30 individuals considered deceptive subjects (DI) in tests performed according to the Reid technique, Krzyścin discovered that in 22 (63%) cases, reactions to critical questions in the second control question test performed after the stimulation number test were greater than in the first series before the stimulation. In other cases, these reactions did not change or were even smaller (Krzyścin 1980, 145).

In another study, the quantitative analysis of polygraph recordings of 14 subjects considered DIs and examined in criminal cases proved that the sum total of numerical values of reactions in the first Reid test was 158 points, while the sum total of the value of reactions in the repeated test following the stimulation number test stood at 169 points. Nevertheless, in as many as eight (57 %) cases there was a slight drop in the intensity of reaction, while an increase in the reaction occurred only in six cases, yet in all those cases the increase in reaction was highly significant, which was decisive for the overall average (Widacki 1982, 51–52).

In fact, the case was similar in the group of 22 subjects considered non-deceptive, truthful subjects (NDI) and examined in criminal cases. In this group, the total numerical value of the reaction was 73 points in the first Reid control question test, while in the test repeated after the stimulation number test the total numerical value of the reactions in fact slightly dropped – to 65

points. Yet even in this group of subjects – in 11 cases, that is 50% –reactions to critical questions in the repeated Reid test remained at the same level, if not slightly increased (Widacki 1982, 56–57).

The result of this research allows us to state that claims about the increased reaction in control question tests repeated after the stimulation number test in the DI group are true for the entire body of cases, while for each individual case this can be misleading.

The situation is the same for individuals considered as NDI. The claim about reduction of the reaction to critical questions after the stimulation number test is true for the entire body of cases, yet can be misleading in reference to an individual case.

It seems that only the ascertainment of a marked increase/reduction in the reaction following the number test may be of accessory diagnostic significance, helping to tell the difference between the DIs and the NDIs. A slight change in the magnitude of reaction following the number test is not as a rule diagnostically significant.

One could believe that falling upon this premise for diagnosing could be more precise, if one had additional knowledge of the degree of trust of the person tested to the test itself, and about that person's conviction about the reliability of the method.

The following situations are theoretically possible:

The subject	Trusts the examination	Does not trust the examination	Reaction intensifies	Reaction is reduced	Incidental reaction (remains the same, increases or decrease)
Dl	+				+
DI	-	+	+		
NDI	+				+
NDI	-	+		+	

Thus, in the case of a DI person trusting the test and convinced about the reliability of the examination, the magnitude of the reaction following the

number test will be the same, slightly greater or slightly smaller than in the test performed before the stimulation number test. The change therefore remains inconclusive in relation to the number test.

In the case when a DI person does not trust the examination and/or examiner, this person's trust for the examination increases after the number test and consequently his/her reactions should grow.

In the case of an NDI person trusting the polygraphic examination and the examiner, their reactions following the number test may remain the same, increase or decrease, which will be the result of factors other than learning the result of the number test.

In the case of an NDI who trusts neither the examiner nor the polygraph test, trust after the number test should grow and consequently the reactions to critical questions should diminish.

The circumstance whether the subject believes the polygraph test to be efficient and trusts the examiner may in most cases be decided during the interview preceding the examination. In conjunction with this information, the increase or decrease in reactions in the second Reid control question test conducted after the number test may be of greater diagnostic significance than at present.

It seems that, for the reasons given above, the stimulation number test should be considered as the second, dividing two tests of control questions.

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