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## **ORGANIZATIONAL MONITORING AND EVALUATION OF POLYGRAPH QUALITY TESTING WITH PHYSIOLOGY METHODOLOGY**

Recent discourse in the polygraph (lie detector) studies literature have indeed attracted marked scholarly interest in the last two decades [1;4;5;6;8;10;11;12]. It is obvious as truth-lies relationships play an utmost role in criminal, legal, forensic and operational and search aspects of combating crime.

Putting lie detectors on trial, attempting to present polygraph examination results admitted as evidence in a court is one of the topical and controversial problems in legal and conceptual approaches ensuring law and order worldwide [2;3;4;5;7; 12].

**The aim** of the given paper is to identify a need for clarification of the construct polygraph quality testing, its organizational monitoring and evaluation with physiology methodology, basing on a systematic review method.

The study also expands on the theoretical perspectives used globally to examine validity of polygraph testing. The author suggests a new framework (Programme) to facilitate coherence in the direction of a future multidimensional approach of development in this field of study.

Polygraph testing in psychophysiology research provides very accurate signals and tracking of cardiovascular, respiratory and electrodermal activities of a person which one cannot control [2; 3; 5;8; 9]. The researches of the validity and reliability of polygraph decisions in real cases has gained pace of late, focusing on:

- Improving criminal responsibility determinations using structured professional judgment [1];
- The scientific basis of polygraph techniques in the juridical issues in lie detection [3;10].
- The use of polygraph during the investigation murders involving domestic violence [12]
- Polygraph, sex offenders and the court; legal aspects of verification and detection of lies during polygraph [5]
- Psychological science in the courtroom: consensus and controversy [7]
- Decisions to be taken in the use of polygraph examinations for verifying complaints about violence [8]
- Facial psychophysiology in forensic investigations [11].

Thus, our analytical review of methodology of polygraph application, its current status and novel improvement ideas made it possible to conclude:

Physiology methodology of lie detection was firstly initiated by A.Larson (1921), a Californian police officer, who suggested the polygraph (lie detector), a device which ensured simultaneous monitor changes in heart rate, blood pressure and respiration of a person.. Later, L.Keeler modernized the machine by adding one more parameter to test - the galvanic skin response of a subject. In this way, it was believed, a subject's individual responses profile could be treated as the indicators of whether he/she lies or not.

Organization of monitoring and evaluation of polygraph quality testing with physiology methodology runs more than a hundred years among scientists and polygraph technology developers. But still so far, there is a hot discussion among scientific community if lie detection methodology with physiological indicators is reliable and accurate. The scope of these physiological phenomena are diverse and debatable as individual physiological responses are very changeable under certain conditions [1;2;7; 9].

Pros and cons regarding the validity and reliability of polygraph decisions in real cases still remain diverse and contradicting each other. [1;7; 8;10; 12], and even supported by innovative studies lack the **multidimensional approach** to lie detecting, in our view.

We conclude, that countermeasures analyzed by researchers dealing with mindfulness and breathing techniques [1;6;11] affirm that some control over physiology reactions during a polygraph examination is possible. They add to the discussion that these physiological reactions obtained in polygraph testimony demonstrate the level of stress control or anxiety but not a level of deception. [3;4;7;8;9;10;12].

In light of the stated above, we attempted to plan organizational monitoring and evaluation of polygraph quality testing with physiology techniques as commissioned by stakeholders in Dnipro Humanitarian University (2022-2024).

**Monitoring and Evaluation Framework.** With these objectives in mind, we set up Functional Monitoring and Evaluation (M&E) framework including eight steps, namely:

1. Step 1. Identification of Programme Goals Objectives, Planned Outcomes.
2. Step 2. Indicators creation.
3. Step 3. Creation of Data Collection Plan, Methods and Timeline.
4. Step 4. Identification of Roles and Responsibilities.
5. Step 5. Partnerships for Planning, Coordinating and Managing M&E.
6. Step 6. Communication, Routine Programme Monitoring.
7. Step 7. Creation an Analysis Plan and Reporting Templates.
8. Step 8. Plan for Dissemination and Stakeholders Reporting.

The steps above, provide, in our opinion, a scientifically valid Programme objectives realization.

Thus, **monitoring** is viewed by us as the periodic assessment of programmed activities to realize if they are proceeded as planned.

**Evaluation** involves the assessment of the Programme towards the achievement of results, and impacts of the outcomes based on the use of identified indicators.

Identifying Programme Goals and Objectives, and planned Outcomes we are planning to get answers to the following questions:

1. What central problem does the Programme solve?
2. What steps are being taken in solving the problem?
3. What are the markers of successful solving the problem?
4. Indicators of Objectives realization?

In other words, algorithm will proceed like this:

*Problem-Solution-Success*

So, **the goal** of M&E is to measure the validity of psychophysiological detection of deception with the help of current polygraph methods and techniques.

**Objectives** presuppose:

1. to clarify the scientific potential of a polygraph methodology to detect deception;
2. to examine and provide conditions to apply multidimensional approach to lie detection.

Indicators for tracking what has been done, called **Process Indicators** are used to measure process, while **Outcome indicators** in our study are supposed to track how successful program activities have been at achieving Programme Objectives.

Alongside with this, the source of monitoring data will depend largely on what set of indicators is used to measure objectives, and what data could be collected and how. To settle these organizational and methodology questions professional communication between Programme staff, stakeholders and University authorities is required.

The next monitoring issue which needs serious attention in successful M&E plan is roles and responsibilities. It deals with responsibilities for collecting data for each indicator, including time management.

M&E plan also presupposes the creation of Analysis Plan aimed reporting intermediate results obtained and the table for Indicator reporting. That is, how Programme progressed since the starting point.

The final step should include Plan for Dissemination and Stakeholders Reporting. It requires to provide answers to the following questions:

1. How will M&E Programme data be presented to stakeholders (design method)?
2. How will make use of corrections, if necessary?
3. How will the data be used to make quality changes in the field?

In sum, after following eight steps the outline of the M&E plan should look like this:

1. Programme Goals, Objectives, Outcomes.
2. Indicators:  
Table with data sources, collection timing, responsibilities

### 3.Roles and Responsibilities

Description of each member of a team, M&E data collection, analysis and reporting

### 4. Reporting.

Analysis Plan

Reporting Template Table.

### 5. Dissemination Plan.

Description when and how M&E Data will be disseminated internally and externally.

To conclude with, we emphasize that we have tried to provide our vision of M&E Process, Tasks and Outcomes that are needed for successful implementation of Programme.

Monitoring and evaluating activities are planned to be clearly distinguished from the formative and summative evaluations of performance criteria because they support different functions.

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### **КРИМІНАЛЬНІ ПРОЦЕСУАЛЬНІ АСПЕКТИ ПРОВЕДЕННЯ ДОПИТУ НЕПОВНОЛІТНЬОГО ПІДОЗРЮВАНОВОГО НА СТАДІЇ ДОСУДОВОГО СЛІДСТВА**

У сучасній науці кримінального процесуального права неповнолітні особи мають особливий статус та відносяться до особливої юридичної категорії. Неповнолітні особи, які вчиняють кримінальні правопорушення, не здатні у повній мірі дати оцінку своїм вчинкам та наслідкам такого вчинку, тому категорія осіб, які причетні до вчинення кримінальних правопорушень набувають статусу «підозрюваного» у кримінальному провадженні. Досудове розслідування кримінального провадження в якому підозрюваним є неповнолітня особа не може проводитись без такої слідчої дії як допит.

Відповідно до п. 12 ч. 1 ст. 3 КПК України – неповнолітня особа – малолітня особа, а також дитина у віці від чотирнадцяти до вісімнадцяти років, в той же час положення п. 11 ч. 1 ст. 3 КПК України роз'яснює визначення терміну «малолітня особа», тобто це дитина до досягнення нею чотирнадцяти років [1].

Положення ст. 42 КПК України, роз'яснює визначення поняття «підозрюваний» - це особа, якій у порядку, передбаченому статтями 276-279 КПК України повідомлено про підозру, або особа, яка затримана за підозрою у вчиненні кримінального правопорушення.

Отже, ураховуючи зміст статей КПК України, можемо визначити, що неповнолітній підозрюваний – це малолітня особа, а також дитина у віці від чотирнадцяти до вісімнадцяти років, якій у порядку, передбаченому статтями 276-279 КПК України повідомлено про підозру, або особа, яка затримана за підозрою у вчиненні кримінального правопорушення [1].