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THE TRUSTWORTHINESS OF POLYGRAPH EXAMINATION

1. Introduction

Many people consider polygraph examination a nostrum which uncovers lies, others, however, regard its use disquieting. There are some people who expect objectivity, the service of jurisdiction endeavouring objectivity, which helps courts to decide whether to accept the testimony of the witness or the accused to be honest. According to the opponents of the instrument, it is better to doubt the result of polygraph examination than overvalue it because of its trustworthiness limits. Trustworthiness worries are regarded to be the principal reasons against advisory records, which contain examination results, reaching trial and possibly becoming a documentary evidence, but it is also regarded to be a problem that the argued trustworthiness questions the place of polygraph in criminal procedure.

2. Factors Reducing the Trustworthiness of Polygraph

Several factors influence the trustworthiness of polygraph examination:

a) the instrument

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- b) the examination room
- c) polygraph examiner
- d) the questions
- e) the subject.

a) The instrument. The trustworthiness of polygraph examination can be reduced by the measuring obstacles of the instrument. The more modern polygraph is, the less and less danger threatens. One may say that the sensitivity of modern instruments has reached the level which influences the result not more than in a slight degree. Trustworthiness can decrease if an older type of polygraph is used.

Another possible mistake is connected to the instrument as well, the graph, which indicates physiological changes and appears on the screen during the examination, illustrates the same value of change in case of the subject who reacts to the questions to a lesser extent than the subject whose reactions are strong. The reason may be that at the beginning of polygraph examination the instrument calibrates itself to the subject then it shows the graphs in a form that the advisor could see them in a proper size needed for the analysis. Nevertheless, as a result of it, the changes shown by the graphs are much smaller in reality than they can be seen on the screen. A mistake may happen when polygraph examiner only looks at the graphs and does not pay attention to the related questions that the instrument indicates on the screen. Though, this automatic calibrating function of the digital polygraph may also be the source of mistakes, it means a large improvement compared to the former analogue instruments, since calibration was made by polygraph examiner which diverted a part of his attention from the examination. If the examiner had not paid attention to the measurement values continuously, the needles would have run

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down the sheet of paper, if, for example, reactions belonging to a certain question had been strong.

Detectors, or rather the condition of the detectors, may also mean the decrease of trustworthiness related to the instrument. If they are used, they are not able to work properly, they can cause error of measurement.

b) The Examination Room. If the examination room is inadequate, it may reduce trustworthiness. Poor-stimulation atmosphere is needed which can be assured at the Criminal Expert and Research Institute (BSZKI), but in the countryside, where nearly half of the examinations are performed, the conditions are not ideal. It often happens that the walls are dirty, the office is furnished, there are pictures on the walls, a window may be in the visual area of the subject, and noise-free rooms may not be guaranteed. Until portable examination chairs were available (for example if the subject sank into the chair or worried to break the chair under them), made it impossible to measure physiological reactions precisely many times.

c) Polygraph Examiner. The advisor can make a mistake if he does not exactly know that physiological changes are person specific. Therefore it can happen that those changes appear which would be general and can be acquired at polygraph training. The advisor looks for the different from the usual, but what is different from the usual is continuously a problem. Experience can help to reduce false recognition or the danger of not recognition. Eliminating error, they concentrate on blood pressure and sweat in the USA, as these two channels can be examined the most easily.

d) The Questions. During polygraph examination polygraph examiner asks the questions according to settled rules and sorted in structured lists of questions. A list contains 7-14 questions. During the general questions test critical questions (*'Do you know it for sure who killed Pista?' , 'Did you give any deliberate help in killing Pista?' , 'Did you kill Pista?'*) and control

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questions (*'Have you ever stolen petrol?'*) are asked among the neutral questions (*'Is it Tuesday today?'*). The control question *'refers to some concealed side of the activity of the examined person, which is not in connection with the crime but refers to his unpleasant side.'* [1] If the control reaction is strong, thus the subject reacts to the control question more strongly than to the critical one, one may draw the conclusion that he may have not committed the crime and he is not in possession of the information who the perpetrator is.

The other type of list of questions is the Concealed Information Test where the physiological changes of the perpetrator are the largest when he hears the critical question (*'Do you know it for sure that Pista has been shot?'*), but in case of the not guilty – as he does not know the circumstances of the crime - physiological reactions will not be bigger to the critical questions than to the questions which are irrelevant in terms of the case, that is to the neutral questions (*'Do you know for sure that Pista has been strangled?'* or *'Do you know it for sure that Pista has been hanged?'*).

Proper questions within the list of questions are inevitable for the trustworthy polygraph examination. However, the success of the instrumental testimony control at the Concealed Information Test can be endangered if the critical themes have been revealed. If the advisor does not pay attention, he can ask such questions against his will what the subject abreacts (his physiological reactions change) not because he committed the crime, but because he knows the relevant information from someone else. If the subject does not let polygraph examiner know about it, it can lead to a false result.

It is also connected to the asked questions, whether the information, which should be in the list of questions as critical questions, get into the investigation documents. Trustworthiness can be decreased if the pieces of information indicated in the file are not precise, for example the records of review and

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evidence are not authentic. If the advisor cannot obtain authentic information, it can endanger the success of the examination.

If the pieces of information obtained about the case are good and authentic, the question is whether polygraph examiner prepares a proper set of questions. In case of the tension peak test, the basic rule, for example, is to make it impossible to find out which one the critical question is if they are not asked from the perpetrator. If the subject finds it out and reacts to it, the not guilty can be wrongly believed to be the perpetrator. It is also a mistake, if the advisor puts a question of inconsiderable occurrence among the critical questions. The not guilty may think, for example, that the crime could have not happened in the way indicated in the question, as such crimes are not committed like that. If the offended is an old man, for example, the subject may know that the old are usually beaten to death or strangled when they are attacked, since they are not strong enough to be able to defend themselves, therefore there is no need to stab or shoot them. It happens that the physiological changes at the examined person indicate deceit when he denies beating the old man to death, but at the end of the examination it turns out that his organism has reacted because he finds the way of the perpetration natural.

It may also be a source of mistake if the questions on the list are not of equivalent weight. If the advisor does not pay attention to it when compiling the list of questions, it may lead to a false result. In such a case, the subject tries to find out the critical question and reacts to the question as if he knew the right answer because he is the perpetrator. If the list of questions refers to the number of people taking part in the murder, the subject can find out that three people at most, as there is no need for more people, and he abreacts the three. If the examiner does not realize that the question can hide traps, he can get caught in his own trap, and its consequence may be a false examination conclusion.

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Not only in the case of the tension peak test, but also of the Control Question Test, proper critical questions must be set carefully. However, good critical questions are not enough since the list of general questions may be a factor which reduces trustworthiness if the control question is bad in it. If it is pattern-like or the examiner applies a question which is not proper, the not guilty subject may not react more strongly than to the critical question. If the not guilty reacts to the critical question more strongly, it can lead to an even more false result.

e) The subject. If the examined person forgets pieces of information which could be critical items, it may reduce the trustworthiness of polygraph examination, but one can also consider the danger that the subject does not pay proper attention to all the details of the crime about which, however, the advisor, who knows the investigation documents, may know.

Age can also influence trustworthiness, regarding this factor, polygraph examinations are usually not performed above the age of 60 and under the age of 18, but if yes, false measurement result may be calculated because of the mental or physical inadequacy. Examining a person who has not been sleeping for days, or perhaps has consumed some drugs before the examination or suffers from schizophrenia can cause the same kind of problem.

Only those people are suitable for the examination who in case of other conditions – adequate state of health, actual physical condition, etc. – is able to recognize the examination situation properly and to give adequate answers to the questions. Their consciousness must comprehend that they are allowed to state only the truth, if they lie, polygraph examination can reveal it. In case of the lack of the subject's cooperation, the examination cannot be performed since cooperation is needed to prepare the interpretable finding in any case. In practice it means that the subject obeys the examination leader's instructions and answers the questions raised. According to Inbau most polygraph examiners

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make mistakes which derives from that the subject is inadequate or the examiner is unqualified. [2] Both factors may largely reduce the trustworthiness of polygraph examination. Inbau thinks that there may be three ways of eliminating inadequate persons. On the one hand, the examination of the subjects must be refused if they have been assaulted at the police station before the examination. On the other hand, if signs of abuse cannot be seen, but the interrogation was intensive, performing the examination has to be refused as well. Thirdly, one must make the investigation authority realize to use polygraph not only when other methods will not help. [3]

2.1. Polygraph Examination and Reliability

The trustworthiness of polygraph examination may be reduced by the reliability of the method, the figures of the above referred experiment in the USA have been accepted to be a correct result, in which revisional opinions corresponded to the original findings in the case only in 52.5%, the revisional opinions corresponded to each other in 71,1%. [4] According to Kertész, *'these latter data show that experts, who perform polygraph examination, base their opinion not only on the results of the measurements but also on the circumstances they know about the case, and – if they manage to – on the confession.'* [5] The shown reliability rate is rather low, approaches to accidental, one would presume the thoughts of Erdei true: *'the advisor having the monopoly (or some advisors) works knowing the impossibility of the actual professional control.'* [6] According to Lykken's researches, however, the reliability of polygraph examination usually makes 90%. [7] The 52.5% is much lower than the 90%, therefore it is worth examining what may have caused the result of 52.5%:

a) Polygraph examiners are unable to interpret physiological changes because it is impossible.

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- b) The preparedness of polygraph examiners is not the same.
- c) Beside the physiological changes indicated by the graphs, other things are also considered during performing the examination.

The low rate of reliability may happen because points a) and b) are related, as two polygraph examiners, if they draw different conclusions from the same graph, thus the subject is globally deceptive for one of the examiners but not for the other, one may conclude from it that they are not aware of the rules of interpreting the graphs, they are not properly prepared to decide well, as the rate of 52.5% seems to be unacceptable. If the published figures are correct, one may presume as the reason of the difference that in the given case the physiological reaction changes of the subjects were not unambiguous, if they had been so, a better rate would have presumably been born. According to Kertész, '*experienced experts*' revised it, and the knowledge of the facts may have played a part in preparing the examination result. [8] It may follow from this that reactions were not unambiguous because in that case polygraph examiner would not have needed the knowledge of the facts to help him decide. Unambiguous physiological reaction changes can be recognized, if these changes had characterized the examinations, the reliability rate could have been higher as well.

Regarding the Hungarian polygraph examination method, point c) comes the nearest to the facts, that is, though polygraph examiners apply polygraph and interpret the graphs, their intuitions and impressions influence them when they have to decide on the honesty of the answers given to the questions. It is mainly true when physiological reaction changes are ambiguous. It is a tendency in the USA that in the past years they endeavoured that the least possible will depend on other circumstances, they wished to make the examination result suitable for the control, that is reliability will be the higher possible. Nowadays there are not examination results prepared by polygraph examiners in which the

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documentation and the deducted conclusions have not been checked by another polygraph examiner. This practice also justifies that the reliability mistake percentage has been reduced, since if two people see the same result, it is much more likely that the umpteenth examiner will interpret the examination finding in the same way. The questioning technique has been uniformed, the same kind of instrument and method is used, those two channels are concentrated on which can be examined the best, blood pressure and sweat are being watched.

In his monograph Erdei establishes the requirement that *'the method applied by the advisor should be up-to-date, scientifically grounded and trustworthy.'* [9] Thereafter he evolves /unfolds when the method may be regarded to be scientifically grounded: *'if it is in harmony with the results of science and with the so called natural rules of science or profession. These natural rules are developed during practising the profession, as a result of either generalizing everyday experience or of the practical translating of some kind of scientific result, and infringing them is regarded to be a professional mistake.'* [10] It is clear that polygraph examination has its own professional rules which have been developed during several decades, and it can be said about scientific grounding that it has it, therefore it may be stated that it is possible to check whether polygraph examiner obeyed the basic professional rules. These establishments – in spite of its obstacles – are also true for the Hungarian examination method, in spite of the fact that presumably its reliability is lower than the one applied in the USA. Although the 'global' opinion has a higher reliability, the result of the Hungarian general question test is much more informative, as it also gives an answer to, for example, whether the subject knows who committed the crime. Thus the Hungarian method examines not only whether the subject has passed the examination, that is his honesty and non-guilt can be deducted (if the subject denies committing the crime), but other important - in terms of the case - questions as well. In the USA a confession is

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expected from polygraph itself first of all, that the examined person will crack when he faces that polygraph examiner has questioned his honesty. According to Majeski, the goal is obtaining the confession because *'the results of polygraph may be questioned everywhere.'* [11] In Hungary the goal is not obtaining a confession by all means, and neither court practice holds about polygraph examination that its result may be used as evidence by no means.

Though, from trustworthiness and credibility point of view, the reliability rate must also be considered as one of their factors, however it seems that validity is of greater importance when court examines the credibility of the result of polygraph examination. Lykken supports this standpoint with an example as well: a faulty thermometer measures as wrongly as another faulty thermometer, on the other hand both thermometers may measure the same temperature in spite of the fact that they measure 10°C difference. Thus the reliability of the thermometers is adequate, however their validity is not, as they differ from the real temperature with 10°C. [12]

2.2. Polygraph Examination and Validity

Before introducing the available validity data, it is worth mentioning what factors have an effect on the validity of polygraph examination, what may cause that polygraph examiner assesses the physiological reaction changes wrongly, and notices deceptive intention in a honest negation. First of all, one must consider the above introduced factors reducing trustworthiness, since they influence the validity of polygraph examinations. A distinction must be made between real cases and experiments. The listed circumstances which reduce trustworthiness fully arise in only real cases, and judging validity figures based on real cases is made difficult as the basis of the available data is constituted by comparing the examination result with the decisions of the court. They view whether the subject has failed at polygraph examination and compare that

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examination result with the court decision which establishes reality, that is whether the subject has surely committed the crime. The problem with the method is that those who examine validity do not take the possibility into consideration that the court may pass a false judgement. [13] The existence of the confession may be imposed as a condition to establish the validity rate, but it is not inevitably a good method, as the possibility of false confession may cause the wrong figure.

In case of both real cases and experiments, the result of validity examination may be made inaccurate if the examiner cannot decide whether the subject's answer is deceptive. In such a case, the advisor writes in the report that the honesty of the answer *'cannot be decided'*. The inaccuracy of validity examination may arise from the fact that certain researchers consider advisors' uncertainty as a mistake, hereby they reduce the rate of polygraph examination validity, in spite of the fact that in that case one cannot talk about a mistake since the advisor would make a mistake if he rated the subject's negation deceptive wrongly.

On the contrary of real cases, in case of the experiments, 'sterile' circumstances can be created, which means that the sources of mistakes in connection with the instrument, the examination room and polygraph examiner, may be reduced to the minimum if they endeavour that the experiment will bring an acceptable validity rate. The experiment is performed with an adequate quality instrument, in an ideal examination room, with well prepared polygraph examiners. The adequate questions are precomposed, and those subjects are usually examined who are suitable for polygraph examination both mentally and physically. On the other hand, the lack of fear reaction raises a problem, it is impossible to create circumstances which characterize a real criminal case. Committing a crime and the fear of being revealed cause a bigger stress than offering some thousands of forints in case of successfully cheating polygraph.

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The Israeli have tried to solve the problem: Netzer Daie, the member of the Jerusalem Scientific Interrogation Unit at the Israeli police, with his colleagues - Avital Ginton, Eitan Elaad, and Gershon Ben-Shakhar – have performed a polygraph experiment where they increased risk. They made twenty-one Israeli policemen fill in a test telling them that it is compulsory for policemen. After completing the test, the policemen had to correct their own tests, but they had been given such a special paper, behind their back, which indicated if they had rewritten their answers. Seven of them rewrote their answers posteriorly. Some days later the subjects of the experiment were suspected of fraud. Their attention was called that a polygraph examination would be performed on them, and their job depended on its result. Fifteen out of the twenty-one tackled the examination, two perpetrators and thirteen not guilty. The Control Question Test was applied and both swindlers were detected, however the rate of false positive was 17%, the rate of those who were wrongly considered to be swindlers by polygraph examiner, who did not know who had rewritten the answers - on the basis of the examination. [14] The accuracy of the experiment is questioned by the low number of the subjects, therefore considerable deductions cannot be concluded from the numbers, on the other hand, urging policemen to commit a fraud arises an ethic problem as well. According to the Israeli researchers, immorality can be proved as polygraph examinations are performed on thousands of people year by year *'and on the basis of such examinations very important decisions are made. But it is not known to what extent we can rely on this instrument.'* [15]

Even if a real stress situation is managed to create, too ideal conditions mean a problem as they are not always available in case of a real case, therefore it may be laid down as a fact that validity data measured in non-real cases cannot be applied to define the accuracy of polygraph examination.

Before validity data, some notions must be made clear.

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- The result of polygraph examination is called *'false positive'* if in case of honest answers it wrongly shows that they are not honest, from which the conclusion is drawn that the perpetrator may have been an innocent subject.

- The result of polygraph examination will be *'false negative'* if in case of honest answers it wrongly shows that they are honest, from which the conclusion is drawn that the perpetrator may have not been the perpetrator as his negation was honest.

Having a look at the experiments, it can be experienced that there are especially advantageous results for polygraph, such as, for example, Bollók Sándor's establishment who indicates 0.5% as the number of mistakes when he examined 150 college students with the help of a card test at the beginning of the 1980s. [16] Christopher J. Patrick and William G. Jacono reports on another experiment when they examined 48 subjects, 24 of them were psychopaths. [17] On the basis of the experiment, the validity of polygraph examination was determined as 73.2%. The more disadvantageous result may have been caused by examining the psychopaths as well, where the rate of the false positive was 62.5%, that is the honest answers were wrongly qualified as deceptive. [18]

From validity point of view – beside the stated reservations – the results of validity examinations in real cases seem to be more valid. Baskin, Edersheim and Price find the validity of polygraph 85% [19], Kaye holds that it can be between 83 and 97%. [20] In the United States of America 2000 people were examined with the instrument and the result was false positive in 85 cases which corresponds to 4.25%. [21] A Canadian scientific review finds this rate 12-23%. [22] John J. Furedy and Ronald J. Heslegrave think that the validity of polygraph is between 64 and 90%. [23] According to Szíjártó István, validity figures of 70-90% occur in different articles but there are authors who published higher numbers. [24]

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There are especially disadvantageous validity figures for polygraph. According to Lykken, the validity of polygraph is low if a group is examined in which there are only few people who lie. [25] He does not consider validity adequate even if a great number of the accused are examined and it is undoubtedly known that they committed the crime. Lykken supported his results with numbers as well. He started from that the court accepts only those examination results as an evidence which are advantageous for the subject. Lykken said, if we presume that the validity of polygraph is 80% and 80% of the accused who reach trial are found to be guilty, the examination of 1000 people would produce a result that 160 out of the 200 not guilty are not guilty according to polygraph examination as well, thus the result of 160 polygraph examinations will be accepted as evidence by the court. Besides, however, polygraph examination will show that 20%, that is 160 out of the 200 perpetrators, have not committed the crime, in spite of the fact that they are perpetrators. Considering that the court uses the result of only 320 polygraph examinations out of 1000 as evidence (160 really not guilty and 160 perpetrators who were not the perpetrators of the crime according to polygraph), the validity of polygraph examination is not 80% but only 50%. [26] Raskin and Kircher reacted to the disadvantageous numbers immediately and according to them Lykken's calculation is a mistake as Lykken wrongly started from that 80% of the examined accused really committed the crime. [27] On the contrary, experience shows that the not guilty accused subject themselves to polygraph examination on a much larger scale than the perpetrators. According to law enforcement authorities, not more than 43-48% of the suspects are perpetrators. [28]

Lykken has done other calculations as well. Relying on the research results of the Barland-Raskin, Horvath, and Kleinmuntz-Szucko studies, he has come to the conclusion that if an accused is examined who is the perpetrator, polygraph examination is of 84% validity, but if the accused is not guilty, it is only 53%.

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[29] Lykken finds the validity of polygraph examination 68,5% all in all. [30] According to David C. Raskin and John C. Kircher, however, Lykken arbitrary chose three research results which he considered authentic, that is in its study the OTA (Office of Technology Assessment) identifies ten publications which can be considered authentic regarding research results. From these studies it appears that the validity of polygraph examination is 90% in case of the accused who really committed the crime, and it is 80% in case of the not guilty accused. [31] Lykken reacted to the charges that there were research results among the OTA reports which found the validity of polygraph examination on the average of 98.6%. Lykken said, that they have come to the result that one of the authors of the study which contains the research result, Edwards sent questionnaires to his friends in Virginia to report on what they had experienced, what the validity of polygraph was like. [32] According to Lykken, there were five similar research results in the OTA report, included Raskin's one. [33]

Validity skirmish is not an isolated phenomenon. Majeski points at the constant 'number war' when he replies in connection with validity: *'well, it depends on who establishes this rate: the followers or the opponents of the instrument. 5% of the tests do not give a chance to conclude as the physiological reactions contradict each other or different processes distort the results. These can be of technical nature or deliberate ones. Referring to the other tests, the rate of successfulness – that is the test results in agreement with the facts – is 87%.'* [34] Certainly, the 87% cannot be regarded without any doubt, either.

According to Zubanska, *'it is widely agreed that a validity of at least 80% would make polygraph examination acceptable.'* [35] 80% occurs at Kertész as well, what *'the expert dealing with polygraph, experiences as a great success.'* [36] Zubanska also provides a validity result based on real cases: when applying the general questions test the validity of polygraph examination was 83-89% for the perpetrators, while in case of the not guilty the rate was 53-78%. During the

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examination, the false negative result was of 1-17%, still the false positive was of 12-47%. [37] At the Concealed Information Test the validity is of 76% in case of the examination subjects who are perpetrators, and of 83% in case of the not guilty. Examining it on a scale of 0-1, the validity rate of the Concealed Information Test was 0.8, with a result of false positive of 5% and false negative of 20%. [38] It results from the numbers that the validity of the general questions test is higher in case of the perpetrators, but the Concealed Information Test shows higher validity in case of the not guilty. Kertész also reports on similar results when referring to Lykken's experiments, he unfolds that the validity of the Concealed Information Test is 88.2% in case of the guilty, while in case of the not guilty it is 96.7%. [39] On the contrary of Zubanska, Kertész considers the Concealed Information Test the method with the highest validity with its rate of 93%. [40]

Kertész presents a validity examination which – similarly to Zubanska – is based on real cases. *'In Virginia, United States, the results of the 2433 polygraph examinations performed in 1980 were supervised. 959 cases could be assessed on the basis of confession, sentence or acquittal subsequently. 98% of the persons, who were found honest with polygraph examination, was proved to be honest according to the documents obtained later as well, 98.5% of the persons found guilty was proved to be really guilty.'* [41] Kertész arises the question with good reason – even if we disregard that confessions and the decisions of the court may contain mistakes – that *'how can the 959 examinations represent the 1474 uncontrollable ones.'* [42] *'Whether polygraph examinations producing false results play a part in the failure of most cases.'* [43] We can agree with Kertész that both false positive and false negative results may divert the case in wrong direction if the authority is not careful enough and believes that polygraph examination is unerring.

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At the beginning of the study the question arose whether polygraph examination can be applied to check the testimony, can the credibility of the testimony be questioned by a method which result can also be a question of credibility. Let us see an example which helps to answer the question: in judicial medical practice the examination of the pelvis is regarded to be the most reliable method to identify a dead person on the basis of the skeleton. [44]

On the basis of it, the sex of the person can be identified with a certainty of 90-97%. In order to avoid mistakes, further examinations, such as dental, skull, etc. examinations are recommended. [45] It follows from this validity rate that even in case of the possibility of examination mistakes, which is 3-10%, the expert cannot be sure about the result because the 3-10% means that in 10 examinations out of 100, the sex of the dead person may be identified wrongly. Thus a different method is recommended as well to eliminate the remaining possible mistake rate of 10%. When we look at the validity figures of polygraph examination, the scissors may be described as very big between the advantageous and definitely bad validity figures for polygraph.

When examining the stated figures, it may be experienced that the validity of polygraph examination is between 50 and 98.6%. The rate of the false negative result is between 1 and 20% which means that the person is thought to be not guilty in the ratio of 1-20% who is the perpetrator. The rate of the false positive result moves between 4,25 and 47% which shows that the not guilty is believed to be the perpetrator in the ratio of 4,25 - 47% considering the result of polygraph examination. If we examine what the validity of polygraph examination is like in case of the perpetrators, it can be stated that it is between 76-98,5%, while in case of the not guilty it is 53-98%.

In case of the tension peak test, validity is 76-88,2% for the perpetrators, for the not guilty it is between 83 and 96,7%, the total validity of polygraph examination is 80-93%. If we start from that the 80% of validity is acceptable,

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the validity rate which can be produced with the Concealed Information Test may be regarded as adequate. However, if one considers that validity is between 76 and 88,2% in case of the perpetrators and it is between 83 and 96,7% for the not guilty, then one may say that there is a relatively big chance that the examination will produce a false not guilty, while validity is more advantageous in case of the not guilty.

The conclusion can be drawn from it, that in case of the Concealed Information Test polygraph is more suitable to identify the guilty, that is for the real identification of the lack of the perpetrator knowledge than for the identification of the perpetrator knowledge. It may also justify that the perpetrator is interested in the examination, as he has a good chance that he will wrongly be found not guilty as the result of polygraph examination. For the not guilty, validity rate means that the validity of polygraph examination is the highest in their cases, the false positive result in case of the Concealed Information Test is only 5% [46], that is it can happen in 5% that they are wrongly considered to be perpetrators after polygraph examination. The validity of the general questions test may be put between 83 and 89% for the perpetrators, which is over the 80%, so it can be considered adequate, while in case of the not guilty the result of 53-78% may be bad. If it is not known who has committed the crime, both in the USA and in Hungary the general questions test and the Concealed Information Tests are used, therefore the joint use of the two tests improve the validity figures in case of the not guilty, the result of the Concealed Information Test(83-96,7%) makes the validity result of the Control Question Test (53-78%) acceptable. When examining the perpetrator, the validity of the Control Question Test is 83-89%, the Concealed Information Testis 76-88,2%, both validity rates are above the 80%, so it is acceptable. In Hungary both the general questions test and the Concealed Information Testare usually applied in case of the witness who may as well become a suspect if the

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suspicion will become grounded. If the advisor examines a person who may know the relevant information of the case without committing the crime, that person is equivalent to the suspect in Hungary, the general questions test is usually applied in case of them, of which validity may be regarded adequate if the perpetrator is being examined. If it is not the suspect who has committed the crime, so not the guilty is being examined, in that case validity is only 53-78%, which is below the acceptable, therefore the conclusion may be drawn that on the basis of the validity rates, the not guilty suspect may be shown guilty by the result of polygraph examination. It must be instantly added to this statement that, because of the already listed problems, validity figures do not necessarily correspond to the facts either. According to my view, polygraph, as an instrument applied for checking testimonies, can be used for examining the credibility of the testimony by the court, but similarly to the judicial medical practice, in case of polygraph examination it is recommended to make sure of the credibility of the testimony in another way as well, as the trustworthiness of polygraph examination does not reach the 100%.

3. Conclusions

The available polygraph validity figures may be close to the facts, nevertheless, because of the reasons listed in this study, the figures must be treated under reserve, since the validity indexes measured on the basis of both experiments and real cases, may largely become distorted.

In the light of validity figures, which are presumably not far from the facts, I am of the opinion that, because of the disputable trustworthiness, it is not justified to prohibit polygraph examination neither in Hungary, and I hold the same about applying the examination result as a possible evidence. The method surely works, since in Hungary during the last three decades it yielded a result in several cases, and the same may be experienced on international levels. Criminal

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cases may need polygraph, the result of which does not tie the authority acting in the criminal case, but may help the investigation if its place and role in the criminal procedure are treated in a proper way. I do not find it to be prohibited that the court possibly take the result of polygraph examination, beside other evidences, into consideration.

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Будахазі Арпад

Достовірність поліграфа

Надійність і достовірність поліграфу залежить від кількох факторів: поліграфа, кімнати, де відбувається перевірка, поліграфолога, питань і предмету перевірки на поліграфі. Якщо умови не ідеальні, то це може призвести до зниження надійності. Дослідження в сенсі обґрунтованості пов'язане з певними ризиками і отримані дані не обов'язково відображають реальність.

Ключові слова: поліграф, достовірність, обґрунтованість, детектор брехні, експерт.

Будахази Арпад

Достоверность полиграфа

Надежность и достоверность полиграфа зависит от нескольких факторов: полиграфа, комнаты, где происходит проверка, полиграфолога, вопросов и предмета проверки на полиграфе. Если условия не идеальны, то это может привести к снижению надежности. Исследования в смысле обоснованности связано с определенными рисками и полученные данные не обязательно отражают реальность.

Ключевые слова: полиграф, достоверность, обоснованность, детектор лжи, эксперт.

Árpád Budaházi

The Trustworthiness of polygraph Examination

The reliability and validity of polygraph examination depends on several factors: polygraph, the examination room, polygraph examiner, the questions and the subject of polygraph examination. If the conditions are not ideal, it can

lead to a decrease in credibility. The examinations concerning validity involve certain risks and validity data does not necessarily reflect reality.

Key words: polygraph, credibility, validity, lie detection, expert.

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