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EDITORIAL INTRODUCTION

Journal of Security and Criminal Sciences: A Courageous Step by the Newly Established Faculty

Although it has been known since ancient times, security is a young science, as it constantly emerges in new forms, thus pervading every sphere of human activity today. The *Journal of Security and Criminal Sciences*, which is presented to the wider public by a very young faculty established in 2017, the former Banja Luka College of Internal Affairs which was transformed into a new organizational unit within the University, represents a novelty and a courageous step into the unexplored realm of security. This not only pertains to Bosnia and Herzegovina, but to the entire region where a journal of this format has not yet emerged: bilingual (in Serbian and English) and thematically focused on security and criminal sciences, in other words, the narrow scientific fields studied at the Faculty of Security Sciences (security science, criminalistic tactic, methodology, and operations, criminalistics and forensics, special physical education, the organization of policing and police activities). The articles published in the first issue are praiseworthy; however, the final evaluation will be given by the professional public.

The article *Police Procedure for Handling Orders and Requests by the Competent Authorities* (by Milidragović D., Subašić D., Milić N.) addresses the emergence of an increasing number of orders and requests from the judicial authorities faced by the Ministry of the Interior of the Republic of Serbia, specifically the Belgrade City Police Department and Novi Sad Police Department. The paper points to the devastating fact that the police “spend a large portion of the available working time, forces, and resources on handling requests sent by the competent prosecutors’ offices, courts, and other government bodies”. It is pointed out that the overwhelming administration is a big and current problem, and that the handling of issued orders by police officers is not prescribed by the Law on Police or other by-laws. The authors offer a concrete solution – the constitution of judicial police modeled on the judicial police in Bosnia and Herzegovina.

In the article entitled *Security Measures Oriented Toward the Perpetrators of Violent Crimes in the Republika Srpska*, Vrućinić Ž. and Vasiljević D. place an emphasis on the personality traits constituting the crimes described in the title of the article. The article is focused on the structure of the personality of the perpetrators of violent crimes and emphasizes that “they are underlain by deeply rooted maladaptive patterns” that manifest themselves “in a wide range of attitudes toward oneself and the environment”.

In the short but concise title *On Quantum Cryptography*, Jaćimović S, Šetrajčić J., and Lanovec J. address the issue of data protection in the telecommunications sphere. This article deals with the basic operational

concepts such as cryptology and quantum cryptography. Safe communication between the sender and the recipient of a message is the main topic, with a special emphasis on the secrecy of “the secret key”, which is described as “the weakest link in classical cryptography”.

In *Private and/or Corporate Security*, Lalić V., Čeranić P. and Sikimić M. address conceptual similarities and differences between the concepts of private security and corporate security. The authors have investigated an unexplored micro space and reached a conclusion that private security and corporate security are “two related concepts with significant common characteristics, as well as specificities”, indicating the need to distinguish between private security and corporate security.

The final article, *Structure of motor skills* (by Paspalj D, Guzvica M, Vulin L) uses a system of 64 variables in a sample of 84 students at the Faculty of Security Sciences in order to determine the structure of their motor skills. The paper emphasizes that the structure of motor skills separated is of exceptional theoretical and practical value, and the comparison of their results with the results obtained from the research conducted by the Faculty of Physical Culture in Zagreb reveals interesting findings.

In his review of the book *Toward a Model of Restorative Social Justice in Bosnia and Herzegovina* by Laurence Armand French, Aleksandar Pavić indicates that the work by Professor French represents a significant contribution to the perception of the destructive consequences of the civil war on the societies affected by it, as well as the “destructive approaches that contributed both to the outburst of the war and unsuccessful post-war efforts (allegedly) aimed at removing its devastating consequences.” According to Pavić, the concept of restorative justice proposed and explained by Professor French “will open many people’s eyes”.

We wish the *Journal of Security and Criminal Sciences* a long and successful journey. Judging by the first step, we have no reason to worry.

Editor-in-chief
Dr. Predrag Čeranić

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SCIENTIFIC ARTICLES

POLICE PROCEDURE FOR HANDLING ORDERS AND REQUESTS ISSUED BY THE COMPETENT AUTHORITIES

Review Paper

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Abstract: In addition to the police duties set forth in Article 30(3) of the Law on Police (hereinafter referred to as Law), the police perform other duties and tasks established by law. A number of these duties pertain to the provision of assistance to other government bodies, primarily to the courts and prosecutors' offices in carrying out tasks within their scope of work, which consists of handling their orders and requests. To establish the amount of time police officers in the security sector spend on handling orders and requests, this paper presents sections of four surveys dealing with the engagement of police officers in performing these duties. The survey findings presented indicate that the police of the Republic of Serbia spend a considerable amount of working time on handling orders and requests and performing other tasks that are not directly related to the prevention and repression of crime. The fact that police officers are overwhelmed with an increasing number of orders and requests is, in addition to the survey findings presented, confirmed by the statistics of the Ministry of the Interior of the Republic of Serbia in the period 2010-2013, which is also presented in this paper. According to the statistical data, judicial authorities annually send over 101.000 requests for serving summons, about 435.000 orders for bringing in persons, and more than 100.000 requests for the verification of residence addresses, of which 75% pertains to field verification of residence addresses. The problem of spending most of the working time on handling orders and requests has been present for more than ten years in policing in the security sector. In resolving this problem, we propose to examine experience from other countries whose law enforcement agencies have entrusted some of their work to other government bodies or the private security sector.

Keywords: police, orders, requests, statistical data, working time

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INTRODUCTION

In addition to the police duties set forth in Article 30(3) of this Law,² the police also perform other duties and tasks specified by law and by-laws. A number of these police duties and tasks pertain to the provision of assistance to other government bodies, competent courts and prosecutors' offices (hereinafter: assistance to the relevant authority) in carrying out tasks within their scope of work.

Assistance to relevant authorities should be distinguished from police assistance in the enforcements of out-of-court settlement procedures (hereinafter: police assistance).³ The police render assistance to government bodies, or those with legal authority, during the enforcement of their duties when there is reasonable expectation for their assistance.

The fundamental differences between these two types of assistance is the time when it is rendered. Police assistance is rendered after the proceedings has been concluded by the relevant authority, when, after the final judgment, a decision on the execution have been reached and when the executive bodies have attempted to execute it. Unlike police assistance, assistance to the relevant authority is provided in the course of the proceedings.

The legal basis for the provision of police assistance is contained in Article 53 of this Law, while the legal basis for the provision of assistance to the relevant authority is provided for in Article 30, paragraph 3, item 12 of this Law.

Paragraph 3 of Article 30 contains police duties, while Item 12 of this Article stipulates that police duties also relate to the performance of other duties and tasks established by law and by-laws deriving from the law.

According to Slobodan Miletić, other tasks established by law and by-laws are deemed police duties if they are established as such by laws and other regulations. If this is not the case, it may be concluded that they are deemed police duties only if they meet the same criteria as other duties do. These criteria relate to: (1) nature, (2) character, and (3) the manner of performing police duties. By nature, and character, police duties refer to security and operational-duties, while (special) police powers are usually exercised in the performance of these duties. By the manner of performance, police duties are characterized by the specificity and immediacy of police procedure, the provision of security protection at the incident scene (police interventions on the spot). Unlike police duties, the aim of performing other internal affairs is not the direct protection of security – other internal affairs are, by nature and character, predominantly administrative and non-administrative affairs of the administration. Regarding the manner of performance, they are not characterized by the specificity and

² *Official Gazette of the RoS*, Nos. 6/2016, 24/2018 and 87/2018. See Article 30 of the Law on Police.

³ For more details on the manner of rendering police assistance, see Articles 53-56 of the Law on Police.

immediacy of police procedure and may be performed by other agencies other than the police (Miletić, 2009: 45).

Police duties pertaining to uncovering and apprehending perpetrators of criminal offenses and misdemeanors as well as other persons wanted by the authorities and bringing them before the competent authorities, ensuring and analyzing evidence, conducting forensic analysis using modern forensic methods and records, require the exercise of police powers, for example, questioning suspects, collecting information from citizens, communications surveillance, forensic expertise, and the like.

According to the criteria listed by Miletić, solving crimes may be regarded as security and operational activities with police officers exercising their authority in the performance of these duties. In the case of the third criterion stated by Miletić, we believe that the concreteness and immediacy of the on-site procedure are not essential criteria for a certain duty to be regarded as a police duty. In the process of detecting and solving crimes, certain police powers are not exercised on the spot, (e.g., the questioning of suspects, communications surveillance, and the like). The same is true when handling orders and requests. Handling these legal documents requires the exercise of police authority, such as identity checks, conveying/bringing in persons, and sometimes the use of coercive means. Based on this explanation, we may say that the police duties are those duties whose performance requires the exercise of police powers and which are in the direct or indirect function of security.

More precisely, the obligations of the police in handling orders and requests are contained in the Misdemeanor Law⁴, the Criminal Procedure Code⁵, the Law on Execution of Criminal Sanctions⁶, Civil Procedure Law⁷, and the Law on General Administrative Procedure⁸.

In the literature as well as in the positive regulations, the notions of order and request have not been specified. In the *Dictionary of the Serbian Language*, the word *naredba* [Engl. order] is defined as: a) a legal act issued by the authority determining the obligations of the natural and legal persons over whom they are competent, b) in general, the request of one who has the power, military force and the like, which determines something as an obligation or command (Vujanić et al., 2007: 788).

Taking into account these meanings, the order can be defined as a legal act issued by the authorities, by which they order the competent authorities to execute certain actions for the purpose of concluding their proceedings. The

⁴ *Official Gazette of the RoS*, Nos. 65/2013, 13/2016 и 98/2016-judgment by the Administrative Court.

⁵ *Official Gazette of the RoS*, Nos. 72/2011, 101/2011, 121/2012, 32/2013, 45/2013, 55/2014 .

⁶ *Official Gazette of the RoS*, No. 55/2014.

⁷ *Official Gazette of the RoS*, Nos. 72/2011, 49/2013-judgement of the Administrative Court, 55/2014 and 87/2018.

⁸ *Official Gazette of the RoS*, No. 18/2016.

competent prosecutor's offices and courts may issue orders for the purpose of bringing in the defendant for the purpose of questioning him, if the defendant properly summoned does not appear after he or she has been served a summon, and his absence is not justified, or if the summon to attend the hearing could not be properly served. The grounds to act upon the orders of the competent prosecutor's offices and courts for bringing the defendant to the hearing represent the statutory solutions contained in the CPC⁹, while the grounds for bringing the defendant to the misdemeanor court are the solutions contained in the ML.¹⁰ In addition to orders for bringing in persons in the course of the proceedings, the competent courts also issue orders for bringing in sentenced¹¹ or convicted persons.¹²

In the *Dictionary of the Serbian Language*, the word *zamolnica* [Engl. request] is defined as a written request/application from a court to another court to provide legal or technical assistance (Vujanić et al., 2007: 403). Starting from this definition, we can define *zamolnicu* as an application/request by a government authority addressed to another government body to provide legal or technical assistance, necessary for the initiation or conclusion of certain proceedings. The requests from government bodies addressed to the police primarily pertain to serving various decisions, judgments, summons, verifying residence addresses, and the like.

In police practice, orders and requests are handled by the general jurisdiction police and the execution of them represents secondary or service-related work. The number of orders and requests the police receive today is increasing and the substantial use of certain resources and time is required to execute them.

SURVEY RESULTS ON POLICE PROCEDURE FOR HANDLING ORDERS AND REQUESTS

This section presents findings of three surveys conducted on the organization and policing in the area of the prevention and repression of crime – two surveys were conducted using a survey sheet, while the third survey was conducted by means of interviews. The study conducted by Ivan Đorović is also presented, including the observations of some commentators pointing to the police being overloaded with orders, requests, and other administrative work.

In order to comprehend the engagement of police officers in the security sector in performing police duties, in 2011, a survey was carried in two largest

⁹ See Articles 195 and 196 of the CPC.

¹⁰ See Articles 188 and 189 of the ML.

¹¹ See Articles 217–220 of the LECS.

¹² See Articles 53–58 of the LECS.

police departments within the Ministry of the Interior of the Republic of Serbia – the City of Belgrade Police Department and the City of Novi Sad Police Department.

The survey involved 415 officers employed in the general jurisdiction police, 260 police officers working on the territory under the jurisdiction of the Police Department in Belgrade (62% of the respondents), and 155 police officers working on the territory under the jurisdiction of the Police Department in Novi Sad (38% of the respondents).

Through the survey, the respondents were asked 20 questions regarding the procedure for handling orders and requests issued by the competent authorities, the preventive and repressive policing in the security sector, including the motivation of police officers.

The investigation encompassed the following police outposts in the Novi Sad Police Department: Stari grad, Detelinara, Klisa, Petrovaradin, Liman, and Futog, and three police stations within the City of Belgrade Police Department: Zemun, Stari grad, and Novi Beograd.¹³

The police officers interviewed were grouped into four groups according to their work experience in the police force. The first group consisted of the respondents with 0 to 3 years of work experience, the second group with 3 to 5 years of work experience, the third 5 to 10 years of work experience, while the fourth group consisted of the respondents with over 10 years of work experience. Of the 415 police officers surveyed, the largest number of them had over 10 years of work experience, accounting for 38.8% of the total sample, followed by police officers with working experience of 5 to 10 years accounting for 30.8%, then police officers with 3 to 5 years of work experience accounting for 13.5%, and finally police officers with 0 to 3 years of work experience accounting for 16.9% (Table 1).

Table 1 – Distribution of respondents by years of work experience

<i>Years of work experience in the police force</i>	<i>Number of respondents</i>	<i>Number of respondents in terms of percentages</i>
From 0 to 3 years	70	16.9 %
From 3 to 5 years	56	13.5%
From 5 to 10 years	128	30.8%
Over 10 years	161	38.8%
Total	415	100%

¹³ For more details on this survey, see: Milidragović, 2016: 42–69.

The survey encompassed the police officers who were assigned to the following job positions in police outposts: police officers, sector chiefs, deputies of sector chiefs, shift chiefs (leaders), and assistant shift chiefs (leaders). The largest number of the respondents were police officers who accounted for 73.3% (or 304 respondents), shift chiefs (leaders) and assistant shift chiefs accounting for 13.5% (or 56 respondents), while the number of deputy sector chiefs accounted for 13.3% (or 55 respondents) (Table 2).

The majority of respondents, or 70%, had more than five years of work experience in the police force. The fact that more than two thirds of the respondents have significant work experience in the police force (5 years or over 5 years) gives a special value to the survey findings obtained (31% of the respondents have 5 to 10 years of service, while 39% of the respondents have over 10 years of service).

Table 2 – Distribution of respondents by job position

<i>Job position in the police precinct</i>	<i>Number of respondents</i>	<i>Results in terms of percentages</i>
Police officer	304	73.3%
Sector chief and deputy of sector chief	55	13.3%
Shift chief (leader) and assistant sector chief (leader)	56	13.5%
Total	415	100%

Of the total of 20 survey questions, the respondents were asked to provide answers to two questions about the procedure for handling issued orders and requests. Prior to responding to these two questions, the respondents were given the opportunity to declare themselves, by writing numbers 1 to 5 preceding police duties offered (securing public gatherings, suppressing crime – uncovering crimes and finding the perpetrators and persons wanted by the police; maintaining order and peace, handling orders and requests, and preventive visits to the security sector), about police tasks that take up most of the time during working time. Number 1 signified a duty requiring a high level of engagement, while number 5 referred to a police duty requiring the lowest level of engagement during a regular shift.

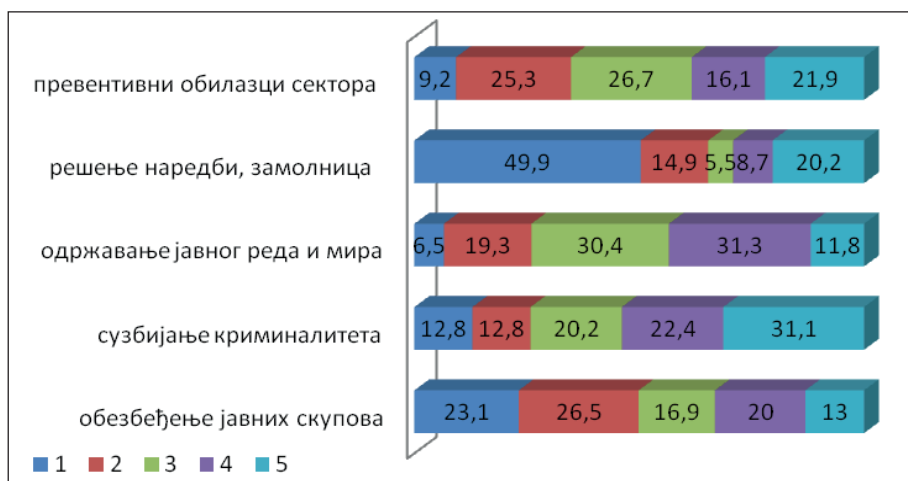


Figure 1 – Distribution of police officer working hours¹⁴

Of all the aforementioned duties performed on a daily basis, 49.9% of the respondents stated that they were engaged in handling issued orders and requests most of the time during their regular shift. With this distribution of forces and resources, the police become less engaged in performing priority police duties, primarily the prevention and repression of crime and the maintenance of public order and tranquility. An increasing number of orders and requests from competent courts and other government bodies place the police in the position of a courier service, which engages its forces and resources to perform these duties (Figure 1).

The fact that the lack of resources is equally bad for the police organization as well as their irrational use is often neglected. In this regard, the optimization of the engagement of available resources implies an analysis of the content of the work of police officers in the structure of their working time. For example, police officers spend a considerable amount of working time on performing duties which are not related to crime and the maintenance of public order and tranquility. Duties such as the conduct of background checks on job candidates, checks regarding firearms, handling requests from other government bodies (e.g., the verification of residence addresses) push preventive actions (e.g., visits to catering facilities where crimes and violations often occur, the creation and improvement of partnership relations with the members of a community, and so on) or detecting and solving crimes pushed into the background.¹⁵

¹⁴ Translator's note: preventive patrolling around the sector, handling orders and requests, maintaining public order and tranquility, crime suppression, securing public events.

¹⁵ The studies conducted so far in the United States demonstrate that activities related to combating crime and the forced enforcement of the law account for only 20% to 30% of the overall police work. Police officers spend 70% -80% of working time on the so-called. "social service work", rather than on the activities pertaining to combating crime (Banton, 1964: 6-7).

In order to see what amount of time police officers spend on performing such duties and tasks, the police officers were asked to indicate how much time they spend during the service (shift) on handling orders, requests, serving judgments and summons, verifying addresses and handling other requests from courts. Most of them (46%) responded that they spend more than 3 hours of their working time on performing these duties. Also, one-fifth of the respondents (20%) spend 1 to 2 hours on performing these duties during their shift, while 22% of the respondents spend 2 to 3 hours on performing these duties. Almost one in ten respondents spend up to 1 hour of their working time on these tasks (Table 3).

Table 3. Results obtained from the question about the amount of time spent on handling orders and requests

<i>What amount of time do you spend during the service (shift) on handling orders and requests from courts?</i>		
<i>Response options</i>	<i>Number of respondents</i>	<i>Results in terms of percentages</i>
Up to 1 hour	50	12%
1 to 2 hours	82	20%
2 to 3 hours	91	22%
Over 3 hours	192	46%
Total	415	100%

Bearing in mind the above issues, we may conclude that the performance of these duties represents a significant burden to police officers in urban areas, and, therefore, some other way to perform these duties has to be found so that it does not threaten the regular functioning of the police organization and the security within a certain territory. This view is supported by the results of the responses obtained from the question about the jurisdiction over handling orders and requests. The majority of the police officers (76% of the respondents) believe that the police should not perform these tasks (handling orders and requests), (Table 4).

Table 4. Results obtained from the question about the possible transfer of jurisdiction over handling orders and requests

<i>Do you think that handling issued orders and requests should be under the jurisdiction of a special organizational unit within the court (for example, judicial police or similar)?</i>		
<i>Response options</i>	<i>Number of respondents</i>	<i>Results in terms of percentages</i>
The police should not perform these duties	316	76%
The police should perform these duties	54	13%
No opinion	45	11%
Total	415	100%

It is necessary to seek to establish other services within the judicial bodies (e.g., the judicial police) to perform a number of duties currently performed by police officers (residence address verification, serving court judgments and decisions, assistance, and so on), or consider the possibility of engaging an auxiliary police force to perform these tasks in those police outposts/stations where these duties endanger the normal functioning of a police organization.

In analyzing the problems of policing in the local area in 2008, Radoslav Plachkov concluded that police officers spend most of their working time conducting background checks on job candidates and for firearms, assistance, handling requests from other government bodies often related to verifying residence addresses and orders issued by misdemeanor bodies to convey a person for failure to pay a mandatory fine, amounting to several thousands in one city sector on a yearly bases, and the like (Plachkov, 2008: 136–137).

In 2004, Kešetović reached the same conclusion. In analyzing policing, Kešetović concluded that an increasing number of obligations imposed on police officers (leaders of the security sectors and the police in the security sector) makes it difficult for them to carry out their main task – the prevention of, and combating crime. Based on the analysis of the tasks they perform, Kešetović concluded that police officers spend 60% to 80% of their working time on performing tasks that have nothing to do with combating crime (Kešetović, 2004: 526).

Based on the survey conducted and the analysis of the manner police officers spend their working time in the police outposts within the headquarters of the police department in Kragujevac, Đorović concludes that 30% of working time could be “freed” in this way and used for other purposes, such as the greater involvement of police officers in the content of the community policing concept (Đorović, 2011: 232).

In the period from March to June, 2014, an interview was conducted with the leaders of organizational units in charge of organizing and monitoring

community policing. Also, during the same period, a survey was conducted in all 27 police departments on the organization and work of the general jurisdiction police in the prevention and repression of crime, as well as on certain factors impeding their work.¹⁶

The interview was conducted with the chiefs of the Department for Organization, Prevention, Training and Community Policing in Novi Sad, Kragujevac, Niš, in the regional police departments, then with the Chief of the Department for Prevention and Community Policing within the City of Belgrade Police Department, and with the Chief of the Department for Prevention and Community Policing in the Police Department within the Police Directorate Headquarters.

The respondents were asked a total of 15 questions about the representation of community policing in the general jurisdiction police and the effects and problems in policing. In responding to the question about the representation of preventive work in the security sector, all the respondents emphasized that preventive work was under-represented, primarily due to an increasing number of tasks related to orders and requests, followed by a small number of police officers in police outposts, the inappropriate organizational structures of the police, the lack of knowledge on prevention and policing, as well as the focus which has been placed on handling daily or short-term problems.

A total of 359 police officers were interviewed through the survey questions. Leaders within the Police Department (chiefs, deputy chiefs, department leaders), in the police stations/outposts (commanders, deputy and assistant commanders) and ranked officers in the Police Department participated in the survey.

More than half of the police officers interviewed, 188 out of 359 (or 52.4%), were leaders within police stations/outposts (commander, deputy and assistant commander), at least 33 (or 9.2%) of the respondents were heads/leaders within the Police Department (chief, deputy chief, department head). There were 138 (or 38.4%) ranked officers in the Police Department.

In responding to the question about the representation of preventive activities in daily policing, the largest number of respondents (310 of 359) said that preventive activities are not represented. The respondents were offered the opportunity to express themselves regarding the factors that, in their opinion, affect the under-representation of prevention in daily policing. The largest number of respondents, 285 out of 310 (or 79.4%), believe that preventive activities are not represented in the daily work of the police due to the overload of the police with tasks such as serving requests and handling orders issued by the competent bodies.

Based on the survey findings and the observations of the mentioned scholars, the question arises as to whether such an organization of police work can successfully meet the citizens' expectations who finance the police

¹⁶ For more details, see: Милидраговић, 2016.

through taxes and whose interests it should serve. In order to control crime, the police must enter the pretext of crime to see and act on the causes and conditions leading to its occurrence. However, as these causes and conditions are, as a rule, out of the reach of police action, there is also a need for the mobilization of other entities in the society in order to jointly counter crime. The moment it became clear that the police alone could not counter crime, primarily those factors affecting the quality of life of citizens, it became clear that the partnership with the community and other stakeholders became an important element in the exercise of police functions.¹⁷

If we consider the fact that many problems requiring police action arise and manifest themselves in the local community, then establishing and maintaining partnerships with the community is a prerequisite for the efficient operation of a police organization. This is the reason why it is necessary to create organizational preconditions in police work that will enable that. Therefore, the implementation of the concepts of community policing and problem-oriented¹⁸ work should be restored, which have been largely neglected in our country, and whose significance in modern police practice has long been confirmed.

The survey findings presented demonstrate that the Serbian police are largely engaged in "courier" and other activities that are not related to the prevention and repression of crime. This type of the organization of police work requires changes in the organization of work, the establishment of partnership relations with the community, and the implementation of the concept of community policing.

STATISTICAL INDICATORS FOR POLICE PROCEDURE FOR HANDLING ORDERS AND REQUESTS

An increasing number of orders and requests served to increase work loads of police officers, which, in addition to the survey findings presented, has been confirmed by the statistics of the Ministry of the Interior of the Republic of Serbia in the period from 2010 to 2013.

¹⁷ Community policing places an emphasis on prevention as a primary task of the police. It is based on the strategy of communication, cooperation and police reliance on citizens, while at the same time maximizing the restriction of the use of force and replacing it with assertive and partnership action (Bayley, 1990: 85). The concept of community policing involves the association of citizens and police in the fight against crime, that is, the performance of police affairs with the partnership of the police and community in order to reduce crime and increase security in the local community (Champion, 2003: 2).

¹⁸ Incidents, which are a core part of policing (interventions), are only the symptoms (consequences) of the problem and will continue to manifest themselves as long as there are causes and conditions that generate them. Therefore, within a problem-oriented approach, police action does not end with the "resolution" of incidents (e.g., filing criminal or misdemeanor charges against the perpetrator), but continues with the aim of identifying the hidden causes and conditions leading to their occurrence (Milić, 2012: 125).

According to the 2010 records of the Ministry of the Interior of the Republic of Serbia, there has been an increase in the number of requests from competent courts and prosecutors' offices to render them the necessary assistance in criminal and misdemeanor proceedings. Compared to 2010, the number of requests to serve a summon during the misdemeanor proceedings increased by 42% in 2013, while the number of requests to serve a summon during the criminal proceedings in the same period increased by 55.2%.

In the period from 2010 to 2013, police officers served 3,705 summons issued by misdemeanor courts and 4,319 summons from the prosecutors' offices and courts in charge of conducting criminal proceedings on a monthly basis. In the same period, the general jurisdiction police served more than 80% of the summons sent by misdemeanor courts and about 95% of the summons sent by the prosecutors' offices and courts in charge of conducting the criminal proceedings. During the studied period, the largest number of requests to be served were reported in the area of the City of Belgrade Police Department (approximately 1,700 requests received on a monthly basis), and the least number of summons was reported in the area of the Police Department in Prijepolje (32 summons on a monthly basis).

In the same period, the police received, on average, 27,909 orders issued by misdemeanor courts on a monthly basis, of which the police executed approximately 21,376 orders on a monthly basis. In contrast to this, the number of orders received from the courts in charge of conducting criminal proceedings was much smaller, and, on average, it amounted to 8,376 orders on a monthly basis, of which police officers executed, on average, 6,994 orders. During the studied period, the Serbian police received, on average, 8,334 requests to verify residence addresses, of which police officers executed, on average, 6,780 requests on a monthly basis.

In addition to the requests from competent courts and other government bodies to handle orders and requests, members of the general jurisdiction police also handle requests from other organizational units (traffic police, criminal police, and other units) regarding the serving of decisions on the sentence and statements on the imposed protective measures and security measures, requests to seize the passport, conducting security screening for citizenship application, background checks on job applicants, as well as submitted applications to keep and carry a weapon.

During the studied period, members of the general jurisdiction police conducted 2,542 security/background checks (application for citizenship, admission to employment with the Ministry of the Interior, and background checks for a weapon) on a monthly basis, of which they executed, on average, 258 orders to seize the passport.

Handling requests issued by the competent courts is significant and seems to be a specific duty within the scope of work of the general jurisdiction police, because without the proper serving of court summons or

finding and apprehending the defendant, it is not possible to conclude the criminal proceedings. Based on the content of the request (serving summons, judgements, executing orders, and so on.), it may be concluded that the general jurisdiction police were engaged in all phases of the misdemeanor and criminal proceedings, which is illustrated by the fact that the judicial bodies annually delivered approximately 101,000 requests to serve summons and approximately 435,000 orders to convey persons, as well as over 100,000 requests to verify residence addresses, of which 75% pertains to field verification of residence addresses.

A large number of requests to the general jurisdiction police are also sent by other organizational units within the Ministry of the Interior. Members of the general jurisdiction police annually act, on average, in 3,925 cases upon the order to seize the passport and undertake 30,000 security screening for citizenship applications for, background checks on job applicants, and background checks pertaining to weapons. At the request of the traffic police, members of the general jurisdiction police serve about 71,000 decisions and almost 30,000 statements on imposed protective measures and security measures.

The survey results presented and the statistical data of the Ministry of the Interior of the Republic of Serbia on police procedure for handling issued orders and requests demonstrate that police officers are overloaded with these duties on a daily basis, pushing the tasks of prevention and repression of crime into the background.

CONCLUSION

The general jurisdiction police today, as well as several years back, spend a large amount of the available working time, forces and resources on handling requests issued by the competent prosecutor's offices, courts, and other government bodies and organizational units within the Ministry of the Interior.

In addition to the large number of orders and requests delivered, normative and practical problems have been identified in practice, making police officers' work more difficult. Police procedure for handling orders and requests indicates an overwhelming administration, starting from the receipt of requests, followed by making entries into police registers, verifying the justification and accuracy of data, organizing work, handling requests in the security sector, making reports on actions taken, responding to submitted requests, work control, and the like.

Police procedure for handling orders and requests is not prescribed the Law or any by-laws whatsoever. The Misdemeanor Law, Criminal Procedure Code, Law on General Administrative Procedure, and Law on the Execution of Criminal Sanctions only state the obligation of the police to provide

the necessary assistance for the performance of duties that fall under the jurisdiction of prosecutors' offices, courts, and other bodies.

Prior to the enactment of the current Law on Police, in practice, the problem of fictitiously registered persons at specific addresses was particularly evident, as well as the problem of finding these persons, because they seek to avoid or hinder the execution of orders and avoid being served summons, decisions, and similar documents in various ways, which is why the police often act regarding the same person.¹⁹

In practice, it has been noted that the competent courts send a large number of orders and requests to the territorially competent police department to be handled within tight deadlines, which is why sometimes additional forces and resources are engaged at the same time, only for the performance of these tasks.

In addition to the above mentioned problems, subsequent problems are present in practice as well: upon the request sent, the judicial authorities do not provide information that an attempt to serve a summon has been made through the relevant courier services; requests to serve a summon contain only the name and surname of the person and no other data is provided, which makes it difficult for police officers to find that person; the Misdemeanor Law allows the person being conveyed to the court to pay a fine in several installments and, in the event that a person does not pay the installments properly, the court issues an order to convey that person again, consequently, some persons have been conveyed several times; the working time of the acting judges is exclusively in the morning, which sometimes makes it difficult for police officers to find a person; in some police departments, the remoteness of the local competent courts represents a problem as well.²⁰

In resolving these problems, normative and practical mechanisms should be undertaken. The Law and by-laws should precisely regulate the obligation and the manner in which police officers handle orders and requests. Within practical measures, the possibility of introducing, in cooperation with the judicial bodies, an electronic information system for keeping various records should be taken into consideration.

Finally, experience from other countries whose police have entrusted some of their affairs to other government bodies or the private security sector should also be considered.

¹⁹ It has been noted that the persons for whom a warrant of apprehension has been issued by the competent court, find out the date of the main trial from their lawyers or otherwise, and if it is not in their interest to appear in court on the date stipulated, they leave the house and go outside the city or visit a doctor on that day. Under the new Law on Police, the police may issue a wanted notice for a person for whom the misdemeanor court has issued a general order of apprehension (Article 59, paragraph 4, item 2 of the Law).

²⁰ This problem arose following the reform of the judiciary in 2010, when a new network of courts was established.

In the Republika Srpska, the Federation of Bosnia and Herzegovina and the Brcko District, the judicial police was established under the Law on Judicial Police.²¹

The judicial police in the Republika Srpska is competent to assist in the work of the Supreme Court, the Higher Commercial Court, district courts, basic courts, and district commercial courts. The judicial police of the Republika Srpska, within its competence, performs tasks related to information security, bringing in witnesses and expert witnesses by force, forcibly bringing in suspects, accused and convicted persons, the transportation of persons to penal institutions, the enforcement of court decisions, securing courts and prosecution facilities, securing judges and other court officials, the maintenance of order in the courtroom and other court premises during a trial.

In addition to handling orders and requests issued by competent prosecutors' offices and courts, the Serbian police perform other tasks which, in Bosnia and Herzegovina, fall under the jurisdiction of the judicial police, such as securing persons during the investigative hearing conducted by the investigative judge, who are brought after the detention period has expired, the transportation of persons against whom a detention order is issued by the investigative judge to penal and correctional institutions where the detention is carried out, the transportation of persons found on the basis of a wanted notice to the competent court authorizing the search.²²

By establishing the judicial police within the territory of the Republic of Serbia, the general jurisdiction police would be relieved of a portion of the "courier" affairs. Working time and resources spent on performing tasks at the request of the prosecution and the court would focus on primary police affairs, the prevention and repression of crime, which would reflect on the safety of citizens and their property.

²¹ For more details on the organization and work of judicial police in Bosnia and Herzegovina, see: <https://sudpol-fbih.pravosudje.ba/>, <https://ossud-brckodistriktbih.pravosudje.ba/vstv/faces/kategorijevijesti.jsp?ins=90&modul=7254&kat=7285&kolona=7269>, <https://sudpol-rs.pravosudje.ba/>. Retrieved on January 25, 2019.

²² For example, if a person is found by police officers in the city of Subotica based on the order of apprehension issued by the High Court in Leskovac, they are obliged to bring the person to the court premises in Leskovac. In the event that a judicial police was established in the Republic of Serbia, the person found on a wanted notice would be handed over to the nearest judicial police unit which would then bring the person to the court in Leskovac.

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SECURITY MEASURES ORIENTED TOWARD THE PERPETRATORS OF VIOLENT CRIMES IN THE REPUBLIKA SRPSKA

Review Paper

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Abstract: Violence, as a destructive form of behavior, has always been present in interactive relationships. Legislation defines certain forms of its manifestation as offenses and provides for appropriate criminal sanctions. The Criminal Code of Republika Srpska retained the solutions from the Law on Amendments and Supplements to the 2013 Criminal Code of Republika Srpska, when certain novelties were introduced regarding criminal legal responses to violent crimes. This paper addresses personality traits in individuals who commit violent crimes, as well as security measures oriented toward the perpetrators of violent crimes in the criminal legislation of Republika Srpska.

Keywords: violence, offense, perpetrator, security measures.

GENERAL REMARKS ON VIOLENT CRIMES AND SECURITY MEASURES

Violence, be it organized or random, continuous or occasional, intense or uncontrollable, always harms or destroys the object at which it is aimed or is attempting to do so (Bartol & Bartol, 2005: 241). It is a phenomenon difficult to explain. The difficulties in defining crimes of violence arise from the fact that they can be comprehensively understood, thus viewpoints that every crime represents a form of violence may be accepted. Levi and Maguire (Levi & Maguire, 2000) argue that it is a “slippery” term covering a very wide range of activities ranging from terrorist attacks, gangs, street robberies to domestic violence between spouses, which again may range from murder and rape to insults causing psychological injuries (Levi & Maguire, 2002: 796). It

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is about forms of crimes using assaults and threats to the victim to achieve a goal (Marković, 2007: 203-204). Man is distinguished here as a unique being, and the malignant aggression that occurs in him/her is not phylogenetically programed. Only man can torture and murder his/her own kind, while feeling pleasure at the same time (Kovačević, 2006: 14).

Criminal legal responses to the undertaking of violent actions are focused on two directions. Certain human behaviors are qualified as offenses. In this way, the legislature provides criminal legal protection for certain legal goods.² Violent crimes toward which security measures are oriented are usually contained in the chapter entitled *Crimes against Marriage and Family*. This type of violence, also referred to as “violence among partners” or “violence among spouses”, means any insult, intimidation, sexual insult, as well as any other act that may result in a bodily injury or death of a family member or someone living in the same household (Wallace & Seymour, 2007: 299). Some researchers (Johnson, 1995) indicate different forms of intimate partner violence and/or different types of aggressors. Studies conducted on clinical samples (respondents from safe houses and respondents who sought medical assistance or reported violence) describe intimate partner violence as intimate terrorism. In such cases, violent men are far more powerful than female perpetrators, aggression is largely unilateral (except in the case of self-defense), it is more frequent and escalates suddenly. On the other hand, studies addressing intimate partner violence in a sample of the general population mainly describe violence as *mutual*. This form of aggression is less severe, less frequent, does not escalate over time, and it usually involves both partners using physical force during the conflict.

The perpetrators of *mutual* (domestic) violence commit less severe forms of physical violence toward their spouses/partners and do not commit crimes outside the family. Basically, these individuals do not differ from non-violent individuals with disturbed marital relationships. On the contrary, the perpetrators of intimate terrorism (antisocial domestic violence) (Holtzworth-Munroe & Stuart, 1994) are involved in serious physical, sexual and psychological abuse of their partners. They are characterized by negative attitudes toward women, alcohol abuse, drug abuse, in other words, by a wide range of socially undesirable behaviors.

The criminalization of such behaviors represents a legal framework for another form of criminal legal response – criminal sanctions. In addition to the victim, the judiciary should bear these offences in mind as well, because it is in the commission of these offences that the perpetrator’s (abuser’s) personality

² Violent crimes are not usually systematized in a way to be grouped only in one chapter of the Criminal Code. On the contrary, they are interlinked throughout the entire Special Section of the Criminal Code (e.g., crimes against life and body, offences against sexual integrity, public order offences, crimes against marriage and family, crimes against the freedom and rights of citizens, crimes against property, and so on). In this regard, it may be noted that these offences constitute the largest number of the total crimes committed. For more details, see: Statistical Yearbook of Republika Srpska. Retrieved August 21, 2018, from <http://www.rzs.rs.ba/front/category/8/>.

traits come to the fore, which is supported by the introduction of new security measures in our criminal legislation. These supplementary criminal sanctions enhance the preventive effect of punishment. In this regard, research findings and practical experience have demonstrated that the suppression of criminality of certain criminological categories cannot be accomplished through the application of punishment alone (Drakić, 2005: 123). The legislature is very explicit here: within the framework of the general purpose of the criminal sanctions, the purpose of security measures is to eliminate situations or conditions that might influence the perpetrator to perpetrate offences in the future (Article 71).

Prior to the adoption of the Law on Amendments to the Criminal Code of Republika Srpska³, the security measures oriented toward perpetrators of violent crimes were not encompassed by the provisions.⁴ However, within the reform of misdemeanor legislation, the Law on Amendments to the Law on Protection from Domestic Violence provided for appropriate protection measures in Article 23(a): the removal of the perpetrator from the apartment, house, or other dwelling, the measure prohibiting the perpetrator from approaching the victim and from harassing and stalking the victim of domestic violence, mandatory psychosocial treatment, and mandatory addiction treatment (Law on Amendments to the Law on Protection from Domestic Violence).⁵ In this regard, in 2013, the security measures oriented toward the perpetrators of violent crimes, primarily regarding the offense of domestic violence, were included in the criminal legislation for the first time. They were also retained in the new criminal legislation of the Republika Srpska. Thus, the current Criminal Code of Republika Srpska⁶ also contains three measures oriented toward the perpetrators of violent crimes within the framework of security measures: the measure prohibiting the perpetrator from approaching and communicating with the victim (Article 79), mandatory psychosocial treatment (Article 80) and the removal of the perpetrator from the joint household (Article 81). The purpose of these measures is to ensure special prevention, which are formulated to prevent the perpetrator from perpetrating offenses in the future. Regarding the perpetrators of violent crimes, security measures are aimed at eliminating the situations and conditions contributing to the commission of future offenses.

The connection between the personality of the perpetrator, the neighborhood, the environment and life opportunities, coupled with some personality traits, contribute to producing a criminal act (Drakić, 2005: 126). The connection between the criminogenic characteristics of personality and

³ Official Gazette of RS, No. 67/13.

⁴ Prior to the amendments and supplements to Chapter V, the former Criminal Code encompassed five measures: mandatory psychiatric treatment (Article 58), mandatory addiction treatment (Article 59), the prohibition on performing professional practice, activity, or duty (Article 60), a driving ban (Article 61), and the forfeiture of items (Article 62).

⁵ Official Gazette of RS, No. 108/13.

⁶ Official Gazette of RS, No. 64/17

crime has been investigated within several personality models,⁷ and some of them will be mentioned.

It is likely that the largest number of studies dealing with the relationship between personality traits and crime production originated from a lexical⁸ personality model including five broad traits: extraversion, neuroticism, agreeableness, conscientiousness and openness to experience (Costa & McCrae, 1992; John, Naumann & Soto, 2008). The most reluctant findings describing criminal behavior by means of these traits suggest that the personality profile of offenders is described by, first of all, low cooperation, that is, conscientiousness (Le Couff & Toupin, 2009; Miller & Lynam, 2001). The personality trait that distinguishes both male and female perpetrators of violence among partners is a low level of cooperation, that is, a difficult nature, distrust and intransigence, which is very important for understanding personality, that is, behavior (Feist & Feist, 2009). Research findings (Thorton, Graham-Kevan & Archer, 2010) demonstrate that this trait, in addition to neuroticism, is more pronounced among the male perpetrators of violence compared to the perpetrators of non-violent crimes. Additionally, both of these traits are associated with aggression, which produces violent behavior. Emotional instability and low scores regarding the dimension of cooperation “produce” suspicion, the critical and hostile behavior of violent perpetrators (Feist & Feist, 2009). Expressed neuroticism reflects negative emotions such as anger or anxiety (Stead & Fekken, 2014).

The connection between the traits of the five-factor model and the phenomenon of criminality was also empirically demonstrated in Serbia, both in the sample of adult convicts (Međedović, Kujačić & Knežević, 2012a) and institutionalized adolescents (Međedović, Kujačić, Đoković, Jerinić & Knežević, 2011; Međedović, Kujačić & Knežević, 2012). Kaspi and his colleagues argued that criminality, among other things, was determined by low self-control and negative affect. These two qualities are inversely proportional, meaning that people with low self-control tend to have high scores regarding negative affect and in the absence of strong social control they cannot keep their anger and irritation under control. Although some individuals may have a genetic basis for a high level of negative affect and low self-control, both features are influenced by the midpoint factors, especially family dynamics involving emotional and physical abuse (Caspi et al., 1994). It is important to bear in mind that all of these characteristics are the result of different types of temperaments and different developmental experiences, and that they (personality traits) are distributed along the continuum, that is, they are not dichotomous. The point is that all people have these qualities, to varying degrees.

Unlike the conditions that may contribute to the commission of offenses, the current psychic “condition” of the perpetrator, which can

⁷ Eysenck's personality model (Eysenck & Eysenck, 1976), Zuckerman's personality model (Zuckerman, 1994), Five-factor personality model (Costa & McCrae, 1992), the HEXACO personality model (Lee & Ashton, 2009).

⁸ This personality model is based on the lexical hypothesis that all the important individual differences in personality traits are coded in the words of individual languages.

manifest itself in various forms (mental illness, temporary mental disorder, or mental retardation) may play a more significant role in imposing the security measures on the perpetrators of violent crimes. It is about the psychic factors that contribute to the commission of crimes, such as mental disorders which encompass behavioral disorders and psychological structure which change the characteristics of an individual (psychosis, neurosis, mental deficiency, alcoholism) (Ignjatović, 2011: 186 – 187).

The security measure of mandatory psychosocial treatment is aimed at removing the situation that may contribute to the commission of offenses in the future, while the other two measures (the measure prohibiting the perpetrator from approaching the victim and the removal of the perpetrator from the joint household) are aimed at eliminating the conditions leading to the commission of an offense. Further, since they are non-medical measures, it is possible to combine them with other security measures. In fact, the offense committed may point to several specific aspects of the dangers posed by the perpetrator (Bačić, 2009: 479). In this way, the court may, in addition to the security measure of the removal from the joint household, also impose mandatory addiction treatment or mandatory psychiatric treatment.

SECURITY MEASURES ORIENTED TOWARD THE PERPETRATORS OF VIOLENT CRIMES

It has already been noted that the new criminal legislation contains three security measures oriented toward perpetrators of violent crimes. In addition to these measures, the legislature prescribed six more security measures that can be imposed on the perpetrators of offences along with the perpetrators of violent crimes. Some of these security measures can also be issued cumulatively: mandatory psychiatric treatment and supervision in a health institution (Article 74), mandatory psychiatric treatment outside an institution (Article 75), mandatory addiction treatment (Article 76), the prohibition on performing professional practice, activity, or duty (Article 77), the prohibition on attending certain sporting events (Article 78), and the forfeiture of items (Article 82).⁹ Nevertheless, the focus is placed on new security measures (at least with regard to the criminal legislation of Republika Srpska).

Prohibition on approaching and communicating with a certain person

The prohibition on approaching and communicating with a certain person is a security measure imposed by the court on the perpetrator of violent crimes, which is aimed at prohibiting the perpetrator from approaching the victim within a specified distance for a certain period of time and from coming within a specified distance of the premises or workplace, that is, to prohibit

⁹ For more details, see: Criminal Code of Republika Srpska (Official Gazette of RS, No. 64/17).

further communication with the victim if it may reasonably be expected that the further commission of such acts by the perpetrator would pose a threat of danger to the victim (Article 79, paragraph 1). Additionally, this prohibition may also refer to approaching or communicating with other persons, if such a behavior of the perpetrator would mean a psychological harassment of the victim (Article 79, paragraph 2). The conditions for issuing this measure are two-fold: first, the commission of a violent crime, and second, the justified expectation that the continuation of such acts by the perpetrator would pose a threat of danger to the victim.

As indicated above, a violent crime goes beyond the commission of *domestic violence*; it may also include the offense of *bodily injury* or *serious bodily injury*. The measure consists of a number of prohibitions: the security measure prohibiting the perpetrator from approaching the victim within a specified distance, from coming within a specified distance of the premises or workplace, or from future communication with the victim. Prohibition on coming within a specified distance of the premises or workplace is clearly formulated. In contrast, the distance between the perpetrator of the crime and the victim is determined on a case-by-case basis, whereby the court primarily takes into account the subjective feeling of fear present in the victim. On the other hand, the prohibition on future communication with the victim, in addition to the prohibition on direct communication, implies a ban on contacts by telephone and electronic mail. In essence, the quality of communication, that is, the quantity of emotions and degree of emotional closeness between the perpetrator and the victim prior to the delict are assessed (Kovačević, 2006).

Additionally, the legislature stipulates that the perpetrator of these offenses may also be prohibited from communicating with other persons, if such a behavior would mean the harassment of the victim. These are constellations that indirectly disturb the victim, for example, by communicating threats through that other person, or threatening, for example, family members, if at the same time it represents a psychological harassment of the victim.

Regarding the second condition, the court will issue the appropriate prohibition only when there is reasonable expectation that the undertaking of certain actions is likely to pose a threat of danger to the victim. These actions are usually undertaken following the commission of the criminal offense and this security measure is issued to prevent the perpetrator from "taking such actions" in the future. Therefore, the actions of the post delictum nature are of paramount importance, in other words, the justified expectation that they will pose a threat of danger to the victim or mean a psychological harassment for the victim. It is important to point out that the World Health Organization multi-country study on women's health and domestic violence conducted in several US states (Ellsberg, Jansen, Heise, Watts & Garcia-Moreno, 2008), confirmed that women who experience intimate partner violence are more likely to have suicidal ideation, attempt suicide more often, and show more emotional distress than women who have not experienced any abuse. The results of meta-analysis,

which included studies conducted on general population samples, demonstrated that women are more likely to be physically injured by their spouses/partners and are more likely to seek medical care for the injuries than men (Archer, 2000).

The legislature has generally stipulated that the prohibition on approaching and communicating with a certain person can last no more than two years. It lasts as long as the reasons for which it was issued exist (Article 79, paragraph 3), meaning the court exercises control over its implementation and justification. The law also stipulates that the period of time spent in prison, that is, in treatment and custodial facilities, will not be deduced from this measure. In this regard, this measure can be issued alongside of other security measures, through which the conditions leading to the commission of an offence are removed. This measure can also be imposed alongside of the suspended sentence. If the order prohibiting the perpetrator from approach or communication with the victim or another person is breached, the suspended sentence will be revoked and the court will impose the specified punishment.

Mandatory psychosocial treatment

Another security measure that can be imposed on the perpetrators of violent crimes is mandatory psychosocial treatment (Article 80). Mandatory psychosocial treatment is issued in cases in which, on the basis of the earlier life of the perpetrator and the psychic characteristics of his person, the court determines that there is a risk that the perpetrator will repeat such or similar acts and that a psychosocial treatment is required in order to eliminate this danger (Article 80, paragraph 1). The purpose of the treatment is to stop and prevent further violent behavior by achieving positive changes in the conduct of the perpetrator.

It is necessary to cumulatively achieve two conditions in order to impose a measure: (a) the commission of a violent crime, and (b) a psychosocial treatment is required in order to eliminate this danger. Considering the first condition, it corresponds to the condition which is provided for the measure of *Prohibition on approaching and communicating with a certain person*. In contrast, the second condition, that is, the existence of a danger that such an offense or a similar one may be repeated, is assessed by the court based on, for example, witness testimonies, criminal records or psychiatric forensic expertise. These offenders of crimes are more socially dangerous than the perpetrators on whom the prohibition on approaching and communicating with a certain person is imposed. These persons have more pronounced character traits that may lead to disharmony between certain psychic functions, that is, insufficient mental and social functioning. The personality disorder most commonly associated with criminal acts and violent behavior is a dissocial personality disorder, described in classical psychiatric literature as a psychopathy. Psychopathy includes predatory behavior, emotional coldness, recklessness, impulsivity, and persistent antisocial behavior (Hare, 2003; Patrick, 2006). According to research

findings, after having served the prison sentence or after the hospitalization, psychopaths, compared to non-psychopaths, commit more serious violent crimes and are more likely to reoffend (Hemphill, Hare & Wong, 1998; Leistico, Salekin, DeCoster & Rogers, 2008). Additionally, behavioral disorders (narcissistic and antisocial personality disorders) are linked to the need for control of others and are particularly characteristic of the male perpetrators of domestic violence (Hamberger & Hastings, 1988).¹⁰

Few existing studies on the female perpetrators of intimate partner violence indicate the existence of a borderline, antisocial and dependent personality disorder (Goldenson, Geffner, Foster & Clipson, 2007; Ross, Gask & Berrington, 2011; Stuart, Moore, Gordon, Ramsey & Kahler, 2006). According to the preliminary data, women deprived of their liberty due to domestic violence show more pronounced personality disorders than male perpetrators (Henning, Jones & Holdford, 2003). Unlike the former security measure which is imposed to prohibit the perpetrator from approaching and communication with the aim of preventing certain actions undertaken after the commission of a specific offense and which can endanger the victim, this measure is imposed after taking into account the facts existing before the commission of a certain offense, which may affect the repetition of such an offense or a similar one. In this regard, the court has no expectations and the court's decision is based on the facts related to the life of the perpetrator and his psychic characteristics. The aim is that the perpetrator gains insight into his actions, to accept responsibility and adopt self-regulation of behavior. The perpetrator learns social skills and changes those beliefs that have contributed to the establishment of violent behaviors within group meetings in which he is actively involved.¹¹

The security measure of mandatory psychosocial treatment lasts from six months to two years and is executed alongside of the prison sentence or suspended sentence (Article 80, paragraph 3) in a penitentiary or other appropriate facility, and can be continued outside the appropriate facility after the convicted person has been released on parole. The avoidance of psychosocial treatment represents the basis for revoking release on parole and the suspended sentence, and in this case, instead of the community service sentence, a decision on the execution of the prison sentence will be reached (Article 80, paragraph 4).

¹⁰ In addition to perpetrators, victims may also be subjected to psychosocial treatment. Hamberger & Guse (2002) reported that women who were ordered by the court to attend counseling regarding domestic violence, including women in shelters, were more likely to feel intense fear and more often sought police help, unlike the male victims of domestic violence who did not take their partner's violence seriously (they were laughing).

¹¹ For more details, see: <http://www.psyhoaktiva.hr/tretmanski-centar/psihosocijalni-tretman-nasilnika.html>. Retrieved August 22, 2018.

Removal from the joint household (Article 8) is the only security measure which states that it should be imposed in respect with the offence of *domestic violence*.¹² Thus, the legislature further points to the importance of preventing domestic violence and its consequences.¹³ This measure is imposed on the perpetrator who has committed the crime of violence against the person with whom he or she lives in the joint household, if there is a high degree of danger that the perpetrator will commit the violent act again against a member living in a joint household and, in order to eliminate this danger, it is necessary to remove the perpetrator from the joint household (Article 81, paragraph 1). As in previous cases, certain conditions must be met to apply this security measure. It is about three cumulatively foreseen conditions. On the one hand, the commission of the offense of violence against a person living in the same household is required, while on the other hand, the existence of a high level of danger that the perpetrator will again commit violence against a member of the joint household is required, and finally, the request to remove the perpetrator from the joint household in order to eliminate this danger is emphasized.

Regarding the first condition, by formulating the offense against the person with whom he/she lives "in the joint household", the legislature has limited the possibility of applying this measure. A passive subject (victim) is a person living in the joint household. It is usually a family member but it can also be other people living in the joint household, from which it can be seen that the circle of passive subjects is expanded. Statistical data on the gender/sex representation of crimes in the sphere of marriage and family in the Republika Srpska in the period from 2011 to 2015, show that female perpetrators were represented in 194 cases (or 8.06%) of 2404 offenses¹⁴. Accordingly, the results

¹² Statistical data demonstrate that it is about a constellation positioned immediately after the most frequent crimes, that is, crimes against property, life and body, official duties, public order offenses, environmental crime. Considering the fact that the old Criminal Code contained 19 group protection facilities, crimes against marriage and family were often ranked 5th or 6th by the number of their commissions. In the period 2010-2015, crimes against marriage and family represented an average of 3.55% of the total offenses committed. Over a period of six years, an increase in these offenses in the total number of the offenses committed was reported: in 2010, crimes against marriage and family accounted for 520 (or 3.09%) of 16779 offenses committed; in 2011, 364 (or 2.48%) of 13169 offenses committed; in 2012, 364 (or 2.92%) of 12448 offenses committed; in 2013, 436 (or 3.66%) of the total of 11901 offenses committed; in 2014, 695 (or 5.03%) of the total of 13808 offenses committed; and in 2015, of the total of 13966 offenses committed, crimes against marriage and family accounted for 582 (or 4.16%). For more details, see: Statistical Yearbook of Republika Srpska. Retrieved August 21, 2018, from <http://www.rzs.rs.ba/front/category/8/>.

¹³ The findings of the largest annual victimization survey conducted throughout the world (National Crime Victimization Survey, NCVS) have consistently pointed out that approximately 85% of all the victims of domestic violence, regardless of whether the incident was reported to the police or not, constituted women (Greenfeld et al, 1998; Healey, Smith & O'Sullivan, 1998; Rennison & Welchans, 2000).

¹⁴ For more details, see: Statistical Yearbook of Republika Srpska. Retrieved August 21, 2018, from <http://www.rzs.rs.ba/front/category/8/>.

of Archer's meta-analysis (2000) confirm that women reported more frequent use of physical force in partner relationships, in other words, men more frequently inflicted injuries on women than women on men.

The second condition is that the court determines the existence of a "high level of danger" that the perpetrator will again commit a crime of violence. A high level of danger is determined by the court in specific cases, and the circumstances preceding the commission of an offense are taken into account, on the basis of which the court reaches a conclusion that the offense will be committed again. Risk factors of repeat domestic violence include, by frequency, constant and violent jealousy, the control of the partner's daily activities, the struggle for child custody and access to disputes, death threats, stalking, assaulting or threatening with a firearm, and forced sexual intercourse (Juodis, Starzomski, Porter & Woodworth, 2014).

Attention deficit disorder increases the risk of intimate partner violence, that is, interpersonal conflicts due to the difficulty in listening to others (partners) and the inability to appropriately observe a complex situation (Fang, Massetti, Ouyang, Grosse & Mercy, 2010). The Revised Danger Assessment (Revised Danger Assessment, DA; Campbell, Webster & Glass, 2009) carried out in a sample of 37 cases of domestic violence with a fatal outcome, found that they did not appear "out of the blue", that is, in 82.9% of the cases, it was about premeditated murders, and in 86.5% of the cases there was a risk of murder (Juodis, et al., 2014). The same study found that in 83.8% of the cases, the murders were preceded by more serious and frequent domestic violence. Research findings demonstrated that the perpetrators of these crimes were possessive, vindictive and had a dominant urge to inflict injuries on their spouse. In line with previous studies, previous cases of domestic violence in which women were victims are listed as the most common mortality factor in this context (Campbell, Glass, Sharps, Laughon & Bloom, 2007). The comparison of demographic characteristics, criminal history, and domestic violence history for 5,578 men and 1,126 women arrested (Henning & Feder, 2004) demonstrated that male reoffenders of domestic violence and violence in general constituted a larger portion than female reoffenders.¹⁵

Finally, the third condition for imposing this measure pertains to the necessity of its application. It is only applied if the danger of reoffending violent crimes cannot be eliminated in any other way. Regarding this security measure, the legislature also stipulates its method of execution by providing that the perpetrator on whom this security measure is imposed is obliged to leave the apartment, house or other area that makes a joint household with the victim in the presence of a police officer immediately following the final judgment. The security measure lasts from six months to five years, and at the time of its duration, the time spent by the perpetrator in the penitentiary

¹⁵ On the other hand, domestically violent women inflict more severe injuries, have problems finding employment, and are younger. Also, this research demonstrated that violent women had fewer criminal complaints than men, and their partners were less likely to feel seriously endangered. Likewise, men had more problems with drug and/or alcohol abuse.

institution or treatment facility (Article 81, paragraph 2) does not count. Clearly, this measure may be imposed under certain conditions even alongside of the suspended sentence. It should be noted that a suspended sentence is the most common criminal sanction imposed on the perpetrators of crimes against marriage and family. Thus, in the period 2011-2015, of the total of 961 criminal sanctions imposed on the perpetrators of crimes against marriage and family, 824 suspended sentences (85.74%) were imposed.¹⁶ This is where the imposition of security measures should come to the fore. In addition to the above, the legislature, as with the previous measures, determined that the non-enforcement of this measure constitutes the basis for the revocation of conditional release (Article 81, paragraph 3), and the solution that a person who has been removed from the household is obliged to contribute to the financial support of persons who have remained in the household in the manner determined by the court has been adopted (Article 81, paragraph 5).

CONCLUSION

Offenses with the potential for violence represent one of the most significant constellations of criminal behavior. Particularly important issues here include the study of the personality of perpetrators of these offenses and criminal legal responses to the commission of violent crimes. An abundance of research has been conducted on the perpetrators of violent crimes, indicating that the structure of the personality of the perpetrators of these offenses is unique, which are underlied by deeply rooted maladaptive patterns manifesting in a wide range of attitudes toward themselves and the environment.

It is precisely this “deformed” variant of a normal personality without psychopathological contents typical of mentally ill population, along with the biological and psychological components found and the criterion of significantly diminished responsibility that can be taken as a condition for imposing security measures oriented toward perpetrators of violent crimes. This view should be taken as a recommendation, since the legislature of the Republika Srpska prescribes only mental illness, temporary mental disorder and mental retardation as a biological basis for significantly diminished responsibility.

The new Law on Amendments to the Criminal Code of the Republika Srpska provides for security measures that apply to the perpetrators of violent crimes. The perpetrators of these crimes can be prohibited from approaching and communicating with a certain person, they may be ordered to have a mandatory psychosocial treatment and be removed from a joint household. The conditions for imposing these security measures are not identical, which is understandable. They are adapted to the personality of the perpetrator to the highest extent possible. It is important that the application of these security measures removes

¹⁶ For more details, see: Statistical Yearbook of Republika Srpska. Retrieved August 21, 2018, from <http://www.rzs.rs.ba/front/category/8/>.

the situations and conditions leading to the commission of violent crimes and that the perpetrator who is no longer dangerous be integrated into society.

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ON QUANTUM CRYPTOGRAPHY

Review Paper

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Abstract: In the late twentieth century, human race entered the era of information technology (IT). The IT industry, which deals with the production, processing, storage and transmission of information, has become an integral part of the global economic system, a completely independent and significant sector of the economy. The dependence of the modern society on information technologies is so great that omissions in information systems may lead to significant incidents. Telecommunications are the key information technology industry. However, information is very susceptible to various types of abuse during transmission. The units for data storage and processing can be physically protected from anyone wishing harm, but this does not hold true for the communication lines that span hundreds or thousands of kilometers and are virtually impossible to protect. Therefore, the problem of information protection in the field of telecommunications is highly significant. Cryptology, particularly cryptography, deals with this issue. Quantum cryptography is a relatively new field ensuring safe communication between the sender and the recipient using the laws of quantum physics. This paper seeks to address the principles of the quantum distribution of a key for information encryption and the fundamental problems arising from the execution.

Keywords: cryptography, algorithms, encryption, key, quantum physics, protocols

INTRODUCTION

According to Anglo-Saxon tradition, the participants in the process of encryption and decryption are called Alice and Bob. An enemy, who wishes to disclose unauthorized information shared by Alice and Bob, is called Eva

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which is derived from *eavesdropper* (Bennett, 1992). The enemy, it is assumed, has unlimited computer resources and is familiar with the use of cryptographic methods, algorithms², protocols³, and so on (Dugić, 2009).

The primary task of cryptography is to transform an initial text (plaintext) into an arbitrary string of characters called a cryptogram. The number of characters in the plaintext and the cryptogram may differ. The secrecy of the encryption algorithm itself cannot, in principle, ensure the unconditional security of the cryptograms, as it is assumed that Eva (the enemy) has infinitely large computer resources. Therefore, public key algorithms are used nowadays. The security of modern cryptosystems is based on the secrecy of a small item of information called a key, rather than on the secrecy of an algorithm. The key is used to manage the encryption process and should be easily changeable at any time. At the end of the nineteenth century, the Dutch scientist Kirchhoff formulated a rule by which the security of a key is ensured if the entire encryption system, other than the secret key, that is, the information that manages the process of cryptographic transformation, becomes known to the enemy, (Kilin, Horosko & Nizovcev, 2007).



Figure 1. Structure of symmetric cryptosystems⁴

In symmetric cryptosystems, the sender and the recipient use the same secret key (Figure 1). An item of information is also encrypted and decrypted with this secret key. The key must be periodically updated and distributed at the same time to both the sender and the recipient. The process of distributing secret keys among the regular participants in the information exchange is a very complex process. If an illegitimate user (Eve) had the secret key, it would

² An algorithm is a set of commands, instructions, actions, calculations executed in order to achieve a result of initial data.

³ A protocol is a set of actions (instructions, commands, calculations, algorithms) executed in a particular order by two or more actors with the aim of achieving a result.

⁴ Translator's note: Alice – link channel– Bob; secret key; key generator.

enable the knowledge of the information exchanged between Alice and Bob (Румянцев, Голубчиков 2009).

Symmetric cryptographic algorithms provide a high level of protection, as long as the key is only known to the sender and the recipient of the message. Therefore, the basic measure of the security of symmetric algorithms is the method of key distribution. The well-known and most widespread symmetric algorithm is DES and an improved version of 3 DES (Čisar, 2015).

This problem has previously been solved by a non-cryptographic method – by transferring the key to the physically protected eavesdropping channels. However, the creation of such a channel and its maintenance in operational readiness in case of an urgent need for a key transfer is very long and costly. Therefore, in the conditions of a constant increase in the intensity of information flows, this key distribution method has become less acceptable and satisfactory.

The problem has been successfully solved within modern cryptography. There are two ways to solve the key distribution: mathematically and physically. The mathematical method is realized by using a two-key based protocol or public-key cryptography. The physical way is realized by means of quantum cryptography.



Figure 2. Structure of asymmetric cryptosystems⁵

Asymmetric cryptosystems use two keys – Figure 2. The first key is public and is available to all users of the information exchange. Information is encrypted with this key. Only the recipient (Bob) has the second secret key. Decrypting information with the public key is impossible. Also, the decryption key cannot be determined by using public key encryption (Румянцев & Голубчиков, 2009).

⁵ Translator's note: Alice – link channel – Bob; public key – key exchange center – secret key.

In 1976, the scheme of asymmetric cryptography was proposed by Diffie and Hellman, Stanford University. If Alice and Bob want to establish a secret key, it is enough to follow this protocol (Jakus, 2016):

- Alice generates a random number A , computes $P=e^A$ and sends P to Bob
- Bob generates a random number B , computes $Q=e^B$ and sends Q to Alice.

Then Alice and Bob compute the secret key, K , as shown in Figure 3.

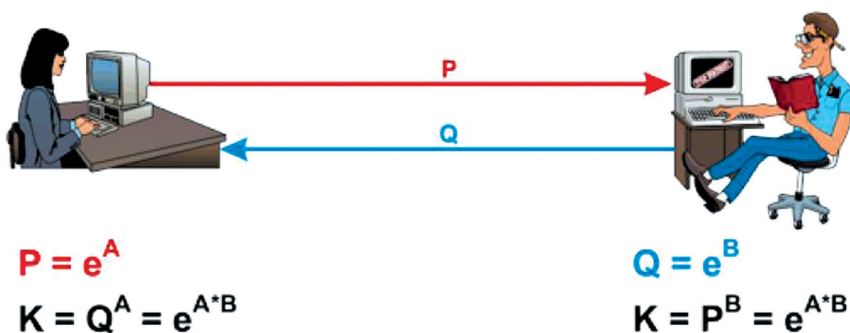


Figure 3. Diffie–Hellman protocol

Suppose Eva has P and Q . Can she compute K ? To compute K , Eva must compute A or B because she can then repeat the computation of the key in the same way as Alice or Bob can. The idea is that the calculation A or B requires computing the discrete logarithm:

$$A = \ln P, \quad B = \ln Q$$

for which there is no effective way (Stipčević, 2007). The security of the Diffie–Hellman method is based on the complexity of the discrete logarithm. The most famous algorithm within the group of asymmetric cryptographic methods is the RSA.

In the first case, different keys are encrypted and decrypted in the two-key based protocol, so there is no need to keep the secret key secure. However, due to the extremely low performance characteristics and exposure to the special types of attacks, such ciphers have proved inappropriate to close direct user information. Instead, asymmetric ciphers are used as part of combined schemes, when a string of data is encrypted with a symmetric cipher on a one-time key, which is encrypted with a two-key cipher and is transmitted in this form along with the data.

In the second case, in public-key cryptography, the schemes for the distribution of the key over open communications channels solve the same problem in a slightly different way: during an interaction, two participants

exchanging information generate a shared secret key, which is then used to encrypt the data being transferred using a symmetric cipher. Furthermore, intercepting information in a channel during a generating session of such a key does not allow the enemy to obtain the key by himself or herself.

The security of two-key cryptosystems is based on a slow technical progress. Their security is based on the problem of factorizing large numbers and computing discrete logarithms in certain final groups. These problems are believed to be “tough” in the sense that they might be solved by guessing all possible solutions (keys), with a number of steps increasing exponentially with the key length.

Secrecy in the modern world is based on the idea that something is computer-secure, in other words, it is secure in the sense that it would take too much computer time and power to break the cipher (Vedral, 2014). Finding a factor for large numbers is a difficult problem. Let us imagine the number 100. What are its factors? Two times 50 equals 100. But this is also true for 4 times 25, or 5 times 20 or 10 times 10. The number of factors grows rapidly and finding all of them poses a significant difficulty to every modern classical computer.

Nevertheless, with the expected emergence of quantum computers for which rapid factoring algorithms have been developed, the cryptographic systems based on the mathematical cryptographic methods can be compromised.

The procedure for this was developed by Peter Shore (Shor, 1994) who created an algorithm according to which a quantum computer can exist simultaneously in many different states, as it uses the quantum superposition principle. Let us imagine a single computer in a superposition, which is simultaneously at different locations. In each of these locations, we can configure a computer to share our number with another number to search for factors. In this way, we get an extremely rapid acceleration of the solution to the factorization problem, given that one quantum computer now simultaneously performs all these divisions, one at each spatial location. According to experts, a quantum computer that can break the RSA crypto system will be designed in about 15-25 years.

It is precisely for this reason that the idea of protecting information must be sought in, colloquially speaking, “hardware”, that is, by using the laws of quantum mechanics for protection.

Therefore, the need to protect cryptosystems has arisen for other reasons. The solution of key distribution is realized in quantum cryptography based on the laws of physics (Jaćimovski & Šetrajčić, 2016).

The basic arguments for this are twofold:

- It is impossible to copy an unknown quantum state
- Without perturbation, it is impossible to have information about non-orthogonal quantum states (in other words, when accessing an information channel, Eva changes the status of the information holders)

Quantum cryptography uses the uncertainty of the quantum world during the measuring process, the so-called Heisenberg's uncertainty principle (Heisenberg, 1974). With quantum physics, a communication channel which cannot be eavesdropped without interfering with the transmission can be established. Two users who communicate with each other can always detect the presence of the third party trying to discover the key.

Also, an eavesdropper cannot copy unknown quantum bits, the so-called qubits, that is, unknown quantum states, because of the no-cloning theorem. Quantum cryptography is only used to generate and distribute a key, rather than to transmit messages. The generated key can thus be used in a cryptosystem for encryption and decryption.

In this way, quantum cryptography allows for relatively fast key exchange and the detection of Eve's attempts to enter the link channel. Note that the occurrence of errors during the transmission and reception of quantum states does not necessarily lead to the loss of secrecy. A critical error is defined for each protocol of quantum cryptography, above which secrecy is not ensured. If the error level (usually expressed in terms of percentages) is below the critical level, then the error correction protocols and the subsequent compression of the remaining bits are used to create the key. Following these procedures, Eva has as much information about the key as Alice and Bob want her to have (Picek & Golub, 2009).

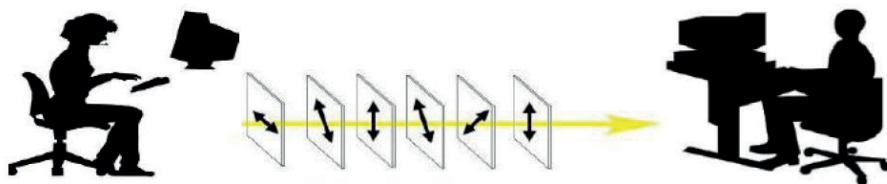
Presently, three forms of quantum state encryption are used in quantum cryptography: polarization encoding, phase enciphering and encoding using time shifts. This paper demonstrates the procedure for the polarization encoding of quantum states, the so-called BB84 protocol, and elaborates the E91 protocol. Other protocols of quantum cryptography are also used.

Example of the BB84 protocol without noise

The BB84 protocol (Bennett & Brassard, 1984) is the historical first protocol for quantum key distribution (Kilin, Khoroshko & Nizovtsev, 2007), whose security is based on the principles of quantum mechanics, making it absolutely safe if there is no noise in the quantum channel. The absence of noise in a given situation assumes that the quantum state of particles does not change along the quantum channel.

The BB84 protocol is formulated in the language of individual photons, (Figure 4), although it can be applied to other realizations of a qubit. To encode information, four polarization states forming two interconnected non-orthogonal bases are used in the protocol: rectangular $|\leftrightarrow\rangle$ and diagonal $|\updownarrow\rangle$

$$|\nearrow\rangle = (|\leftrightarrow\rangle + |\updownarrow\rangle) / \sqrt{2} \quad |\searrow\rangle = (|\leftrightarrow\rangle - |\updownarrow\rangle) / \sqrt{2}$$



Quantum channel – sending polarized photons

Figure 4. The BB48 protocol demonstration

The essence of the BB84 protocol is that one of the users (Alice) randomly selects a series of bits (stage 1) and a series of bases (stage 2) and then sends a user (Bob) a string of photons (stage 3) each of which encodes one bit from the selected string in the base corresponding to the prime number of that bit, where the states $|0\rangle$ $|1\rangle$ are encoded into (0) zero, and the states $|+\rangle$ $|-\rangle$ into one (1). In obtaining a photon, Bob randomly selects the measurement base (rectangular or diagonal) for each photon and independently of Alice, (stage 4), analogously interprets the result of his measurement for each photon in two ways, as a zero or one (stage 5). In accordance with the laws of quantum mechanics and following the measuring of the diagonal photon in a rectangular base, its polarization turns into the horizontal or vertical line and vice versa, with random results. In this way, Bob obtains the results coinciding with the state of the photons sent in about half the cases (50%), that is, when he correctly hits the base.

The next stage of the protocol is realized via a public channel, through which Alice and Bob can openly convey classical information to each other. At this stage, we assume that Eva can listen to the announcements by both parties, but she cannot change them or send notifications instead of them. To begin with, Alice and Bob determine (via a public channel) which photons were successfully obtained by Bob and which of them were measured in the correct base (stages 6 and 7). After that, Alice and Bob have the same bit values encoded in these photons, regardless of the fact that this information has never been established in the open communication channel (stage 8). In other words, each of these photons carries a bit of random information, which is known only to Alice and Bob and no one else. Information about the photons measured in the wrong base is rejected, so Alice and Bob get the so-called sieved key, which, in the event that Eva did not intercept the information, should be the same for both parties.

Table 1. Example of the realization of the BB84 protocol. States $|\nearrow\rangle$ $|\searrow\rangle$ encrypt (0) zero, while states $|\uparrow\rangle$ $|\downarrow\rangle$ encrypt one (1). Rectangular and diagonal bases are indicated by \otimes and by \oplus .

Stage 1	Random bit transmission (Alice)	0	1	1	0	1	1	0	0
Stage 2	Random bit transmission (Alice)	\otimes	\otimes	\otimes	\oplus	\oplus	\otimes	\otimes	\oplus
Stage 3	Polarization of photons distributed along the quantum channel	\nearrow	\searrow	\nearrow	\leftrightarrow	\updownarrow	\nearrow	\nearrow	\leftrightarrow
Stage 4	Randomly received bases (Bob)	\oplus	\oplus	\otimes	\oplus	\oplus	\oplus	\oplus	\oplus
Stage 5	Bits received by Bob	0	0	1	1	1	0	0	0
Stage 6	Bob informs Alice about the bases of reception	\oplus	\otimes	\otimes	\otimes	\oplus	\oplus	\oplus	\oplus
Stage 7	Alice tells Bob which of their bases are harmonized								
Stage 8	Sieved key			1		1			0
Stage 9	Bob discovers a portion of bits					1			
Stage 10	Alice confirms it								
Stage 11	Sieved key after error assessment			1					0

Suppose Eva is eavesdropping on a quantum channel. Due to the random selection of a rectangular or diagonal base, Eva influences the information in such a way that it changes the bits of the sieved key, which would have to be the same for Alice and Bob if there was no Eve. No measurement of the photons performed by Eve gives more than one half of the bit information encrypted by this photon; any such measurement gives b bits of information ($b < 1/2$) and is not in compliance with the probability which is ultimately equal to $b/2$ if the measured photon or its replacement is measured in the initial base by Bob. Alice and Bob can check if someone is eavesdropping on them by openly comparing a portion of bits (stages 9 and 10) for which they must have the same information, although these bits cannot, any longer, be used for the secret key. The position of the bits being compared should be a random subset of the properly measured bits so that the presence of Eve must be noticed. If all the bits compared match, it is clear that there was no eavesdropping, and the remaining bits properly measured can be used for the secret key encryption (stage 11) and transmission over the open channel.

Once this key is used, Alice and Bob repeat the procedure to create a new secret key.

The security of the BB84 protocol

The BB84 protocol would be threatened if Eve is able to perform the following interventions on the quantum channel (Markagić, 2012):

1. To measure the polarization of the photon sent by Alice, reproduce the same one and send it to Bob
2. To reproduce the photons sent by Alice

In the first case, Eva would have the same information that Alice and Bob had, so at the end of the procedure they would have the same key. However, Alice uses photons from the conjugated bases, in other words, there is no orientation of a polarizer with which Eva could with certainty distinguish the polarization of photons. In the second case, Eva wants to assure the polarization of the photons with a number of differently oriented polarizers. However, the reproduction of an unknown quantum state is not possible due to the no-cloning theorem.

In the communication process between Alice and Bob, a portion of the photons accurately measured is likely to be detected incorrectly. Also, if Eva attempts to measure the photons sent by Alice before they reach Bob, errors are likely to occur due to the fact that Eva is attempting to measure the data pertaining to the polarization of photons. These two situations cannot be distinguished: natural or artificial sounds look the same. As a result, Alice and Bob agree on a smaller cryptographic key in three phases viz. error assessment, information leverage and privacy enhancement.

The E91 protocol (Ekert, 1991)

Further, the improvement of cryptosystem reliability can be achieved using the Einstein-Podolsky-Rosen (EPR) effect (Einstein, Podolsky & Rosen, 1935). The EPR effect occurs when a spherical symmetric atom radiates two photons in opposite directions to two observers. The photons are emitted with an unspecified polarization, but due to the symmetry of their polarization, they are always opposite (the quantum interference effect). An important feature of this effect is that the polarization of photons becomes known only after having been measured. Based on the EPR, Ekert proposed a crypto-scheme guaranteeing the security of the key transfer and storage. The sender generates a number of the APR photon pairs and leaves one photon from each pair for himself or herself, and sends the other one to his or her partner. At the same time, if the registration efficiency is close to the unity, when the sender receives the value of polarization 1, his or her partner will register the value 0 and vice versa. Clearly, in this way, partners, whenever necessary, can get identical pseudo-random code sequences. Practically, the implementation of this scheme is problematic due to the low efficiency of recording and measuring the polarization of one photon.

CONCLUSION

The task of cryptography is the exchange of secret messages. There are traditional methods that practically guarantee a secure communication (between Alice and Bob) if the secret decryption key is known to both parties, and at the same time, the key is not known to anyone else, even the potential enemy Eve.

It is this presumption of the secrecy of the “secret key” that is the weakest link in classical cryptography. The only task of quantum cryptography is to ensure a secret key. Thus, in quantum cryptography, not only messages are exchanged via the so-called quantum channel, but also secret keys. Today, there are already commercial devices as well as dozens of implementations of public and corporate secure network communications using the quantum key distribution technologies. The advantage of these technologies is the unconditional security based on the phenomena of quantum mechanics. Today, it is almost possible, with the unconditional security, to generate and distribute a secret key between two parties connected by optical fibers at distances up to 150 kilometers in a few seconds. Eavesdropping on communications by a third party does not lead to the revealing of a secret, but only to the reduction of the speed of key generation, with both parties immediately knowing that the line is being actively eavesdropped. The main disadvantage of these systems is the limited key generation speed, which depends directly on the distance of the participants, the inability to increase the signal or transmission through a type of relay, practical limitations solely on fiber optic communications, as well as the cost of system implementation (Ijačić, 2014).

In ideal systems of quantum communication, the interception of data is impossible, as the participants in the exchange of information immediately identify the interception as errors occurring in the transmission. However, the actual systems are different from the ideal ones.

Unlike the ideal quantum communication system, the actual quantum communication systems are unable to ensure the absolute secrecy of the data transmitted, due to the fact that there is a fond of its own errors in the system, behind which the attempts to intercept information can be hidden, as well as the attenuation of communication channels due to the necessity of using multiphoton pulses. The use of strong photon pulses leads to the dampening of the transmission of information enabling the interception of silent data. This is a factor that cannot practically be removed, as the quality of the channel through which the information is transmitted cannot always be controlled.

However, before the quantum communication systems is applied in practice, a number of technical difficulties need to be solved, such as the development of stable sources of single photons and single-photon detectors that would operate in a normal temperature range and should not be cooled by liquid gases. Different correction codes should be used to fight system errors, while the procedures for increasing security should be used to reduce the

importance of intercepted bits. Additionally, extra security measures of purely technical nature may be undertaken.

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PRIVATE AND/OR CORPORATE SECURITY: ARE THERE CONCEPTUAL SIMILARITIES AND DIFFERENCES?

Review Paper

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Abstract: This paper addresses the theoretical and conceptual determinations of private and corporate security. Based on the literature review, common characteristics and specificities are examined, and the grounds for conceptual similarities and differences are critically re-examined. The key question is whether the two concepts are different or represent the same concept. The typology of corporate security by Lippert et. al. was used as an analytical framework to compare corporate and private security. Each of the five dimensions in the typology is compared and analyzed. First, the findings of Lippert et al. regarding the above typology are presented followed by the typology, that is, the analytical framework used for the analysis of private security. Finally, the comparison of private and corporate security was performed to see in which dimensions of the typology there are overlaps and similarities, and in which differences. In this regard, the basic conclusion is that private security and corporate security are two related concepts with significant common characteristics (Lat. *genus proximum*) and specificities that distinguish them from each other (Lat. *differentia specifica*). The results of the comparative analysis indicate that private security and corporate security are related but conceptually different notions.

Keywords: private security, corporate security, privatization, corporation.

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INTRODUCTION

Over the past few decades, we have witnessed social processes, especially in economically developed democratic countries, which have resulted in the expansion of the non-government or the so-called private security sector. Unsteady global social opportunities, the development of neoliberal trends and global economy, the rise in crime rates and fear of crime change the traditional understanding of the state and its roles, including the perception of which entity in society should provide security services. The opinion of the sociologist Max Weber (Weber, 1976) that the state has a monopoly over the use of force has proved to be outdated. Such an approach simply did not withstand the judgement of time, primarily due to the pressure of globalization which changes the political, economic, social and security structure of the modern world (Pečujlić, 2002; Stiglic, 2004). The weakening role of the nation state, the speed of goods and capital movement, high levels of social inequality, the expansion of international organized crime, terrorism, and armed conflicts are just some of the factors creating the social reality of the modern day and a certain security vacuum in the social space filled in by the private security sector. Since then, this sector has experienced a great expansion in practice, and, on the other hand, has attracted a considerable number of scientists from the field of social sciences dealing with the various aspects of this phenomenon. The issue of private security has largely been addressed by criminologists, primarily from the perspective of privatizing duties that have traditionally fallen within the competence of the police. However, studying private security requires a multidisciplinary approach. In addition to criminology, private security is studied in the field of security studies, politics, sociology, penology and law. Everything started with the question as to whether the state has sufficient capacity to protect the interests of citizens and provide them with security. The criminal justice system in developed countries proved ineffective to respond to numerous challenges in crime control.

In this paper, the phenomenon of the “privatization” of security work is explored in the contemporary social context. However, it should be noted that this activity is not exclusively the phenomenon of contemporary societies. In effect, we can follow it from the ancient Rome, through the 18th-century England to the 19th-century United States (Nemeth, 2018). The privatization of security work goes beyond the issue of crime control. In addition to police work, it now includes activities beyond the scope of police work. Among other things, it is about engaging private agencies as a support to military forces in conflict regions across the world, collecting intelligence, managing penitentiary facilities or migrant and asylum centers, or performing a wide range of activities to protect business and company interests. The most common terms found in the scientific literature include *private security*, *industrial security*, *private security sector*, *non-government security sector*, and *corporate security*. Specifically, several terms used to denote this field exist in the scientific literature, which

creates confusion regarding the fundamental question – are they synonyms or are they similar but still different concepts? On the other hand, we can raise the question of whether there is reasonable ground to accept the phrase *private security* as a generic term encompassing all those related terms.

The first comprehensive study on private security was published in the United States, in 1971, by the RAND Corporation (Kakalik & Wildhorn, 1971). The topic of private security has been studied for decades, resulting in numerous papers, to name but a few, (Cunningham & Taylor, 1985; Shearing & Stenning, 1983; South, 1988; Jones & Newburn 1998; De Waard, 1999; Abrahamsen & Williams, 2010), while the interest of scholars in corporate security is considerably less (Walby & Lippert, 2013: 208). In the regions of former Yugoslavia, private security began to be studied in the early 2000s, first through individual scientific approaches, primarily through master's theses and doctoral dissertations, and later in educational programs which introduced private security as a subject. In fact, the concept of studying private security is closely related to the degree of development of this activity, which, as such, according to some research (Vejnović, Lalić & Šikman, 2010), is still developing and has not yet been fully formed.

The subject of this paper is an initial analysis of possible conceptual similarities and differences between private and corporate security. It is a methodologically demanding task. First, the theoretical and conceptual determinations of private security are addressed, followed by the possibility of conceptualizing corporate security. Certainly, these are related concepts with significant common characteristics (Lat. *genus proximum*), but also specificities, which differentiate them from each another (Lat. *differentia specifica*). This paper starts with the assumption that private security and corporate security are not synonymous, but rather two concepts that have certain common characteristics. The paper analyzes both concepts in the way they are dealt with in the literature, then it looks at common characteristics and specificities, and finally critically re-examines the merits for addressing their conceptual similarities and differences. The purpose of this paper is to reflect on fundamental theoretical and conceptual issues, problems, inconsistencies, in other words, to emphasize the importance of academic debates regarding the conceptual determinations of private and corporate security and identify their possible similarities and differences.

The section following the introductory considerations section addresses the theoretical and conceptual determinations of private and corporate security. After that, the duties pertaining to private and corporate security and their organizational forms of action are discussed followed by a comparative analysis of the concepts of private security and corporate security. Finally, concluding observations are presented.

THEORETICAL AND CONCEPTUAL DETERMINATIONS OF PRIVATE SECURITY

In addition to numerous studies dealing with the various aspects of private security, the lack of theoretical research into basic conceptual issues is evident. In the contemporary literature, there is not a generally accepted definition of private security (Kesić, 2009: 33). As a starting point, the question of what constitutes private security and what activities it involves is discussed. Generally, there is a consensus in the literature that security activities are privatized by non-government stakeholders. Specifically, it is about security work which is not performed by government bodies. Under the laws and other regulations, the state has entrusted work either to legal private entities or private individuals. The problem arises in determining the content or the type of work performed within private security. Based on our literature review, the private sector would encompass the following activities: (1) private policing, (2) private detective activity, (3) private military companies (4) private intelligence companies, and (5) private penal institutions.

There are some terminological ambiguities surrounding the concept of private security. This concept originated from the English-speaking countries, and the most frequently used terms include *private security*, *private policing*, *the industry of private security*. Terminological differences themselves indicate that there is no compliance regarding this concept and there are different interpretations. The largest number of papers has been published in the field of criminology, which address the issues of public policing and private policing (Stenning & Shearing, 1980; Johnston 1991, Loader, 2000; John, 2005). There is a lack of systematic studies dealing with the issue of extent, organizational forms, trends and implications of the functioning of private security.² Criminologists approach the concept of private security from the perspective of policing and its diversification in terms of the entities which carry out these tasks in society. In the criminological literature, the term *private security* is mainly regarded as a synonym for *private policing*, although private security, in the content sense, is a much broader concept. Some scholars start with the criterion of personnel employed in that sector. For example, Shearing and Stenning (1981) argue that they are security personnel employed in the private sector, who perform certain security tasks. Van Steden (2007: 17) critically refers to this approach, primarily because security personnel are employed in the private sector and in the public sector and do not provide services only to commercial entities, but also to public institutions, such as governments, universities, and others institution. Sarre and Prenzel (2005) give a broader interpretation than Shearing and Stenning (1981). They argue it is about personnel employed in

² A study by Ronald van Steden (2007) offers an explicit framework focusing on six factors that have influenced the expansion of private security: the rise in crime and the problem of crime, massive increase in private property, economic reasons, government policies aimed at the cooperation with the private sector/public-private partnership, the overload of police structures, and the professionalization of private security.

the commercial sector on a contract basis or within individual organizations, that they use private or public funds and that a basic component is to perform certain security activities. There are also other scholars (South, 1994) who define private security similarly, that is, as an activity related to the provision of security services on a commercial basis in order to protect persons and property. What these terms have in common is the provision of security services to the market or public institutions, excluding, for example, the traditional security providers such as the police. Within the field of security studies, papers dealing with private security focus on the topic of private military companies (Bruneau, 2011; Dunningan, 2011).

Terminological problems occur when English terms are translated into the South Slavic languages. For example, Kesić (2009) translates the English term *private security* as “privatno obezbeđenje”, thus giving the concept a much narrower meaning. He makes a terminological difference between *private security sector* and “privatno obezbeđenje” and states that “privatno obezbeđenje” represents one of the components of the private security sector. Kesić (2009) points out two basic approaches in defining the private security sector. In the broader sense, the security sector is defined as “a set of organized forms of activity by voluntary and commercially oriented non-government personnel, whose main duty involves countering criminal behavior” (Kesić, 2009: 11).” In the narrow sense, Kesić defines the concept of private security sector as “a set of legally established professional activities outside the competence of government bodies, which are organized to provide certain services for the protection of the property and safety of citizens and collect information (Kesić, 2009: 11–12).” Based on this definition, Kesić determines the following components of the concept of private security: (1) contractual security – activities performed by private companies or by agencies for physical and technical security services provision on a contractual basis, (2) in-house security – activity performed by security services within private companies and enterprises, and (3) private investigative activity.

Although this is a more comprehensive definition than the previous one, it does not include certain security tasks. This is primarily about private military companies, private intelligence companies, and private penitentiaries. These activities are on the rise and have a significant share in the security market. Particularly private military companies are on the rise and their presence is significant in conflict regions across the world (Leander, 2005; Kinsey 2006). Additionally, neoliberal policies and the massive influx of migrants have led to the privatization of migrant and asylum centers in some countries (Menz, 2011).

THEORETICAL AND CONCEPTUAL DETERMINATIONS OF CORPORATE SECURITY

In the literature, departments in charge of security matters within the company corporate security are often regarded as corporate security. This is not a new model and it has been present for decades, more precisely, since the beginning of the twentieth century. Robert P. Weiss (2014) gives a historical overview of the initial phases of corporate security development using the example of the Ford Motor Company in the United States. This period was marked by the use of brutal force, intimidation, tyranny, the recruitment of informers from the ranks of workers and other members of the community and business environment. All this was done in order to control and discipline the workers, prevent strikes and rebellion, and increase labor productivity. Weiss (2014: 17) cites the data of the National Labor Relations Board of 1936, when the board had the data of over 200 registered detective agencies with more than 10,000 people engaged in industrial espionage and strike-breaking at their disposal. Companies in the automobile industry spent millions of dollars on these services. Over time, this sector has evolved and gained a considerable reputation in the professional sense.

The number of studies on corporate security is very small compared to the studies dealing with the issue of private security. At this point, some definitions in the existing literature are discussed. In the *Manual for Corporate Security Managers*, Kovacic and Halibozek (2003: 48) define corporate security as a process protecting the business of companies. They view corporate security as a synonym for business security. Corporate security protects the company's values and assets. According to Kovacic and Halibozek, private security consists of corporate security, which they also call proprietary security, and contract security. What is significant here is that they consider corporate security to be an integral part of the concept of private security. However, the merits of such a claim need to be re-examined. Corporate security functions within the company, and the company's employees are its security personnel. Corporate security performs the duties related to the security of business ranging from asset protection, business intelligence to the development of emergency plans. Kovacic and Halibozek view contract security as the second element of private security, which includes selling security services to other businesses, institutions or private individuals. Kovacic and Halibozek (2003) further state that companies provide these services to gain profits.

Yet, this division by Kovacic and Halibozek (2003) illuminates two important aspects of this problem – organizational differences in the way corporate security and contract security operate. These differences can be called structural differences. Also, there are functional differences because corporate security has the function of protecting the interests of the corporation and is not intended for the market. On the other hand, the function of the so-called contract security is primarily commercial, they sell security services on the market in order to generate profits. However, the definition by Kovacic and

Halibožek that private security consists of corporate and contract security should be critically re-examined. Corporations and other organizations that have an in-house security service are not necessarily privately held; they may also be publicly held or with mixed ownership. The element of property relations is very important in the theoretical and conceptual definition of both private and corporate security, which the two authors did not take into consideration. This distinction is correctly observed by Walby and Lippert (2014: 2). They argue that the concept of corporate security is often considered a synonym for in-house security and these services are not “purchased” on the basis of a contract. However, in the broadest sense, they define it loosely as security provision that seeks to achieve corporate organizational goals.

According to Walby and Lippert, corporate security is a synonym for industrial security (2014: 2), which refers to a specific sector of the economy. They associate the concept of corporate security to organization and identify overlaps between these terms. In this case, they use the notion of *organizational security*. In order to be deemed corporate security, it must be connected with a corporate model, regardless of whether it is a private or public organization. Lippert et al. also point to *decommodification* trends, as a reverse trend from the privatization of the security activities within the competence of the public sector. They investigated the work of the corporate security departments within the local government organization in Canada and concluded that the activities of these departments, rather than the engagement of companies on a contract basis, constitute the decommodification of arrangements concerning security services. On the other hand, it is about the commodification of strategies and technologies, indicating the complexity of this problem (Lippert et al., 2013). Brooks (2012: 2) confirms that corporate security is not only a field of activity in the private sector. He points to the problem of non-compliance with the definition of the concept of corporate security and indicates the need to do so. He regards corporate security as an area of activity in which security services are provided either within the public or private sector for the purpose of protecting business and material goods.

If we take into consideration that the area of operation of corporate security can be both in the public sector and private sector, we must bear in mind that corporations are not the only economic organizations with which the concept of corporate security is associated.³ In addition to business entities, they can also be universities, non-governmental organizations, political parties, churches, and so on.

³ In order to approximately determine the content of the concept of corporate security, we need to look at the etymology of the word corporations. In the lexicon of foreign words (Vujaklija, 1986), the word *corporation* originates from the Latin *corporalis* – an association of several people having a common interest and endowed by law with the rights and liabilities of a legal entity, a guild, a society, an association. In the sociological sense, a corporation is a social organization and each organization consists of three basic components: people, organizational structure and management, and decision-making mechanisms. In the sociological theory, social organizations (Kukić, 2004) are defined as groups of people organized to achieve certain goals, which are interconnected on the basis of formally established roles and mutual relations, cooperation and organization.

PRIVATE AND CORPORATE SECURITY WORK AND ORGANIZATIONAL FORMS OF ACTIVITY

This section discusses the activities frequently performed in the context of private and corporate security. Kovacic and Halibozek (2003) define private security as providing security services, conducting investigations or setting up alarm systems and other advanced technological solutions in the area of security. Additionally, companies providing security services on a contract basis can be global companies that provide security risk analysis services in some conflict areas across the world, crisis management, and so on. It is particularly important to consider the activity of private security companies in crisis regions. In most cases, they carry out logistics, operational support to armed forces, training, strategic advice on defense, crime prevention activities, and intelligence activities (Avant, 2012: 21). There are also private intelligence agencies that collect and process data for clients, be it individuals, companies, or governments. The most common method is the method of collecting and processing open-source intelligence. Private intelligence agencies conduct other activities such as satellite recording, electronic surveillance and signal tracking, surveillance and monitoring, conducting psychological and propaganda activities, and cyberwarfare (Mikac, 2007: 91). Regarding private detective activity, as one of the activities in the area of private security – it mainly involves collecting data about business partners and companies, conducting background checks on job applicants, collecting information and evidence related to copyright infringement (Vejnović et al., 2008), conducting the so-called investigation of spouses, that is, proving adultery, finding missing persons, business escort and surveilling children for the purpose of establishing deviant behavior, gathering evidence for a civil or criminal trial, serving judicial summons and other documents, conducting investigations within the company regarding the appropriation of property, the determination of claims for compensation of damages, monitoring the financial situation of certain individuals, and so on. Private penal institutions are also one of the activities that the state has transferred to the jurisdiction of private companies. The trend of introducing private penal institutions is rising primarily in the United States, Great Britain, Australia, South Africa, and in some European countries. The main cause of the creation of private penal institutions is the significant increase of the prison population and the inability of the state to appropriately respond to new needs. The privatization of penal institutions has advantages and disadvantages and opens up numerous ethical issues, such as the issue of “whether the state is allowed to transfer the execution of criminal sanctions to non-government actors and whether it call into question the resocialization of persons at the expense of profits (Kesić, 2009: 98).”

Nalla and Morash (2002: 13) classify corporate security activities into six categories: the security of persons, access controls, asset protection, investigations, risk management and “Others”. Brooks (2012) conducted research in Australia and found that corporate security tasks primarily

pertain to security technologies, such as IT networks, video surveillance, access control, anti-breach systems, risk management, business continuity management, physical security, reputation protection, industrial security. Only into the second category did Brooks classified investigations, fire protection, occupational safety or business intelligence, suggesting that major tasks certainly depend on the characteristics of a society, its economic development and the specific demands of the market.

Lippert et al. (2013: 216) list the types of corporate security work using an example of local government authorities in Canada, which include the installation and monitoring of video surveillance systems, conducting patrols, removing potential nuisance behavior, employee surveillance, conducting investigations, access control, asset protection, event security, personnel security, security penetration testing system, educating employees to become aware of the security culture and follow the corporate security procedures. Furthermore, Lippert et al. (2013) classify corporate security tasks into two categories according to the complexity criterion: (a) physical security encompassing employee protection, access control and asset protection, which, according to Lippert et al., requires a lower level of complexity, and (b) knowledge work, that is, tasks requiring more complex knowledge (investigations and risk management). According to this division, only physical security could be classified as a task of the lower level of complexity, while the remaining tasks require complex knowledge. The classification of corporate security by Lippert et al. needs to be critically re-examined. Physical security may require specialist knowledge, depending on the level of protection of the facility or person being protected. In such cases, a high quality selection of personnel is performed, a high level of training is ensured, and modern technical equipment and IT technologies are used. These types of work require specific skills acquired by training, far more than theoretical knowledge. Bearing this in mind, the division of security work into skills and knowledge would be more appropriate than that of Lippert et al. Based on the above discussion, we may conclude that private or corporate security activities do not fit into the stereotypical thinking that they are low-skilled jobs – they often require a high level of training and expertise.

The above discussion indicates a wide array of duties performed within the concept of corporate security. They can be classified into categories by their nature: (1) physical security, (2) technical security, (3) information security, (4) investigations, (5) consulting, (6) crisis management, and (7) intelligence.

Regarding the organizational forms of activity within private security, it can be agencies for the protection of persons and property, in-house services within private companies, private investigators/detectives or detective offices, security consulting firms, private military companies, private intelligence companies, private penal institutions, migrant and asylum centers.

As far as corporate security is concerned, corporations have special departments for perform corporate security work, and the employees in those departments are the employees of that company. On the other hand, a

corporation, regardless of whether it has a special corporate security department or not, can hire services on a contract basis from other security service providers on the market to achieve corporate organizational goals.

ANALYSIS OF PRIVATE AND CORPORATE SECURITY CONCEPTS

Lippert et al. (2013) developed a typology of corporate security, thus contributing to its conceptual determination. The typology comprises five dimensions of corporate security: (1) public or private status, (2) work type, (3) oversight, (4) source, that is, in-house or contract services, and (5) certification, training and personnel selection. However, further empirical research is needed within a different cultural, economic, and political context in order to assess its epistemological and practical value. The proposed typology was used as an analytical framework for the comparison of corporate and private security. Each of the five dimensions from the typology was compared and analyzed. First, the research findings obtained by Lippert et al. based on the above typology are presented, followed by the typology, that is, the analytical framework used for the analysis of private security. Finally, the comparison of private and corporate security was performed to see in which dimensions of the typology there are overlaps and similarities, and in which differences. Based on such an approach, we can gain a differentiated overview of the conceptual similarities and differences in private and corporate security. Based on the comparative analysis, the following may be concluded:

Public or private status

The status of agencies or individuals providing contract security services (private security) is always private. Corporations can be publicly or privately held, or a mixed entity. For example, corporate security departments, if we interpret the concept of corporation in a broader sense, are local government bodies, government institutions, large state-owned or mixed-ownership economic systems. In this context, corporate security does not fully meet the requirement to be regarded as private security because there are status-legal differences in terms of public rather than purely private status, or ownership.

Work type

According to the typology offered by Lippert et al. (2013), corporate security involves a “range” of work practices which they classify, by the level of complexity, into “physical work” and “work requiring more complex knowledge”. It all depends on the company itself that is being protected and the level of threats and risks on the one hand, and the readiness of the management to develop a security department within a particular company on the other hand. The tasks of corporate security and private security are of varying levels

of complexity. Within the two models observed, there is a significant overlap between tasks. This includes physical and technical protection, investigations, crime prevention, crisis management, IT security, intelligence, and so on. There is even a similarity in the type of work regarding the engagement of the services of private military companies engaged in conflict areas. Corporations operating in this environment engage private military companies to perform work which is similar to person protection, escorting convoys, securing business facilities and infrastructure. The difference is that private military companies are engaged to perform combat tasks, while these tasks are generally not performed within corporate security.

Oversight

The third dimension of the above typology relates to oversight. Thus, the question arises as to which body oversees these activities. There are no significant differences in this segment of typology between private and corporate security. Both have to act in accordance with the law and other regulations implemented by government bodies, starting from fulfilling working conditions, the licensing of personnel, and so on. However, in addition to the government, the oversight of these activities can also be carried out by professional associations, for example, the American Society for Industrial Security (the ASIS) in the United States, or the Chamber of Private Detectives in Slovenia, Hungary, and so on. In a certain way, the market also oversees their activities, as is the case with public oversight when public security is concerned. Since private security is intended for service markets, the market certainly has a significant impact on the operations of entities providing private security services. The literature also lists other unconventional forms of oversight in relation to corporate security, which pertain to the criminal and civil liability of security managers. The same holds true for private security managers (Lippert et al., 2013).

Source

Some scholars (Kovacicih & Halibozek, 2003) distinguish between private and corporate security primarily on the basis of the criterion of providing contract security services, which corresponds to private security. Specifically, it is about engaging private agencies to perform security work. Regarding corporate security, it refers to special in-house/insource departments and the workers in those departments are the company's employees. If we start with a broader definition that these represent activities aimed at protecting the company, the company can engage an agency on a contract basis to perform certain security tasks. Therefore, both modalities are possible. The key difference between private and corporate security in this dimension of typology is that private security tasks are always aimed at the market for the purpose of gaining profits. On the other hand, corporate security protects the interests of the company and does not offer its services on the market, but it can buy

security services in the same market in order to protect the interests of the company in the best possible way.

Certification, training and personnel selection

According to the literature, the personnel engaged in corporate security activities have higher levels of education and training than the personnel employed in agencies for the protection of persons and facilities, which provide contract security services (Lippert et al., 2013: 214). An example of this is the ASIS which offers professional certifications and training, which is a minimum qualification standard for corporate security managers. Importantly, it often happens that experienced and trained professionals leave state law enforcement agencies to work in the field of corporate security (Nalla & Morash, 2002) and in the private security sector. Personnel employed in private security agencies are often synonymous with low-paid jobs and poorly trained security personnel, unlike the personnel working in corporate security departments who often attend specialist training courses. In their typology, Lippert et al. emphasize exactly this distinction between corporate security and contract guard security, that is, private security. However, such an opinion should be critically re-examined given that there are various jobs in the context of private security, including those requiring high qualifications and expertise. Such claims are not supported by research findings.

CONCLUSION

The notions of private security and corporate security are often used as synonyms. The aim of this paper was to analyze possible conceptual similarities and differences between private security and corporate security. Based on the review of the available literature, it may be concluded that there is an evident lack of research into theoretical and conceptual issues related to the concepts analyzed. We may say that, in addition to numerous studies, especially those dealing with private security, there is not a generally accepted theoretical framework for the conceptualization of both private security and corporate security. This paper discussed some theoretical considerations regarding these concepts. We started with the assumption that private security and corporate security are not synonymous and that the two concepts have certain common characteristics. Private security and corporate security are related concepts with significant common characteristics (Lat. *genus proximum*) as well as specificities that distinguish them from each other (Lat. *differentia specifica*). In order to confirm or reject this assumption, we compared the two notions. To this end, the typology of corporate security proposed by Lippert et al. (2013) was used as an analytical framework. The typology comprises five dimensions: 1) public or private status, 2) work type, 3) oversight, 4) source, that is, in-house services or contract services, 5) certification, training and personnel selection. These

five dimensions were used to analyze private security and corporate security. Based on the comparative analysis, we reached the following key conclusions: the differences between private and corporate security lie in the first element (public or private status) and the fourth element (source, that is, in-house services or contract services). We may conclude that corporate security does not fully meet the requirement to be treated as a private security because there are status-legal differences in terms of public rather than purely private status, or ownership. Additionally, private security work is always aimed at the market in order to gain profits, which is not the case with corporate security. Corporate security protects the interests of the company and does not offer its services on the market, but it can purchase security services in the same market in order to protect the interests of the company in the best possible manner. Corporate security is always connected with corporate identity, being its specific feature that does not necessarily have to be a feature of private security. In other dimensions of security, there are significant overlaps in the typology and there are no significant differences.

Based on the comparative analysis, it may be concluded that private security and corporate security are related but conceptually different concepts. The differences identified between private security and corporate security are significant and, consequently, the concepts analyzed cannot be observed in the same manner.

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THE STRUCTURE OF MOTOR SKILLS AMONG THE STUDENTS AT THE FACULTY OF SECURITY STUDIES

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Abstract: A system of 16 motor variables was used to determine the structure of motor skills in a sample of 84 students at the Faculty of Security Sciences in Banja Luka. By using factor analysis according to the Kaiser-Guttman rule, 6 latent motor dimensions were determined. The first factor is defined as the factor for the structuring movement mechanism, because it is presented with the variables used to assess coordination and movement frequency. The second factor is defined as the factor for the mechanism for regulating excitation duration, because it is represented by the measures used to assess the repetitive and static strength of arms, body, and legs. The third factor is defined as the factor for the tone regulation and synergistic regulation mechanism, because it is represented by the variables used to assess the measures of flexibility. The fourth factor is defined as the factor for the excitation intensity mechanism, because it is represented by the variable used to assess explosive power through the run speed capability. The fifth factor is also defined as the factor for synergistic regulation and tonus regulation, because it is represented by the variable used to assess balance, while the sixth factor is defined as the factor for excitation intensity, because it is represented by three variables used to assess explosive power and one variable used to assess flexibility. This paper is an attempt to demonstrate that the distinguished hierarchical structure of motor skills is of exceptional theoretical and practical value, whereby these factors should represent a determinant for predicting motor skills and programing operator training in special physical education classes.

Keywords: factor analysis, students, motor skills

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INTRODUCTION

The process of selection, guiding and monitoring in the field of special physical education (SPE) is unimaginable without information about the students' motor skills, indicating that in order to seriously program kinesiological operators, it is necessary to know the structure of motor skills, which are responsible for the efficiency of the motor behavior of the students at the Faculty of Security Sciences in solving complex situation-based and motor problems in conceptual and situational conditions. Motor skills are usually referred to in the literature as the characteristics of an individual expressing his or her physical preparedness to perform certain work and the ability to express his or her own personality creatively, which, in experimental research, are usually reduced to operatively defined latent dimensions derived from the measuring instruments. Previous research into the hierarchical functional model of motor skills (Zaciorski, 1975; Gredelj, Metikos, Hošek & Momirović, 1975; Đorđević, 1989; Kukolj 1996) demonstrates that the hypothetical factors of the phenomenological model are defined in the first-order space, including coordination, strength, endurance, speed, flexibility, precision and balance, while, based on the research conducted by Kurelić et al. (1975), hypothetical factors are defined in the second-order space from the aspect of functional mechanisms, which include the mechanism for the structuring of movement, the mechanism for tone regulation and synergistic regulation, the mechanism for the regulation of excitation intensity, and the mechanism for regulating the duration of excitation. SPE as an element of the physical culture is aimed at perfecting psychosomatics in students through the achievement and maintenance of basic and special knowledge and skills (Blagojević, Dopsaj & Vučkovčić, 2006), whereby well-defined educational and training programs should transform the general and special physical skills to meet the needs of law enforcement and other security agencies personnel (Milosevic, 1985; Milosevic & Zulic, 1988; Milosevic, Gavrilovic & Ivancevic, 1988; Blagojevic, Dopsaj & Vuckovic, 1996, Vučković, 2002; Dopsaj, Milošević, Blagojević & Vučković, 2002). The program activities of the SPE are part of the polystructural acyclic movement activities characterized by a multitude of technical elements, a rich tactical repertoire of actions, the diversity of movements of the whole body and some of its parts in different directions with varying strength and the intensity of action, whereby motor skills have a dominant role in relation to other adaptive characteristics (Milošević, Mudrić, Jovanović, Amanović & Dopsaj, 2005). Bearing in mind the above issues, we may conclude that well-developed motor skills and the appropriate level of well-trained specific motor tasks are basic factors providing conditions for the successful performance of work by law enforcement and security agencies personnel (Milošević, 1985; Blagojević et al., 2006; Dopsaj et al., 2002). Given that the knowledge about the direction and intensity of the activity on the transformation of the psychosomatic status of students enables the appropriate and optimal programming of content knowledge for SPE, and that, based on the studies conducted so far, it has been established that motor

skills substantially influence the efficiency of the acquisition and reception of SPE content knowledge, as well as the fact that SFO teaching significantly influences the transformation of students' motor skills, this study seeks to determine the hierarchical motor structure among the students at the Faculty of Security Sciences in Banja Luka in order to classify the students by motor skills into as homogeneous groups as possible, to increase efficiency in teaching SPE. Based on the research aim thus defined and the fact that it is a positive selection sample, we start with the assumption that the students at the Faculty of Security Sciences have the appropriate structure of motor skills, and that the factor analysis algorithm will transform the set of manifesting motor variables into the predicted number of relevant motor factors.

METHODS

Sampling

The sample consisted of 84 first-year male students at the Faculty of Security Sciences in Banja Luka, aged 19 ± 0.6 years. All the respondents constituting the sample were clinically healthy and without obvious morphological defects. The basic antropomorphological indicators of the sample tested accounted for TV 181.85 ± 6.13 cm, TT 78.25 ± 9.19 kg, and BMI 23.71 ± 2.43 kg/m².

Variable sampling

Since it was not possible to include the entire area of motorics in this research, an attempt was made to analyze the structure of motor skills at the level of second-order factors with the representative measuring instruments for assessing the primary factors, whereby the motorics area was covered with the following 16 tests: hand tapping (MBFTAP), foot tapping (MBFTAN), agility on the ground (MAGONT), side steps (MAGKUS), one-legged stance on the balance platform (MBAP1O), shoulder pass through (MFLISK), side lying leg raise (MFLOLB), toe touches standing on the bench (MFLPRK), standing long jump (MFESDM), a 20m standing-start sprint (MFE20V), throwing a midicine ball lying on the back (MFEBML), throwing a handball from the ground with legs spread (MFEBRL), flat bench press (MRABPT), weight sit-ups (MRCDDT), loaded half squats (MRLPCT), and a horizontal backrest (MSCHIL). All the variables used to assess motor skills possess the necessary metric characteristics (Metikos et al., 1989).

DATA PROCESSING METHODS

Statistical data processing was performed on the Pentium IV computer using the SPSS application (version 20.00). The basic measures of central tendency and dispersion results are defined using the arithmetic mean and

standard deviation. In order to test the correctness of data distribution, the Kolmogorov-Smirnov test was used, while the testing of an alternative hypothesis was performed using a multivariate model of factor analysis, where the significance of the main components was determined using the Kaiser-Guttman rule. To determine the actual relations between the separated dimensions, the Oblimin rotation was used, after which the structure and complex matrixes were obtained.

RESULTS

Table 1 shows the descriptive parameters of the variables used to assess motor skills. The increased values of the standard deviation of the measures used to assess flexibility, explosive power, and strength indicate a high variability of the results around the arithmetic mean, but taking into account the sample size, this phenomenon may be regarded as normal. The results of the Kolmogorov-Smirnov test used to analyze the normality of the distribution demonstrate that most of the variables describe a normal distribution, while the values amounting to less than 0.05 were found for the variables used to assess coordination and balance (MAGONT, MAGKUS and MBAP1O), as well as for the variables used to assess flexibility and strength (MFLOLB and MRCDDT).

Table 1. Basic descriptive parameters of the motor variables distribution

Variables	N	Mean	SD	KS test (significance)
MBFTAP	84	40.49	6.35	0.054
MBFTAN	84	32.45	3.90	0.054
MAGONT	84	12.87	3.70	0.002
MAGKUS	84	9.24	1.40	0.021
MBAP1O	84	3.71	2.96	0.002
MFLISK	84	75.18	19.27	0.096
MFLOLB	84	72.29	11.33	0.043
MFLPRK	84	50.73	9.38	0.140
MFESDM	84	248.73	15.16	0.844
MFE20V	84	3.31	0.14	0.727
MFEBML	84	130.00	18.19	0.224
MFEBRL	84	190.00	32.71	0.677
MRABPT	84	34.98	11.95	0.173
MRCDDT	84	26.77	9.71	0.034
MRLPCT	84	23.49	9.06	0.082
MSCHIL	84	23.46	10.86	0.062
N	84			

Key: N – number of respondents; **Mean** – arithmetic mean; **SD** – standard deviation; **KSp** – the value of the probability of Kolmogorov-Smirnov test; MBFTAP – hand

tapping; MBFTAN – foot tapping; MAGONT – agility on the ground; MAGKUS – side steps; MBAP1O – one-legged stance on the balance platform; MFLISK – shoulder pass through; MFLOLB – side lying leg raise; MFLPRK – pike stretch (on a bench); MFESDM – standing long jump; MFE20V – a 20m standing-start sprint; MFEBML – lying medicine ball throw; MFEBRL – seated handball throw (legs spread); MRABPT – flat bench press; MRCDTT – weight sit-ups; MRLPCT – half squats; MSCHIL – a horizontal backrest.

Table 2. Matrix of the inter-correlation of the variables used to assess motor skills

	MBFTAP	MBFTAN	MAGONT	MAGKUS	MBAP1O	MFLISK	MFLOLB	MFLPRK	MFESDM	MFE20V	MFEBML	MFEBRL	MRABPT	MRCDTT	MRLPCT	MSCHIL
MBFTAP	1.00															
MBFTAN	.213	1.00														
MAGONT	-.277	-.254	1.00													
MAGKUS	-.289	-.244	.617	1.00												
MBAP1O	.022	.011	-.132	-.146	1.00											
MFLISK	-.074	-.089	-.029	.009	-.194	1.00										
MFLOLB	.145	.232	.010	-.097	-.009	-.435	1.00									
MFLPRK	.072	-.013	-.118	-.173	.113	-.357	.152	1.00								
MFESDM	.164	.157	-.318	-.235	.200	-.038	.099	.142	1.00							
MFE20V	.089	-.042	-.006	-.030	-.077	-.087	.083	.082	-.181	1.00						
MFEBML	.060	-.072	-.131	-.049	-.174	.024	-.095	.131	.178	-.073	1.00					
MFEBRL	.169	-.088	-.101	-.268	.104	-.100	.068	.351	.281	-.102	.326	1.00				
MRABPT	-.089	-.111	.005	.051	-.061	-.016	.011	.053	-.082	-.011	.334	.124	1.00			
MRCDTT	.114	-.180	-.017	-.038	-.124	.082	.061	.202	-.046	-.060	.253	.099	.454	1.00		
MRLPCT	-.016	-.067	-.147	-.094	.175	-.236	.099	.262	.083	-.035	.139	.200	.311	.273	1.00	
MSCHIL	-.016	-.031	-.055	-.086	-.162	.060	-.198	.237	.034	.029	.217	.047	.276	.438	.187	1.00

Key: MBFTAP – hand tapping; MBFTAN – foot tapping; MAGONT – agility on the ground; MAGKUS – side steps; MBAP1O – one-legged stance on the balance platform; MFLISK – shoulder pass-throughs; MFLOLB – side lying leg raise; MFLPRK – pike stretch (on a bench); MFESDM – standing long jump; MFE20V – a 20m standing-start sprint; MFEBML – lying medicine ball throw; MFEBRL – seated handball throw (legs spread); MRABPT – flat bench press; MRCDTT – weight sit-ups; MRLPCT – half squats; MSCHIL – a horizontal backrest.

Table 3. Matrix of characteristic roots and components of common variance explained

Compo- nents	Initial characteristic values			The sum of square loadings			Rotation sums of square loadings
	Character- istic roots	Variance %	Cumu- lative sequence %	Charac- teristic roots	Vari- ance %	Cumula- tive se- quence %	Charac- teristic roots
1	2.735	17.091	17.091	2.735	17.091	17.091	2.235
2	2.275	14.216	31.307	2.275	14.216	31.307	2.249
3	1.683	10.521	41.828	1.683	10.521	41.828	1.762
4	1.355	8.469	50.297	1.355	8.469	50.297	1.233
5	1.119	6.993	57.290	1.119	6.993	57.290	1.392
6	1.063	6.643	63.933	1.063	6.643	63.933	1.921
7	.899	5.621	69.554				
8	.834	5.211	74.765				
9	.714	4.462	79.226				
10	.662	4.140	83.366				
11	.613	3.834	87.200				
12	.571	3.570	90.770				
13	.481	3.005	93.775				
14	.423	2.643	96.419				
15	.289	1.807	98.225				
16	.284	1.775	100.000				

Table 4. Factor analysis of motor skills – the structure matrix

The structure matrix						
	1	2	3	4	5	6
MAGONT	-.845					
MAGKUS	-.811					
MBFTAN	.522		.382			-.357
MBFTAP	.515					
MRCDDT		.783				
MRABPT		.766				
MSCHIL		.643				
MRLPCT		.554			-.494	
MFLOLB			.870			
MFLISK			-.729			
MFE20V				.829		
MFESDM	.340			-.413		.410
MBAP1O					-.796	
MFEBRL						.839
MFEBML		.311			.356	.557
MFLPRK				.350		.505

Key: MAGONT – agility on the ground; MAGKUS – side steps; MBFTAN – foot tapping; MBFTAP – hand tapping; MRCDDT – weight sit-ups; MRABPT – flat bench press; MSCHIL – a horizontal backrest; MRLPCT – half squats; MFLOLB – side lying leg raise; MFLISK – shoulder pass-throughs; MFE20V – a 20m standing-start sprint; MFESDM – standing long jump; MBAP1O – one-legged stance on the balance platform; MFEBRL – seated handball throw (legs spread); MFEBML – lying medicine ball throw; MFLPRK – pike stretch (on a bench).

Table 5. Factor analysis of motor skills – the complex matrix

The complex matrix						
	1	2	3	4	5	6
MAGONT	-.820					
MAGKUS	-.807					
MBFTAP	.558					
MBFTAN	.533		.406			
MRCDDT		.789				
MRABPT		.754				
MSCHIL		.661				
MRLPCT		.546			-.508	
MFLOLB			.855			
MFLISK			-.748		.338	
MFE20V				.820		
MBAP1O					-.796	
MFEBRL						.836
MFEBML		.420			.315	.583
MFLPRK			.311	.355	-.301	.576
MFESDM	.436			-.446		.452

Key: MAGONT – agility on the ground; MAGKUS – side steps; MBFTAP – hand tapping; MBFTAN – foot tapping; MRCDDT – weight sit-ups; MRABPT – flat bench press; MSCHIL – a horizontal backrest; MRLPCT – half squats; MFLOLB – side laying leg raise; MFLISK – shoulder pass-throughs; MFE20V – a 20 m standing-start sprint; MBAP1O – one-legged stance on the balance platform; MFEBRL – seated handball throw (legs spread); MFEBML – lying medicine ball throw; MFLPRK – pike stretch (on a bench); MFESDM – standing long jump.

Table 6. Matrix of interrelations among isolated latent dimensions

Factors	1	2	3	4	5	6
1	1.000	-.028	.129	-.059	.006	.154
2	-.028	1.000	-.042	.051	.010	.202
3	.129	-.042	1.000	.032	-.084	.064
4	-.059	.051	.032	1.000	-.013	-.018
5	.006	.010	-.084	-.013	1.000	-.096
6	.154	.202	.064	-.018	-.096	1.000

DISCUSSION

The comparison of these results (as shown in Table 1) with the results obtained from the research conducted by Metohos, Hofman, Prot, Pintar, and Oreb (1989) on the population of the students at the Faculty of Physical Culture in Zagreb, in 1981, indicated no significant differences in the variables used to assess coordination (MAGONT and MAGKUS) and the variables used to assess explosive power of the upper extremities (MFEBML). The analysis of the results obtained demonstrate that the students at the Faculty of Physical Education have achieved better results in the variables used to assess the strength of the trunk MRCDDT and legs (MRLPCT), and the variables used to assess balance (MBAP1O) and the mobility of the shoulder joint (MFLISK), while the students at the Faculty of Security Sciences achieved better results in the variables used to assess the frequency of hand and leg movement (MBFTAN and MBFTAP), the explosive power of the lower and upper extremities (MFESDM, MFE20V and MFEBRL), the strength of arms, shoulders, and the back (MRABPT and MSCHIL), along with the variables used to assess the flexibility of the legs and arms (MFLOLB and MFLPRK). Based on the above results, we may conclude that the students at the Faculty of Physical Education have more strength in the trunk and legs and better mobility of the shoulder joint and balance than the students at the Faculty of Security Sciences, while the students at the Faculty of Security Sciences have a better frequency of movement by hand and leg, the explosive power of the lower and upper extremities, the repetitive strength of the arms and the static strength of the trunk, therefore a better flexibility of the trunk and legs. Given that the variability and co-variability of the tests for the frequency of movement is responsible for the ability to structure movement, while the explosive power is determined by the mechanism for regulating the excitation intensity and the repetitive and static forces of the mechanism for regulating the duration of excitation, we may consider these mechanisms to be at a higher level among the students at the Faculty of Security Sciences than among the students at the Faculty of Physical Culture.

The analysis of the inter-correlation matrix of the variables used to assess motor skills (Table 2) demonstrates that the most significant correlation was

obtained within the set of variables used to assess coordination (MAGKUS and MAGONT). A significant correlation was also found within the set of variables used to assess repetitive power (MRCDDT and MRABPT) and (MRCDDT and MSCHIL), the set of variables used to assess explosive power (MFEBRL and MFEBML), followed by the set of variables used to assess explosive power and strength (MRLPCT and MRABPT), while a significant negative correlation was found within the set of variables used to assess flexibility (MFLDLB and MFLISK and MFLPRK and MFLISK). Also, a significant correlation was found between the variables used to assess flexibility and explosive power (MFLPRK and MFEBRL) and explosive power and strength (MFEBML and MRABPT), while a negative correlation was found between the variables used to assess coordination and explosive power (MAGONT and MFESDM). Given that the faster agility task performance (MAGONT) represents a better result, this correlation may be regarded as significant. A very weak (positive and negative) or insignificant correlation was found among other variables observed. Based on the value of the Kaiser-Meyer-Olkin indicator and the statistical significance of Bartlett's sphericity test, the model of factor analysis was used to determine the latent structure of the motor skills of the students at the Faculty of Security Sciences in Banja Luka.

By analyzing the main components (Table 3) using the Kaiser-Guttman rule, 6 significant latent dimensions were extracted, explaining a total of 63.93% of the variance of the entire system, whereby their individual contribution to the first principal component amounts to 17.09 5%; 14.21% to the second one; 10.52% to the third one; 8.46% to the fourth one; 6.99% to the fifth one, and 6.64% to the sixth component of the common variance.

In considering the structure and the motor skills matrices (Table 4 and Table 5), it is obvious that the first isolated factor is clearly presented and composed of the variables used to assess coordination (MAGONT and MAGKUS) and the variables used to assess the frequency of movement (MBFTAP and MBFTAN), enabling the students to perform complex motor activities and appropriately reorganize them in new conditions. The ability to quickly change the direction of movement (based on the synchronization of the work of motor units) enables the rapid change of stances and guards, directions and attack directions, the rapid performance of combinations of strokes and blocks, defense moves and simultaneous movements, blocks and strokes during different attacks, while the frequency of movement is important in the realization of cyclical structures of attacks in those situations in which, for the purpose of attack or defense, a certain number of technical elements such as movements combined with blocks, strokes, sweeps or throws (Milošević et al., 2005) is repeated. Considering the ability to control the movements of the whole body or certain parts of it in the space, and the speed of solving and performing complex motor tasks and performing simple movements with as many repetitions per unit time as possible, which is the essential characteristic of the content of most of the tasks of these measuring instruments (whose basis

is best defined by the mechanism for structuring movements), this factor may be defined as a factor for structuring the movement.

The second isolated factor consists of the measures used to assess the repetitive and static strength of the arms, trunk, and legs (MRCDDT, MBABPT, MSCIL and MRLPCT), which is defined as the ability to perform long-term work on the basis of alternating contractions and muscle relaxations, as well as the ability to perform isometric contractions with certain duration, enabling the students to perform a number of activities and repetitions of certain techniques in education for the purpose of attacking or self-defense, including control over an opponent when carrying out transport on a shorter or longer journey. In defining a mechanism that would be responsible for repetitive and static power, we have taken into account the finding that the quantitative and qualitative characteristics of power depend on the anatomical, biomechanical and physiological characteristics of the locomotor apparatus as the subsystem being managed and the physiological and psychological characteristics of the central nervous system as the controlling subsystem underlain by physiological processes regulating the duration of excitation in those parts of the central nervous system that cause muscle activation; this factor may, therefore, be defined as the factor for the regulation of the duration of excitation.

The third factor has a very simple structure and is defined by the variables used to assess the flexibility measures (MFLOLB and MBFLISK), which is responsible for movement tasks requiring the ability to realize one-time maximum amplitude of movement, with the possibility of developing considerable excitation in the primary motor centers of the brain cortex and in those subcortical nuclei functioning as the amplifiers or modulators of eruptive information. Since the results of these tests are affected by the timely inclusion and exclusion of agonistic and antagonistic muscle groups as well as the fine regulation of the movement by which it is possible to describe the optimal path of movement (whose basis is best defined by the mechanism for tone regulation and synergistic regulation), this factor may be defined as the factor for tone regulation and synergistic regulation.

The fourth factor is defined by the variable used to test explosive power through the run speed capability (MFE20V). Bearing in mind the fact that the speed of generating force determines the efficiency of the realization of blocks, strokes, and movement in the guard, and that the change in the speed of the force generation allows for a rapid detachment from the direction of attack, walking into the opponent, the rapid change of movement direction and sudden attack requiring discontinuous muscle strain (underlain by the excitation intensity of the neuromuscular system, which causes the excitation of the maximum possible number of motor units in performed or attempted motor movements), for which the mechanism for registration of excitation intensity is responsible, this factor may be defined as a factor of excitation intensity.

The fifth factor is determined by the variable used to assess balance (MBAP10) which is defined as the ability to maintain the balance position with

open eyes in a given position on a reduced and stable surface of the support (both based on the information from the visual analyzer regarding body position in relation to the reference point and the information from the kinesthetic analyzer and vestibular apparatus), with random movements occurring as a noise generator. Bearing in mind the fact that the SPE content knowledge technique is a system of rational movements and movements manifested in the level of adoption achieved (such as typified movements, blocks, strokes, throws, sweeps and levers), whereby some body segments change their position (thereby disrupting balance), it follows that during a mutual attack, a student who knows how to maintain his or her own balance is more successful, while at the same time disrupting the opponent's balance, using his or her mistakes in the performance of certain attacks or interventions. Based on the finding that the manifestation of tone regulation in motor reactions controls the order, the ratio and the intensity of the inclusion and exclusion of the motor units of agonistic and antagonistic muscle groups, and the extent of force generated by this factor, this factor can be defined as a factor of synergistic regulation and tone regulation.

The sixth factor is represented by three explosive power measures (MFEBRL, MFEBML, MFESDM), which are part of the mechanism for assessing the regulation of excitation intensity (which is responsible for simultaneously activating the maximum number of units per unit time) and by one measure of flexibility (MFLPRK) in which the results depend to a large extent on the ability to regulate the tone of antagonists of the rear side of femur (which enables the maximum amplitude of the movement to be achieved), for which the mechanism for tone regulation and synergistic regulation is largely responsible. Given that the first two tests in their reactions include the musculature of the arm and shoulder area, and that the force produced is transmitted to the external objects which, under the effect of the force, move in space, while the third test includes the muscularity of the legs, whereby the force produced results in the displacement of the body in space, as well as the fact that the explosive power affects the speed of strokes, blocks, throws, walking into throws, defense against grips, defense against throws, breaking the opponent's guard followed by the speed of walking into the opponent in various attack types, to avoid attacks, the speed of defense against strokes, grips (Milošević et al., 2005), while the flexibility of the trunk influences the efficiency of the implementation of throw and lever techniques carried out with the body leaning forward as well as the throwing technique carried out with the body leaning backward, as well as the fact that the variable MFEBRL (underlain by short-term muscular contraction caused by the maximum amount of excitation of the central nervous system, for which the mechanism for regulating the excitation intensity is largely responsible) has the largest projection on this factor, it is possible to define this factor as a factor for excitation intensity.

Similar results were obtained by Shakiri, Lolić, Ademi, Saiti, and Kostovski (2013), who carried out research in a sample of 80 respondents to determine the structure of the basic-motor status of cadet judokas. Using

factor analysis, they determined 6 factors defining the structure of the basic motor space and defined them as follows: 1) the factor for the mechanism of synergistic regulation and tone regulation; 2) the factor for the regulation of excitation duration and movement structure; 3) the factor for regulation and excitation intensity; 4) the factor for regulation, excitation duration, and movement structure; 5) the factor for synergistic regulation and tonus regulation (represented by balance measures), while they were unable to define the sixth factor due to the complexity of the character.

The analysis of the inter-correlation matrix of the isolated main components (Table 6) indicates a statistically significant weak correlation between the mechanism for regulating the duration of excitation (presented on the basis of the measures used to assess the repetitive and static forces) and the mechanism for the regulation of excitation intensity (presented on the basis of the measures used to assess explosive power). This is also supported by the conclusion that these two mechanisms together form a general factor that Gredelj et al. (1975) call the mechanism of energy regulation (whereby the action of the first regulation mechanism is manifested in the amount of motor work or the duration of muscle strain, while the other regulation mechanism is responsible for the magnitude of the forces developed per unit time). There was no statistically significant correlation between other factors. Likewise, the above facts are supported by the results of the study conducted by Božić, Milošević, and Zulić (1990), and Blagojević et al. (1994), which indicated that the quality of the formation of the complexes of the basic and derived algorithms in structuring programs in special physical education depends on the quality of the perception of longitudinal dimensionality and motor educability, with the information processes dominating in the first and second stage, while a more intense dynamic structure of motor programs occurs in the third stage, in which the contractile properties of the muscles come to the fore, as evidenced by the impact of the dynamic power of the upper extremity and trunk.

CONCLUSION

This study was conducted in a sample of 84 respondents to determine the structure of the basic-motor status among the students at the Faculty of Security Sciences in Banja Luka. Six latent motor factors were determined using the factor analysis according to the Kaiser-Guttman rule. The first factor is defined as the factor for the mechanism for structuring movement. The second factor is defined as the factor for the regulation and excitation duration mechanism. The third factor is defined as the factor for the tone regulation and synergistic regulation mechanism. The fourth factor is defined as the factor for the excitation intensity mechanism. The fifth factor is defined as the factor for synergistic regulation and tonus regulation, while the sixth factor is defined as the factor for excitation intensity.

Based on the results of the factor analysis performed on the motor space, the model of motor skills among the students at the Faculty of Security Sciences may be defined as

$$M = 0.17 F1 + 0.14 F2 + 0.10 F3 + 0.08 F4 + 0.07 F5 + 0.06 F6$$

where M represents the model of motor characteristics, F1 – the factor for the movement structuring mechanism (presented on the basis of the measures used to assess coordination and the frequency of movements), F2 – the factor for the mechanism for regulating excitation duration (presented on the basis of the measures used to assess repetitive and static forces), F3 – the factor for the mechanism for tone regulation and synergistic regulation (presented on the basis of the measures used to assess flexibility), F4 – the factor for the excitation intensity mechanism (presented on the basis of the measures used to assess explosive power through the run speed capability), F5 – the factor for the synergistic regulation and tone regulation mechanism (presented on the basis of the measures used to assess balance), and F6 – the factor for the excitation intensity mechanism (presented on the basis of the measures used to assess explosive power).

Considering that future security personnel are likely to perform hazardous and complex tasks, it is very important that they have the optimum skills that could contribute to the successful performance of professional tasks. Due to the importance of motor skills within the system of selection, training, education and control of their level, there is a need for the continuous development and improvement of training programs and ways to determine the level of the general and specific motor skills achieved in order to improve the work ability of police officers and personnel employed at other security agencies (Anderson, Plecas & Segger 2001; Dopsay and Vuckovic, 2006; Dopsay, Blagojevic and Vuckovic, 2007; Strating, et al., 2010; Vuckovic, Blagojevic and Dopsay, 2011). Given the above, in addition to learning and mastering the basic elements of techniques and their connections envisaged under the content knowledge of the SPE program, substantial attention should be given to the teaching process and a focus should be placed on the selection and formation of the model characteristics of each individual in order for future security personnel to be successful in their profession. Our research results open up possibilities for further research, and in combination with other test batteries, which may contribute to the selection of better candidates and improvement of the quality of the teaching process, thus producing more quality security personnel.

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BOOK REVIEWS

Review of the book **Toward a Model of Restorative Social Justice in Bosnia and Herzegovina** by Laurence Armand French. Publisher: Faculty of Security Sciences, University of Banja Luka, 2018.

DOI 10.7251/ZBKEN1901087P	COBISS.RS-ID 8275480	UDK 316.4:172.4:343.2.01(048.83)
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Aleksandar Pavić, Belgrade

The value not only of this work by Professor Laurence French, but also of his overall activity related to our region, is reflected, first of all, in his good faith. This may sound somewhat trivial or even scientifically irrelevant – but that is precisely the quality that has been missing – and is still missing – regarding the approach to the civil war in the former Socialist Federative Republic of Yugoslavia (SFRY) taken by Western factors – ranging from government officials, state servants and diplomats to journalists, humanitarian workers (with and without quotation marks), public intellectuals, and members of the academic community.

If we agree that the essential basis for any intellectual, academic, and scientific activity is the search for the truth, then one of the necessary prerequisites, other than the sovereign command of data and general context of events – is good faith. Over the last three decades, we have witnessed how the largest and/or most powerful media, intellectual, humanitarian and academic capacities can be misused for bad purposes if they succumb to politicization or abuse for the purpose of achieving publicly declared and/or hidden pragmatic, real political goals. And their abuse was inevitable in the context of external aggressive pretensions to these regions, that is, the absence of good faith and the will to look at the given problem objectively, from various, often complex, aspects, in an unbiased way.

Specifically, in the case of the former Yugoslavia, if the then “international community” dominated by the Western powers and led by the United States had demonstrated “good faith”, that is, an aspiration to save the SFRY from bloody disintegration or, if it was not possible to prevent disintegration, to direct it toward the most peaceful solution, the bloody war that affected a significant part of the former joint state, primarily the former Socialist Republics of Croatia and Bosnia and Herzegovina, and then, due to the NATO’s war of aggression, the newly established Federal Republic of Yugoslavia – the conflict would not have taken place or it would have been of lower intensity, with substantially fewer casualties and post-war trauma.

In addition to scientific and sociological values, the work by Professor French makes an important contribution to the examination of not only the destructive effects of the civil war on the societies affected by it, but also the destructive approaches that contributed both to the outburst of the war and unsuccessful post-war efforts (allegedly) aimed at removing its devastating consequences. The concept of restorative justice proposed by Professor French will open many people's eyes – not only as a review of an alternative approach to efforts to overcome warfare, including hostilities, but also as a comparison of this approach with classic Western approaches based on the so-called adversarial justice, that is, the concept of “winners and losers”, which have produced and still produce many negative effects, not only in our country, but also, as Professor French reminds us, in North America where the remains of the remaining peoples almost wiped out live, who, as well as the peoples in the former SFRY, were subjected to a genuine genocide rather than to a genocide constructed, and then to essentially the same approaches to the concept of “justice”.

Of course, this does not mean that it is possible or realistic to implement even some of the proposed solutions or approaches in our region today. The fate of South Africa, whose Truth and Reconciliation Commission is mentioned as a model for overcoming a serious internal conflict – tells us that even a sincere intention in a world where the political instrumentalization of absolutely everything, including honest and humane motives, have reached unprecedented heights, does not guarantee effective results and the achievement of idealistic goals. However, even during turbulent times, it is important to preserve the awareness of what is right and wrong, what is the truth and the lie, what is law and equity, as a pledge for future generations and a necessary defense against often an unconscious descent into the collective postmodernism, “post-truth” fury which has affected society and the world.

This is perhaps the greatest contribution of the work by Laurence French. We do not have to agree with all his conclusions, or even with all his starting points. But we feel that it is a scientist who will not only truly be interested in finding out why someone disagrees with him, but who will also be prepared to adjust and even change his views. This is the only genuine foundation for true learning, scientific cooperation, and the exchange of opinions, and this is precisely what has been missing during all these years and, unfortunately, is still missing.



ФАКУЛТЕТ БЕЗБЕДНОСНИХ НАУКА
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JOURNAL OF SECURITY AND CRIMINAL SCIENCES

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Emerson, L, & Manalo, E. (2007). Essays. In L. Emerson (Ed.), *Writing guidelines for education students* (2nd ed, pp. 42-49). South Melbourne, Australia: Thomson.

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EU member states: an overview of the research results. *Druga godišnja konferencija*

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