

2.2 The influence of disinformation on decision-making style in police officers in the process of professional activity

The growing amount of information that a modern law enforcement officers needs to deal with has made decision-making more and more complex and responsible. It is no coincidence that decision-making theory, some aspects of which have taken a formalized form in the twentieth century, is currently in the spotlight of various fields of knowledge such as mathematics, logistics, psychology, sociology, management, law, cybernetics, systems research and more. In the era of scientific and technological revolution, law enforcement and social activities of countries are becoming more dynamic. In such multilevel institutional systems, the decision-making process is becoming increasingly complex and responsible, which plays a key role in all spheres of life of both individuals and government agencies. It is important for us to explore leading examples of the importance of cognitive perception in police decision-making in the professional process of combating misinformation and countering cyber-attacks in today's information environment.

Decision making

In 1947, H.Simon first published the book "Administrative Behavior", which was based on the dissertation of a scientist and updated over many years. Central to this book are the behavioral and cognitive processes of the person who makes rational decisions. According to him, an operational administrative decision must be correct, effective and practical in implementation through a set of coordinated actions. In 1958, H.Simon together with J.March widely developed the theory of limited rationality, scientists are considered one of the creators of modern theory of management decisions. The main results obtained by them in this area are presented in the book "Organization". This concept considers a person who, seldom behaves rationally and in most real situations, is limited to average, satisfactory decisions. These solutions, as a rule, allow to achieve the goal, but are inferior to the optimal solution [39]. In 1954, W.Edwards, based on an extensive study of the works of C.Coombs, K. Levin, L.Festinger (author of the theory of "cognitive dissonance"), published his work "The

theory of decision making" [40], which is considered the foundation of psychological decision theory. American scholars usually call it behavioral theory, but it is not considered the best name because it seems to be behaviorist, while psychological decision theory, as we understand it, has little to do with behaviorist. Psychological decision theory is a system of motivational statements about how individuals solve problems that require decision making. It seeks to identify and predict the nature of decision-making processes.

Decision theory is a field of study that uses the concepts and methods of mathematics, statistics, economics, management and psychology, which studies the patterns of people's choice of ways to solve various problems, as well as explores ways to find the most profitable possible solutions. The theory of decision-making can be divided into two relatively independent parts: descriptive and prescriptive. The descriptive component describes the real behavior and thinking of people in the decision-making process, and is called psychological decision theory. The prescriptive component, on the other hand, tells people how to make decisions and is called normative decision theory. The normative theory of decision-making is based on the classical concept of maximizing the expected utility, which was actively developed by E.Galanter [41]. According to this concept, a person always tries to make the optimal decision, which corresponds to the maximum expected utility. In other words, normative decision theory is a system of methods and procedures that support decision-making in problematic, complex situations. Psychological decision theory serves to explain and predict human behavior in situations of choice. Being relatively independent parts normative and psychological theory of decision-making, in fact - two sides of the same coin. As known, the commonality of the theory can be measured by the range of phenomena that make up its subject. In the process of working on the theory later W.Edwards identified the postulates concerning rationality: the postulate of sequence and the postulate of maximization [42]. The postulate of sequence says that in order to make a rational decision it is necessary to organize a set of alternatives in terms of preferences of the decision-maker. Decisions must be transitive (binary), in our case transitivity means sequence of preferences. Contrary to expectations, these

conditions are very difficult to meet. Psychological studies show that personal preferences are usually not transitive [43]. The postulate of maximization states that the final condition of a rational solution is the use of maximization, the choice of such an action that maximizes the objective function of the one who solves the problem. Or, less formally, the individual accepts the alternative that is best for him in the described situation. The postulate that commands the choice of action, the best in terms of achieving the goals of the individual, is consistent with an intuitive understanding of rationality. The described postulates concerning the rationality of decisions are insufficient. The postulate of complete sequence, which assumes the transitivity of preferences, is understood only in some cases. Often, a reasonable modification of preferences or the use of good enough strategies leads to inconsistent behavior, which in particular, in no way can be called irrational. Although the postulates are not perfect, to date no competing proposals have been made [44,45,46,47].

Cognitive style

Professional thinking of police officers is an integral part of developed legal awareness, and its important components are critical thinking and cognitive style. Cognitive styles have been studied and researched by a large number of scientists, in particular S.Messick described cognitive styles in detail in his work "Cognitive styles in educational practice" in 1976 [48]. The term "cognitive style" was introduced by the American psychologist G.Allport in his famous theory of personality and research by K.Jung. Cognitive styles are the general psychological dimensions by which people differ. Cognitive styles are about individual differences in the way of perceive, remember or think. Cognitive style is based on the way information is processed and the use of perception, thinking, memory, which are related to the cognitive resources of the individual [48]. According to M.Kholodnaia, cognitive styles are individual and unique ways of processing information that characterize the specifics of the mentality of a particular individual and the distinctive features of his intellectual behavior [49]. In a study by D.Shvets [50] in which he studied police officers based on cognitive styles of field-dependence / field-independence showed that police officers respond through individually unique means of perceiving, receiving and processing

information, which defines them as typical for the subject ways of solving problems, thinking, perceiving and remembering. Empirical features of extraversion / neuroticism in police officers with varying severity of field-dependence / field-independence were empirically identified. The scientist obtained the following results: a higher rate of neuroticism in the group of field dependent police officers (they show neurotic symptoms); a higher rate of irritability (members of this group have unstable emotional states with a tendency to react affectively, because irritability is a property opposite to emotional stability); higher rate of shyness indicates (tendency to stress response to normal life situations, which occurs in the passive and protective type of subjects); higher rates of emotional lability (which reflects the likelihood of frequent mood swings and emotional instability). Based on this results, D.Shvets says that field dependent police officers are characterized by higher scores on the scales of neuroticism, irritability, shyness and emotional lability. Regarding the manifestations of extraversion/introversion, the studied groups do not differ from each other, the indicators of both groups reach the level of extroversion. Regarding the manifestations of neuroticism/emotional lability, it was found that field-dependent police officers have higher rates of neuroticism. The study groups did not differ in the frequency of moderate anxiety. A high level of anxiety was not found in the group of field-independent respondents, in the group of field-dependent subjects the high level is 9%. Low levels of anxiety are likely to be more common in the group of field-independent subjects, who show a probably lower rate of anxiety[50]. In assumption, we can say that cognitive style plays an important role in decision-making process and should be taken into account in further research.

Disinformation

There is a growing body of literature on the plausibility and dissemination of disinformation, such as fake news, on social media. However, not much is known about the extent to which attackers can use social media to covertly influence behavior through disinformation. In the study Z.Bastick 2020 [51] was found that even short (under 5-min) exposure to fake news was able to significantly modify the unconscious

behavior of individuals. The study provides initial evidence that fake news can be used to covertly modify behavior, it argues that current approaches to mitigating fake news, and disinformation in general, are insufficient to protect social media users from this threat, and it highlights the implications of this for democracy. It raises the need for an urgent cross-sectoral effort to investigate, protect against, and mitigate the risks of covert, widespread and decentralized behavior modification over online social networks.

In recent years, psychology has emphasized that unconscious attitudes can affect cognitive, emotional, and moral processes. A.Greenwald and M.Banaji [52, p.8] define implicit attitudes as “introspectively unidentified (or inaccurately identified) traces of past experience that mediate favorable or unfavorable feeling, thought or action towards social objects”. B.Gawronski, W.Hoffman and C.Wilbur [53] elaborated that people may be unaware of the source of these attitudes, their content, or their impact on their cognitive processes or on their decision-making. S.Lindsey , T.Wilson [54] presented a model in which implicit attitudes co-exist with explicit attitudes, and which further specifies that a holder of an implicit attitude may be unaware of its existence. These conceptions hold in common that implicit attitudes are automatic and may guide or directly affect behavior unless consciously prevented from doing so [55, 56, 57]. This aligns with correlational evidence on implicit attitudes and eating behavior [58], consumer behavior [59], exercise dependency and intensity [60], as well as that summarized by meta-reviews [61].

Disinformation based on authentic source (malinformation)

Malinformation is the alleged use of secretly obtained true information that was never intended to be made public [62]. Arming such authentic but disrespectful or compromising material by revealing it publicly in order to connect with a selected audience is an increasingly common tactic of covert operations, not to mention a form of political subversion. Recent examples include hacking Russian emails from the chairman of the National Committee of the Democratic Party of the United States and publishing them through Wikileaks during the 2016 presidential campaign in America. A similar operation against the parties "Forward, Republic!" President E.Macron was

held during the 2017 French presidential election. Websites run by organizations such as Wikileaks (published in 2006 by J.Assange) act as portals for those who want to leak classified or confidential information anonymously. Wikileaks received information in 2010 and 2011, and provided access to classified information about US operations in Iraq and Afghanistan, which was passed on to Wikileaks Chelsea (Bradley) Manning, who worked with the US Army in Iraq as an intelligence analyst. She provided Wikileaks with about 750,000 classified documents, including more than 250,000 telegrams from the State Department. Chelsea Manning's motive [63], according to her in court, was the desire to see a wider public discussion of US foreign policy and American interference in foreign affairs in the interests of "world peace. Of course, in the past there were a lot of spills not the most relevant classified information, and in the future scientists expect even more such spills.

Incorrect information

Incorrect information is used to distinguish it from disinformation, the deliberate use of fake information to deceive. Authoritative media have online sections or web pages where incorrect information can be corrected. Senior politicians will also inform Congress or Parliament of their unintentional misrepresentation and will post corrected information in a protocol document as soon as possible. This is a legal requirement for companies that detect billing errors. This is a moral requirement for those who want self-recognition to be trusted. D.Omand [64] claims that once an incorrect interpretation is thrown in, it cannot be removed from the information environment. Despite all subsequent corrections, incorrect information continues to be in circulation.

Disinformation, also known as "black propaganda", is information that is knowingly untrue before it is spread. The most dangerous secret information operations today are those that disseminate through proven channels carefully designed and seemingly plausible information materials that are false. The key to effective deception is to get the wrong message across as many channels as possible. One message can be disbelieved, but if there is confirmation of it, the information picture quickly acquires a reliable status. As soon as this status is achieved, subsequent messages on the same

channel will also be considered true. It follows that in order to detect fraud, it is necessary to investigate as many different channels of information. Great skill is required to ensure that the messages on each channel are consistent with each other and do not contain inconsistencies. One such discrepancy may be enough to expose the deception. Currently, the Ukrainian police have a constant stream of false stories that are spread on social networks by Russian special services, the diplomatic service and the state media. Russian propaganda justifies the illegal annexation of Crimea, violation of Ukraine's territorial integrity, calls large-scale war throughout Ukraine a planned special operation, carries out constant cyber-attacks on Ukrainian computer systems, attempts a coup in Montenegro and interferes in Western elections. And all this under the drum-beat of information propaganda.

Manipulation, deception and falsification

Manipulation of information for military and political purposes has a long history. When considering the ethical acceptability of information transactions, their motivation is important. Deception is a legitimate military tactic and can be justified on the grounds that successful deception in war helps to achieve the goal faster and, therefore, with less casualties. Therefore, it is to be expected that some countries will resort to information operations in times of war and in times of internal instability. The means of creating and delivering information have changed today. Today, digital information is becoming the object of simple manipulation, targeting and viral spread. D.Omand [64] proposes the following steps to prevent information manipulation, deception and falsification: verification of information, correction of information identification, avoidance of overestimation or underestimation of information, protection of true information, combating the consequences of false information);

Subversive activities and incitement are very old ways. The human motives behind them will not change. But the money with which they are expressed has changed radically with the advent of digital technology and especially the Internet. Digital subversion is already a threat to all. Today's law enforcement needs to reduce personal

vulnerability by improving day-to-day cyber-security. President of Ukraine V.Zelenskii In December 2021, announced the creation of his own cyber troops, and stressed that cyber-security is an important priority of public policy. Since the proclamation of Ukraine's independence, the Russian Federation has been waging a constant information war against Ukraine. It was especially strengthened during the rule of the pro-Russian regime of V.Yanukovich [65]. According to some observers, since the beginning of the aggression of the Russian Federation (February 2014), Russian propaganda has taken the form of Goebbels propaganda during the Second World War [66].

D. Omand [64] emphasizes the importance of learning such lessons for security and intelligence: knowledge of information can be fragmentary and incomplete; the facts need to be explained; forecasts require sufficient data; surprise should become a regular situation; cognitive distortions can be misleading; personality is prone to obsessive states of consciousness; to see does not mean to believe; take into account the opposition of the parties; subversive activities are now digital.

Also, according to D.Omand [64], there are two approaches to counteracting the spread of disinformation: there is thematic refutation, when misinformation is opposed by presenting established facts, and technical refutation, when methods used by attackers are exposed and used against them. Later method exposes tricks such as gathering disparate documents or facts from the context that are used to support conspiracy theories. The first method has also shown its effectiveness in experiments, although there is a recognized risk of increasing conspiratorial thinking on the grounds that the very attempt to refute shows how deep the conspiracy has gone.

In a study by S.Morrow 2019 [67], he claims that fake news on social networks and the media threaten law enforcement officers. Law enforcement agencies are intensifying their response to arrests, physical attacks and killings by police-targeted entities. Such an increase in criminal behavior is caused by de-police on the part of law enforcement agencies in the communities, and the catalysts are false reports on social

networks and the media that all police officers are racists. The scientist notes that the perception of society is influenced by false statements (fake news) of social networks and the media. People who react to fake news use threats of violence, attack or kill police officers. In turn, the working environment of law enforcement agencies is becoming more dangerous, which causes de-police, as criminal behavior and violence increase.

Conclusions

Based on leading examples, we conclude that police decision-making in modern conditions requires increasing research in the field of cognitive component, as depending on the cognitive style, law enforcement officials may have different perceptions and solve problems related to disinformation.

As the nature and volume of crimes evolves, the criminal justice system must advance their abilities in cyber intelligence. Forensic criminology of today's society with advances in technology the criminal justice system lacks the resources and funding. The criminal justice system needs resources including people, training, and equipment to fight back the abilities of social and news media outlets to manipulate the facts of the events.

The criminal justice system needs as up-to-date as possible the resources equipped mentally and physically. Repetition develops efficiency and police officers are a part of authority as well as first responders that need this training the most. Force on force will not remedy the issues between law enforcement and the people. Building communication communities could begin the healing of the division of our society.