

## **Video surveillance of prisoners in Polish Prison Service. Observer's perspective**

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**Abstract:** Since the beginning of the 21st century, the Polish Prison Service has been introducing new procedures and modern technologies that are to increase the sense of security of officers and prisoners as well as the entire society. The study presents a description of a typical Video Surveillance System (VSS), one of the tools used for permanent supervision embedded in the Polish penitentiary system and expectations as to the effects of such a permanent observation of prison and prisoners. However, the biggest problem in prisons is the lack of established rules for selection and training for video surveillance system operators, which would be based on scientific research (eg including the number of monitors and images to watch, psychophysical and social variables). This is a big mistake because not everyone is fit to work as VSS operator. The authors present the results of their own experimental investigations among officers regarding observer errors in the perceived video image and the resulting hazards in the work of the operator and quantitative statistics of suicide incidents inside the cell with camera. At the end there is a proposal how to train officers which could take a job as the VSS operators.

**Keywords** - Video Surveillance System (VSS), selection and training of the VSS operator, prison service, psychophysical and social variables of the VSS operator

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### **I. INTRODUCTION**

The Polish Prison Service, from the time of the economic and political transformation in 1989, and especially from the beginning of the 21st century, introduces new procedures and modern technologies which are to increase the sense of security of officers and prisoners as well as the whole society. In the security system of a penitentiary unit there is a static and a dynamic protection. The static protection includes, among others, technical and protective means (gratings, walls, gates) and electronic security (motion detectors, luggage X-Ray scanners, metal detectors). The essence of the static protection is a physical protection against escaping or smuggling prohibited objects such as weapons or drugs. Whereas, the essence of dynamic protection is early detection of threats and active reaction to events before they occur, and when they occur, to minimise their effects and prevent their escalation. For this purpose, preventive activities are carried out through the recognition of prisoners in the environment, as well as by prisoners through the video monitoring system [1]. Currently, the Polish Prison Service is focused on electronic security, including video surveillance.

The Video Surveillance System, or rather individual cameras and monitors began to appear in prisons in the 1980s. At that time, there were no detailed regulations which would unify the use of such devices. They were used depending on the needs, it was dependent on the decision of the director of the prison. Until today, black and white cameras can still be found in some prisons. The first appliances did not have recording devices. The picture dividers were rarely used to view the image from multiple cameras on a single monitor, in various image split configurations and with the option to switch images. Until 2000, few cameras were installed in prisons. It was only with the technological development of the video surveillance systems at the beginning of the century, when more and more of cameras appeared in prisons. The lack of proper regulations meant that devices and systems were used individually, to varying degrees and ranges, in each unit. It hampered the management, supervision and training of the officers. At that time, a digital video recording has already started to be used.

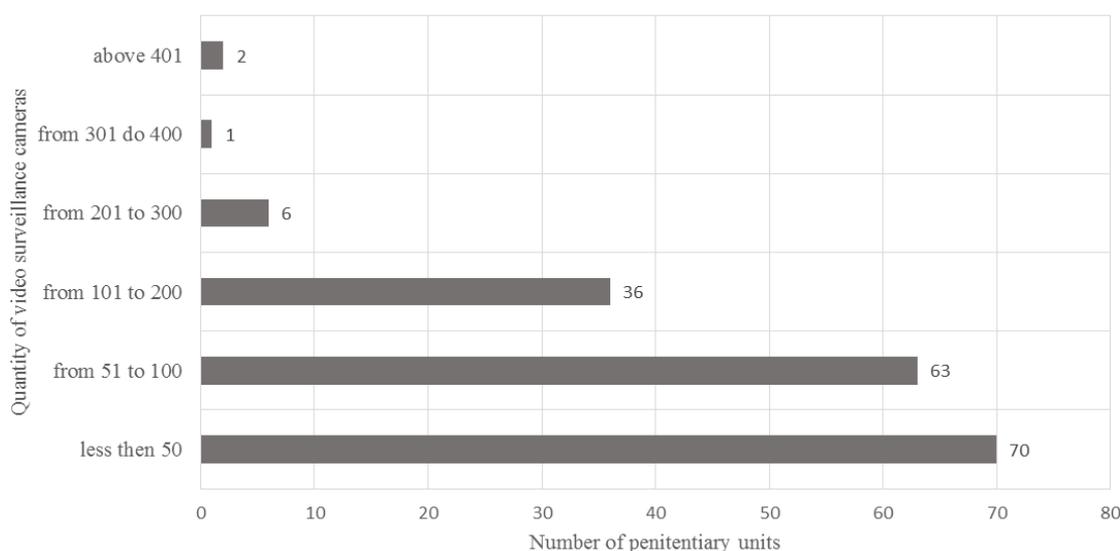
The 2009 year is of a particular importance for the Polish Prison Service, because then the legal regulations were introduced into the Executive Penal Code [2], which were detailed in the Regulation of the Minister of Justice. The Regulation specifies, among other things, the technical parameters regarding the vision and sound (eg minimum resolution of an image recording, frame rate per second etc.), the time of keeping a recording, cameras at sanitary corners or baths, which must have particular functions of masking private parts of

the body, etc. [3]. There was also the concept of a permanent supervision by video surveillance (continuous observation during 24/7 hours), which somehow forced the technological and organisational revolution of the Prison Service. At the same time, the positions armed with a combat weapon were withdrawn (the so-called security towers, using electronic security features instead, including video surveillance systems).

In 2013, the guidelines of the General Director of the Prison Service No. 4/2013 were introduced in order to unify the electronic security systems used in prisons. This is also the first reference to the technical standards and the need to use them in practice. These actions forced an intensive modernisation and expansion of the video surveillance systems. The experiences related to the implementation of statutory provisions forced the introduction of a separate position of an observing officer - the so-called "a monitoring operator", which was formalised in 2016 in the Regulation of the Minister of Justice on the ways to protect the organisational units of the prison service. Currently, various technologies are used, there are old analog cameras but also digital IP are introduced.

Cameras are installed outside the buildings, in the areas of entrances, passages, gates as well as in protection areas and walking squares, etc., and inside the facilities in passages, residential areas, common rooms, prisoners' work places of, residential cells and other places. In situations when some intimate body parts of prisoners can be seen, the so-called masking zones are introduced in the image. This applies to residential cells, sanitary areas, bathhouses, policlinics, rooms where personal inspections are carried out, etc. A place where all images from all cameras are gathered is a guardhouse (control room). There is usually one or two operators of the video surveillance system, there. The local stations for operators with a limited number of cameras are also created, for example in the room for an officer at the gate or the one who supervises walks etc. A particularly important position, due to the responsibility of the video surveillance operator, is the position of the so-called "monitor operator". The "monitor operator" has one basic task, which is a constant monitoring of prisoners through the video surveillance system. His task is also to react when a particular threat appears, eg a suicide attempt of a prisoner. Such a person should, by the means of a radio or a telephone, inform particular officers, to enable them to respond. If such a person does not notice or react in time, the disciplinary or criminal consequences may be drawn against them.

The range of video surveillance systems is not only confirmed by the number of cameras, but it is quite a measurable factor. Statistically, over 80 cameras belong to a single penitentiary unit. The scale of the range of video surveillance systems in the Polish Prison Service is shown by statistical data from May 2015 (see Fig. 1 and Table 1).



**Figure 1.** The number of prisons depending on the quantity of video surveillance cameras installed in them  
Source: own research 5 may 2015

As can be seen in the above chart (see Fig. 1), the dominant units in the Polish penitentiary system are equipped with approximately 50 video cameras installed and between 51 and 100 cameras. In Poland, there are also prisons in which more than 300 cameras are installed, and two prisons equipped with even more than 400 cameras. The question is how to control the amount of displayed ongoing video material, with one or two operator stations.

**Table 1.** Video surveillance systems in prisons in numbers

| <b>Research parameters</b>                                               | <b>Quantity</b>                |
|--------------------------------------------------------------------------|--------------------------------|
| Number of examined penitentiary units                                    | 178                            |
| Total number of cameras in penitentiary units                            | 14103                          |
| Average number of cameras in a penitentiary unit                         | 80                             |
| Number of video monitored cells for "Dangerous" prisoners                | 291                            |
| Number of video monitored cells a solitary confinement                   | 185                            |
| Number of video monitored inmates' cells (excluding sanitary corners)    | 170                            |
| Number of video monitored inmates' cells (including sanitary corners)    | 279                            |
| Number of video monitored security cells                                 | 285                            |
| Number of video monitored security cells (with audio)                    | 282                            |
| Number of video monitored passageways to security cells                  | 204 (including 127 with audio) |
| Number of video monitored temporary cells                                | 104 (including 5 with audio)   |
| Number of video monitored policlinic/hospital cells                      | 91                             |
| Number of video monitored visitation rooms                               | 248                            |
| Number of video monitored baths                                          | 22                             |
| Number of video monitored common rooms                                   | 108                            |
| Number of video monitored prisoners in their cells (on the research day) | 1096                           |
| Number of officers – operators of video surveillance systems             | 931                            |
| Average numbers of monitors observed by one operator                     | 8                              |
| Average number of cameras observed by one operator                       | 39                             |
| Time of switching operators (observers) [hours]                          | 2                              |

Source: own research 5 may 2015

One should pay attention (see table 1) to the number of 1096 prisoners subjected to permanent surveillance by video surveillance systems with the number of about 196 penitentiary units. At the beginning of 2015, the total number of prisoners detained in Polish prisons amounted to approximately 78,000. For permanent observation, 931 video surveillance operators were required from among officers of the Prison Service. The number of operators is related to the shifts in the security service and the necessity to change a video surveillance operator every 2 hours. Such requirements forced the Prison Service to rotate a monitoring operator officers not only from the security departments, but also from the pedagogical and administrative units.

#### **Characteristic places to install cameras in prisons [4]**

There are characteristic places where video surveillance operates:

- a security cell with a special, soundproof room (image and sound obligatory, where the sound quality, because of the specific cell structure, as well as the appropriate camera optics to allow viewing of the entire cell must be taken into account) [5];
- a solitary confinement (116 § 5a, of the Act [2] video surveillance is applied upon the Director's decision);
- inmates' cells (116 § 5a, of the Act [2] video surveillance is applied upon the Director's decision);
- temporary cell (116 § 5a, of the Act [2] video surveillance is applied upon the Director's decision);
- hospital cells (116 § 5a, of the Act [2] video surveillance is applied upon the Director's decision);
- cells and ward premises for inmates who require to be placed in a specific ward or cell (high-security cell for "dangerous detainees") (art. 88c and 212b § 2 of the Act [2], obligatory);
- common rooms, chapels, inmates' workstations, libraries;
- visitation rooms for supervised or contactless visits;
- walking, exercise yards;
- perimeter areas, entrance gate airlocks, safety zones, the prison premises;
- the area in front of the entrance gate into the premises;
- passageways, entrances, exits on the prison premises and in the buildings;
- the area in front of the entrance into the registry.

The above list of location of cameras also shows the scale of video surveillance systems in prisons. The total number of cameras in cells is 1405, where 449 for residential purposes, 291 in cells for "dangerous" prisoners, 285 in security cells, that is for short-term placement of aggressive prisoners, 185 in isolation cells, 104 in transitional or transfer cells and 91 in policlinic/hospital cells, that is prison sick rooms. Number of cameras in toilets is 811. In selected cells and in all security cells, audio monitoring is also used in addition to video surveillance. All the above data show the scale of challenges a camera operator faces. Events that

occurred in penitentiary units in areas subject to video surveillance, as well as disciplinary and criminal proceedings against operators, prompted the authors to focus on this subject.

Currently, in Poland there are advanced projects to write a manual regulating the work as a video monitoring operator, the equipment of monitored cells and the procedures. In addition, there is a plan to install cameras in convoy vehicles and tests of use of surveillance cameras (body-worn cameras) placed on the uniforms of officers involved in protective tasks. When expanding systems or preparing for the implementation of new solutions, scientific research should be included, especially the one showing the psychophysical limitations of video monitoring operators.

## **II. METHODOLOGY OF STUDIES ON ACCURACY OF PERCEPTION OF PRISON SERVICE OFFICERS**

### **Justification of the research**

The studies available in the literature indicate a relatively low effectiveness of a video surveillance observer. This is due to many factors: technical, procedural and related to personnel who operate video surveillance. From the above group of factors, it is the "human factor" as a bonding and complementary element, while being the weakest link in the system at the same time. The research results show that observation efficiency drops significantly after 20-30 minutes of continuous observation and is dependent, among others, on the number of videos observed and the number of monitors - 1 video 85% efficiency, 4 images - 74% efficiency, finally 9 monitors only 53% efficiency [6]. Other studies by the research unit of the British Home Office (HOSDB) showed that after 20 minutes of observing 2 or more monitors, the observer omits up to 95% of the actions shown on the monitor [7]. Previous literature, both Polish and a foreign one, does not present any research on VSS operators working as monitoring operators in prisons. In order to fill this gap, the authors of this article have been systematically exploring these issues from various perspectives (psychological, technical, protective) for a few years and presented the issue at the annual scientific and technical conferences of Securitech and publish their research in post-conference monographs and magazines.

### **Research assumption**

In 2017, on the initiative of the authors, at the Central Training Centre of the Prison Service in Kalisz (Poland) a research project was initiated in the field of the work of video surveillance observer [8]. The research has had a multistage character, therefore in this article, the first empirical stage has been presented together with indications for further stages of the research. In the first stage, the group of officers of the prison service was subject to an experiment known from the literature as "Gorilla test" developed by D. Simons and Ch. Chabris [9] with a film material of D. Simons from 2010 [10]. The purpose of this initial stage was to prove that not every person is suitable to work as a surveillance operator. This means that not every officer should work on video surveillance, because they are unable to observe events (intruder invasion, disappearance of the observation object, changes in observation conditions) requiring reaction, which coincides with information in the literature on the so-called "blindness due to lack of attention"[11].

### **Material and methods**

The research presented here was conducted from September 21 to October 13, 2017 among 197 officers of the Prison Service. The main group of respondents were randomly selected from the participants of vocational training, the number of participants was 155 people, of which 123 were men and 30 were women, 2 persons did not indicate their gender in the questionnaire. The age of the respondents ranged from 27 to 44 (an average age 33 years and 7 months). The number of security officers was 84 (54.18%), 66 respondents worked in other service units (finances, quartermaster, IT, educators), while 5 people did not indicate the department. The service seniority ranged from 1 year to 19 years (the average seniority was 7 years and 6 months). 96 people (61.94%) have already had experience in the surveillance operator work (22 people for several months, 28 people for over a year, the remaining people have worked as monitoring operators several times). Therefore, it can be stated that over a half of the respondents performed video surveillance services without any selection or training. The control group consisted of 42 senior officers supervising and controlling officers in the Prison Service (specialists, directors, managers).

The experimental study started with presenting a 30-second film with 6 players bouncing a ball (3 people in white and 3 in black shirts). The task of the observers was to count how many times people in white T-shirts have passed the ball.



**Figure 2.** Start of the film presentation

Source: D.J. Simons, *The Monkey Business Illusion 2010* [https://www.youtube.com/watch?v=IGQmdoK\\_ZfY](https://www.youtube.com/watch?v=IGQmdoK_ZfY) [06.01.2018]

During the presentation, after about 20 seconds, a man dressed as a gorilla went out into the middle of the screen and after 5 seconds he went down, and at that time one person in a black shirt disappeared from the screen.



**Figure 3.** Intrusion into the area of observation

Source: D.J. Simons, *The Monkey Business Illusion 2010* [https://www.youtube.com/watch?v=IGQmdoK\\_ZfY](https://www.youtube.com/watch?v=IGQmdoK_ZfY) [06.01.2018]

During the projection of the film, the colour of the curtain constituting the background changes from red to yellow.



**Figure 4.** Change of the background colour

Source: D.J. Simons, *The Monkey Business Illusion 2010* [https://www.youtube.com/watch?v=IGQmdoK\\_ZfY](https://www.youtube.com/watch?v=IGQmdoK_ZfY) [06.01.2018]

Although the film does not present the situation recorded by a video monitoring in prison, it can be considered as a simulation of a situation which can happen in prison, for example the intrusion of an unauthorised person into the protective zone near the prison wall, a turmoil and a prisoner's escape, or changes in the lighting of the observation area.

### **Questions and research hypotheses**

The research allows to get the answer to the general research question "How many officers are suitable to work as video surveillance operators, because they respond appropriately to the events on the monitor?". Detailed research questions are:

Q:1. How many respondents will do the task correctly (correctly count the ball passes of the white team)?

Q:2. How many respondents will notice the intrusion into the field of observation (see the gorilla)?

Q:3. How many respondents will notice disappearance of one person from the field of observation (the person in a black shirt)?

Q:4. How many respondents will notice the change of the observation conditions (changing the background colour from red to yellow)?

In addition, the presented project allows the comparison between the results of rank officers with the results of senior officers performing supervisory tasks and the answer to Q: 5. Are there any differences in the perception of a visual material between the rank officers participating in the occupational training and the senior officers?

The study adopted two working hypotheses: the first hypothesis H: 1 assumes that not all officers are suitable to work as a video surveillance operators due to some perceptual limitations, because they are unable to simultaneously perform an observational task and react to situations requiring intervention; the second hypothesis H: 2 states that senior officers have better perceptual skills compared to rank officers, due to their greater professional experience and training because of the control activities they perform.

### **Research tools**

After the film, in the multimedia presentation, the following questions appeared. The respondents were to answer quickly using the previously prepared questionnaires (see Appendix 1). Questions in the questionnaire were as follows: 1) How many times people in white T-shirts passed the ball? (enter the number); 2) Did you notice anything strange while counting of passes? (write NO or YES); 3) Did you notice any animal in the film? (write NO or YES, and if the answer is YES, name the animal); 4) Did you notice a change in the background colour while counting the passes? (write NO or YES and specify what colours have changed); 5) Have you seen this or similar film before? (write YES or NO). The questionnaire also included a file for completing some

demographic data (gender, age) and some organisational data (seniority in the prison service, the department, previous work as a video surveillance operator).

### III. ACCURACY OF PERCEPTION OF PRISON SERVICE OFFICERS – PRESENTATION OF RESULTS

The results of the main group and the control group were calculated separately and presented in numbers and percentages. Then, the distributions of the results of both groups were compared to see if there were statistically significant differences between them. In order to determine differences, the Chi-Square Test of Independence ( $\chi^2$ ) was used to compare two samples numbering  $n_1$  and  $n_2$ , taken independently of their respective populations, when the dependent variable is expressed on a nominal scale and has a bi- or multi-categorical form[12].

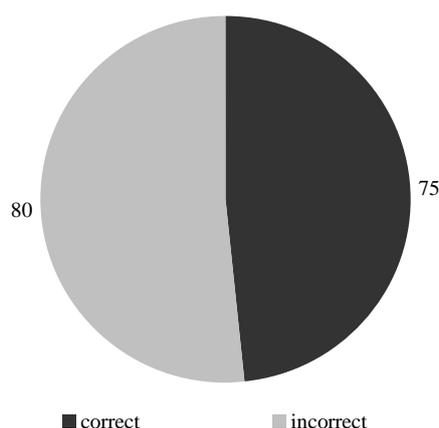
#### Officers participating in a vocational training

The participants were officers who participated in the vocational training for the first degree of non-commissioned officers and first rank of ensign. The study showed that 75 out of 155 people correctly performed the observational task and counted the number of passes correctly (see Fig. 4). This is only 48.39 percent of the tested group. This means that only a half of the officers who participated in the study showed proper vigilance and accuracy of perception, enough to do what the decision-makers expected from them. The hypothesis H: 1 was confirmed. In practice, it may be a necessity to quickly count the participants of the rebellion, to indicate the main perpetrator of the fight, to react to some signals of an impending danger to other officers, etc.

The appearance of a gorilla during the presentation of the film was observed by 61.29 percent of the respondents. This means that nearly two-thirds of the respondents, despite being involved in the observation task (counting), noticed the invasion of the intruder into the field of observation (see Fig. 5). Thus in this aspect, the hypothesis H: 1 has been partially confirmed. In practice, this may mean that 40 percent of officers, despite observation of video surveillance, will not notice the temporary presence of an unauthorised person in an undesirable location, eg the appearance of a prisoner in a forbidden zone.

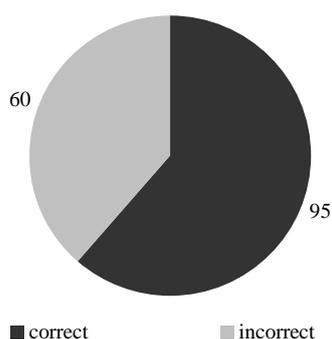
The disappearance of one person in a black shirt from the scene was noticed by only 17 people out of 155, which is only 10.97 percent of the respondents. This means that the vast majority (see Fig. 6) would not notice the missing prisoner in the field of observation, where there are several people. The H: 1 hypothesis is confirmed in this respect completely. This is a serious problem because the disappearance of a prisoner from the monitor's screen may indicate his escape or being in a forbidden place.

Only 8 people noticed a change in the background colour from red to yellow, which means that they reacted to changing the observation conditions. Other people did not notice it at all (confirmation H: 1), in practice this could mean, for example, a damage or a partial covering of the camera.

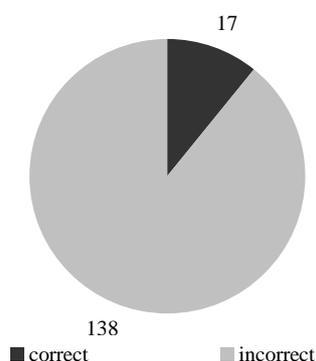


**Figure 5.** Execution the task in the group of training participants

Source: own research (n=155)



**Figure 6.** Noting the intruder's intrusion into the observation area in the group of training participants  
Source: own research (n=155)

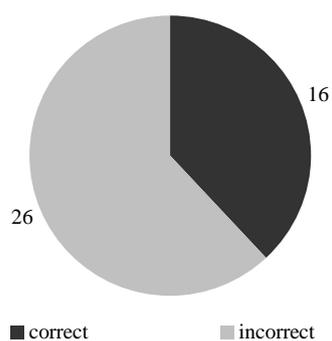


**Figure 7.** Recording the disappearance of a man from the observation area in the group of training participants  
Source: own research (n=155)

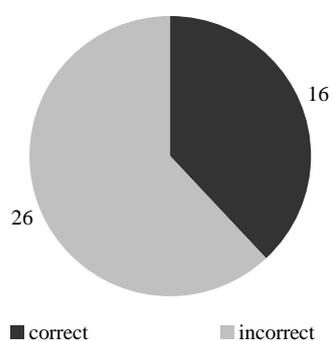
### Senior officers

The research among senior officers took place during official briefing devoted to the development of an instructions on procedures at the video surveillance operator's position. Among the respondents there were directors of penitentiary units, managers of the security departments, prison psychologists and specialists from Regional Inspectorates of the Prison Service, dealing with security, logistic and IT issues as well as prison psychologists.

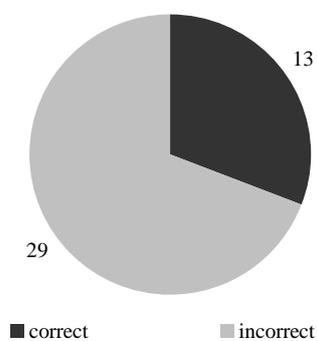
The studies have shown that 38.10 percent of upper-level officers correctly performed the task by providing the correct number of passes (see Fig. 7). Similarly, 38.10 percent reported an intruder intrusion, or the presence of a gorilla in a film material (see Fig. 8). This means that over 1/3 of them could correctly analyse the visual material. In practice, this may prove that during the inspections of the officers working at the video surveillance operator position, they will be more likely to notice irregularities in the "monitor operator's" work - to notice signals of danger which the operator might have overlooked. Unfortunately, over 60% of the senior officers are not able to properly assess and control the work of the video surveillance operator, because they have some perceptual difficulties. Significantly less senior officers (30.95 percent) noted the disappearance of one person (see Fig. 9). In practice, this means that such senior officers controlling the video surveillance operators would react much faster to the prisoner's escape or being in the forbidden place. Again, the remaining 30 percent were unable to properly control the video surveillance operator's work due to their own perceptual limitations. When it comes to the change of the conditions of observation, i.e. changing the background colour, only one person noticed it among all 42 respondents.



**Figure 8.** Execution the task in the group of training participants in a group of senior officers  
Source: own research (n=42)



**Figure 9.** Noting the intruder's intrusion into the observation area in a group of senior officers  
Source: own research (n=42)



**Figure 10.** Recording the disappearance of a man from the observation area in a group of senior officers  
Source: own research (n=42)

### Comparison of the results

Specialists from the Regional Inspectorates of the Prison Service and security managers supervise and control the officers working at the video surveillance. Sometimes they also investigate the cases of prisoners' suicides, and if the accident took place in a video monitored cell or other monitored place, they also watch and analyse the video recording. In principle, they should be more sensitive to visual material than lower-level officials who do not always know what behaviours and events they should pay attention to.

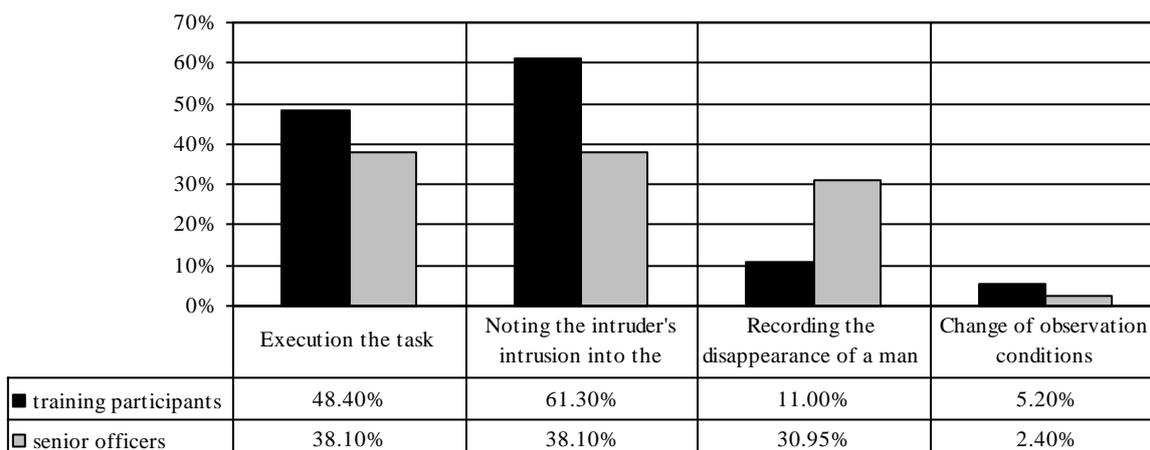


Figure 11. Differences in results in the studied groups

Source: own research (n=197)

The comparison of the results (Fig. 11) allows to conclude that, in comparison with the rank officers, the controlling persons perform poorer as far as they are supposed to notice the intruder's intrusion or the change of the surrounding conditions. In turn, the participants of the vocational training obtain worse results when it comes to the disappearance of a person from the field of observation. Statistical significance of the differences has been presented in the tables below.

Table 2. Diversification of the results in groups regarding the correctness of the observation task

| Groups                                               | Correct     | Incorrect   | $\chi^2_{df1}$ | p      |
|------------------------------------------------------|-------------|-------------|----------------|--------|
| group of training participants (n <sub>1</sub> =155) | 75 (48,39%) | 80 (51,61%) | 1,408275       | 0,2353 |
| group of senior officers (n <sub>2</sub> =42)        | 16 (38,10%) | 26 (61,90%) |                |        |

Source: own research (N=197)

The discrepancies between the results obtained by the participants of the training and the results of senior officers in the area of the correctness of the observation task do not differ significantly in statistical terms (Table 2). Therefore, the hypothesis H: 2 assigning better perceptual skills to senior officers who control video surveillance operators, has not been confirmed.

Table 3. Diversification of the results in groups in terms of an indication of an intruder intrusion into the observation area

| Groups                                               | Correct     | Incorrect   | $\chi^2_{df1}$ | p      |
|------------------------------------------------------|-------------|-------------|----------------|--------|
| group of training participants (n <sub>1</sub> =155) | 95 (61,29%) | 60 (38,71%) | 7,227993       | 0,0072 |
| group of senior officers (n <sub>2</sub> =42)        | 16 (38,10%) | 26 (61,90%) |                |        |

Source: own research (N=197)

There are significant differences between the rank and file officers of the Prison Service and the senior officers in terms of noticing the incident involving an intruder intrusion into the observation area (Table 3). It turns out that senior officers, who are in charge of supervising the correctness of the tasks performed by officers at the video surveillance position, more often show worse perceptual abilities than their subordinates. Hence, the hypothesis H: 2 - in this respect - is unconfirmed.

Table 4. Diversification of the results in groups regarding the disappearance of a person from the observation area

| Groups                                               | Correct     | Incorrect    | $\chi^2_{df1}$ | p      |
|------------------------------------------------------|-------------|--------------|----------------|--------|
| group of training participants (n <sub>1</sub> =155) | 17 (10,97%) | 138 (89,03%) | 10,22356       | 0,0014 |

|                                                  |             |             |  |  |
|--------------------------------------------------|-------------|-------------|--|--|
| group of senior officers<br>(n <sub>2</sub> =42) | 13 (30,95%) | 29 (69,05%) |  |  |
|--------------------------------------------------|-------------|-------------|--|--|

Source: own research (N=197)

Senior officers, in comparison with rank and file officers, perceived the lack of a person in the observation area much more often. Here, the difference is statistically significant (Table 4), which confirms the assumed H: 2 hypothesis that the controlling people have better perceptual ability to follow the visual material.

**Table 5.** Diversification of the results in groups in terms of noting changes in the observation conditions

| Groups                                               | Correct   | Incorrect    | $\chi^2_{df1}$ | p      |
|------------------------------------------------------|-----------|--------------|----------------|--------|
| group of training participants (n <sub>1</sub> =155) | 8 (5,20%) | 147 (94,80%) | 0,585925       | 0,4440 |
| group of senior officers (n <sub>2</sub> =42)        | 1 (2,40%) | 41 (97,60%)  |                |        |

Source: own research (N=197)

The changes in the observation conditions do not statistically differentiate the examined groups (Table 5), which negatively verifies the hypothesis H: 2 and allows to reject it in this matter.

#### IV. CONCLUSIONS

The research confirmed the first hypothesis H: 1. The vast majority of rank and file officers participating in a vocational training have not been able to perform their duties as a video surveillance operator due to their imperfect perception. Only 8 of the more than 150 respondents would potentially be able to simultaneously notice the presence of an intruder in a forbidden area as well as to notice the escape of a prisoner, while performing other official tasks. The other respondents, even if they actually noticed the presence of an unauthorised person, would not notice the disappearance of the person from the area they observed. It should be emphasised that nearly 63 percent of respondents have already served as a video surveillance operator. The respondents themselves were confused after the announcement of the results of the research, because nearly 18% of them had already been in the service for over a year, despite of the low level of perception in the visual material on the monitor.

The other participants, even if they noticed the presence of an unauthorised person, they would never notice the disappearance of this person from the observation area. It should be emphasised that nearly 63 percent of the respondents have already served as a video surveillance operators. The respondents were confused after the announcement of the results, as nearly 18% of them had already been in the service for over a year, despite the low level of perception in the visual material on the monitor. In the literature [13], they emphasise the need for a proper training for video surveillance operators and a proper selection of them [14] The participants were not trained, so it can be concluded that their results had been the due to their perceptual abilities. Perhaps, after applying the right selection and then the appropriate training, the obtained results would be more satisfactory.

The second hypothesis H: 2 has not been confirmed. Senior officers holding managerial and supervisory positions do not show a higher level of perceptual abilities than rank and file officers. Their better observation skills refer only to the lack of people in the field of observation. According to the authors, the accuracy of the controls carried out by the officers may be questioned, because the results obtained in the study were worse than the results of persons subject to their control.

One should also mention the procedure for the investigation of accidents in prisons (eg suicides, assaults on officers, fights and beatings). A controlling officer watches the video surveillance on one big screen, while the video surveillance operator observes several monitors and several dozen images simultaneously. In addition, the controlling officer can stop and rewind the film, while the observation takes place in real time and is dynamic, often without the option to stop it for the analysis. Therefore, the observer can not be required to observe a 100% of the video and respond to any incidents at the right time. It should not also be required that such a person sometimes takes some preventive actions as a result of particular signals of impending the danger. The reconstruction of events is something completely different than real observation. Consequently, one can not take hastily draw any disciplinary or legal consequences towards the video surveillance operator, without taking into account the influence of situational and psychophysical factors influencing the observer.

The research, as it was mentioned earlier, is the first stage of a wider research project. It has confirmed the hypothesis that not every officer is suitable to work as an observer of a video surveillance. Further research should focus on the selection of other tools (both in the form of some psychological tests and visual materials), improving the recruitment and training procedures, optimising the ergonomics of the video surveillance stations as well as searching for IT technologies which support the "monitor" operator (eg an artificial intelligence AI, video content analysis VCA, raising the observer's alertness, automation of signalling critical events).

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APPENDIX 1

|                                       |                   |                                     |                                                   |                                       |  |
|---------------------------------------|-------------------|-------------------------------------|---------------------------------------------------|---------------------------------------|--|
| Data badania: .....                   |                   | <b>TEST PERCEPCJI ❶</b>             |                                                   | Nr badanego: .....                    |  |
| <b>Odpowiedzi:</b>                    |                   |                                     |                                                   |                                       |  |
| Pytanie 1)                            | wpisz liczbę      | .....                               |                                                   |                                       |  |
| Pytanie 2)                            | zakreśl odpowiedź | <input type="checkbox"/> Nie        |                                                   | <input type="checkbox"/> Tak          |  |
| Pytanie 3)                            | zakreśl odpowiedź | <input type="checkbox"/> Nie        | <input type="checkbox"/> Tak (wpisz jakie?) ..... |                                       |  |
| Pytanie 4)                            | zakreśl odpowiedź | <input type="checkbox"/> Nie        | <input type="checkbox"/> Tak (wpisz jakie?) ..... |                                       |  |
| Pytanie 5)                            | zakreśl odpowiedź | <input type="checkbox"/> Nie        |                                                   | <input type="checkbox"/> Tak          |  |
| <b>Metryczka:</b>                     |                   |                                     |                                                   |                                       |  |
| Płeć                                  | zakreśl odpowiedź | <input type="checkbox"/> Mężczyzna  |                                                   | <input type="checkbox"/> Kobieta      |  |
| Wiek                                  | wpisz liczbę lat  | .....                               |                                                   |                                       |  |
| Staż w SW                             | wpisz liczbę lat  | .....                               |                                                   |                                       |  |
| Dział służby                          | wpisz dział       | .....                               |                                                   |                                       |  |
| Czy pełniłeś służbę na monitoringu?   |                   | <input type="checkbox"/> Nie        |                                                   | <input type="checkbox"/> Tak          |  |
| ↓                                     |                   |                                     |                                                   |                                       |  |
| Jeżeli zaznaczyłeś Tak to ile czasu?  |                   | <input type="checkbox"/> kilka razy | <input type="checkbox"/> kilka miesięcy           | <input type="checkbox"/> powyżej roku |  |
| <b>Dziękujemy za udział w badaniu</b> |                   |                                     |                                                   |                                       |  |

Figure 11. Questionnaire for research

Source: own research

Robert Poklek, Cezary Mecwaldowski "Video surveillance of prisoners in Polish Prison Service. Observer's perspective." IOSR Journal Of Humanities And Social Science (IOSR-JHSS). vol. 23 no. 1, 2018, pp. 31-42.