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**PERCEPTION OF HYBRID THREATS BY STUDENTS OF SELECTED UNIVERSITIES AND BUILDING EFFECTIVE RESISTANCE AGAINST THEIR EFFECTS \***

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**Abstract.** The issue of hybrid threats is an ongoing topic that resonates with the professional and the lay public. More and more in the scope of professional discussions, we come across the definition and specification of circumstances in which the significant signs of hybrid threats are discussed and the threat they pose to society are pointed out. The study reflects the need to know and specify the understanding of “hybrid threats”. It presents the results of a survey that was conducted to determine how students of two universities in the Slovak Republic (the Police Force Academy in Bratislava and the Faculty of Management, Economics and Business of the University of Prešov in Prešov) perceive and whether they even know the term “hybrid threats” itself. A significant moment in the orientation of young people to security aspects is knowledge of the definition of this term among young students who are preparing for a profession and who will form the future of the international community. Therefore, only a precise specification of the concept and a definition of the distinct elements for building effective resistance to hybrid threats at the national and international level, specifically in individual countries, will help us maintain a sense of security among individual members of society. The content of the study is constructed to fulfil the primary goal, which is to determine and present the perception of the concept of “hybrid threats” among university students, as well as to present elementary concepts associated with the issue of hybrid threats and a selected element supporting resistance to hybrid threats at the national level – strategic communication. The proposed findings are based on quantitative and qualitative research conducted within the national project “Increasing Slovakia’s resilience to hybrid threats by strengthening public administration capacities” and reflect on the current needs of the security environment at both the national and international levels. The research was conducted between May and September 2023 to obtain quantitative and qualitative indicators.

**Keywords:** security; hybrid threat; strategic communication; security; national security; threat

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## 1. Introduction

Along with the development of technologies, society and the individuals in it are also developing, as are security threats that bring instability and uncertainty. In recent years, the discussion over security has dealt with the issue of hybridity, including using terms such as *hybrid conflict*, *hybrid war*, *hybrid challenges* or *hybrid threats*. Hybridity is often used in varying contexts and is approached mainly from a military point of view (Filipec, 2022). The contexts associated with the destabilization of internal security are related to new forms and methods of threats, which condition the need for more effective activities to prevent and avoid them. Knowledge of the concept of “hybrid threats” is critical in solving the issue of endangering an environment with the help of innovative forms of action. Hybrid threats existed in the world’s security environment in the distant past; they still exist today and will continue to exist. The essential element is that their form changes and develops; it is vital to perceive new phenomena in this context. The complexity of disinformation and other hybrid threats requires an examination of their nature and main pillars, which are the actors, domain and individual parts of the use of particular hybrid tools (Kulik, 2022).

The authors of the study present essential facts that are proof of the understanding of hybrid threats among the community of young people – university students who are interested in building a safe domestic and international environment. The presented research is one of the activities conducted in the context of the national project “Increasing Slovakia’s resilience to hybrid threats by strengthening public administration capacities”, the results of which were also presented in other studies prepared by the authors (Korauš et al., 2023). Within the scope of investigating hybrid threats, it is important to stress that the term *hybrid threats* is broad. It brings a whole scale of significant individual connections, ultimately creating national and international security threats. Building the resilience of countries to hybrid threats already needs to be done at the national level through various types of training and courses, as well as through direct teaching at universities focused on protecting society's security. The European Union faces many crises and risks that endanger its security and existence. Some endanger individual citizens' lives; however, they all cause many people to feel anxious and uncertain about the future (Kinnvall, Manners & Mitzen, 2020). The main aim of the current study is to formulate and present the research results to make the building of society’s resilience to hybrid threats more efficient at both the national and international levels. Such research conducted about hybrid threats is one way to help effectively build the resilience of security environments against hybrid threats. The relevant connecting of theoretical knowledge, applied experience, and quantitative and qualitative indicators brings the necessary value in effectively building the country’s resilience to hybrid threats (Korauš et al., 2024).

The study is processed through the use of scholarly methods, i.e., analysis, synthesis, deduction, generalization, quantitative and qualitative processing of relevant knowledge and through the use of knowledge stemming from application in practice, which has helped the authors to clearly and with certainty define the critical facts associated with the perception of hybrid threats among students at universities focused on security protection at the national and international levels. Its application in practice is a summary of essential facts that supplement the theory and thus create a complex of valuable and justified facts (Laca, 2022). The authors also devoted themselves to research to define the specific element of building resistance to hybrid threats at the national level because hybrid threats reflect a significant change in the nature of international security. This change tends to increase feelings of uncertainty and, historically, social unrest, all the more so because hybrid threats are complicated and ambiguous, as confirmed by research already conducted and presented in several other studies (Hoffman, 2010). The partial research also undertaken to process the presented study is a part of research whose task is to clearly define specific but broader connotations associated with hybrid threats and their impact on society.

The essential circumstances that condition the understanding and perception of hybrid threats are built on the awareness of the basic facts and intrinsic elements that cause the emergence, development and impact of hybrid

threats on state security. Therefore, the perception of issues related to hybrid threats is conditioned in countries by understanding and realizing the need to maintain security and prevent any threats that may impact security. When conducting the guided interviews with students who participated in the research, it became evident that the basic concepts linked with hybrid threats were, at certain moments, unclear to them. For this reason, the authors decided to focus the research on the specification of selected elementary terms.

The qualitative research was focused on a critical review of professional literature, which helped the authors define the essence of the concept of hybrid threats. A grounded definition of the term was necessary because the interpretation and understanding by the respondents/students were often incorrect or insufficient. The reason is that the primary characteristic of the term *hybrid threat* indicates that it cannot be perceived only one-dimensionally. It is strategically vital for state security because hybrid threats represent a whole set of activities. In analyzing and assessing possible risks and threats arising in society, the main goal is to determine the probability of the threat, assess its potential impact and predict the duration of that impact on society to evaluate its dangerousness and a way for its effective elimination. As we discovered during guided interviews, students often confuse and perceive specific terms differently.

That can be understood under the term *hybrid threat*, which is mainly a method or way a confrontation, conflict, or fight is conducted. This method of conducting a conflict between two subjects represents a broad, complex, adaptive and integrated combination of the specific means subsequently mentioned. Based on this, hybrid threats can be defined as a set of coercive and subversive activities, conventional and non-conventional, military and non-military (Svoboda & Svítíl, 2019), which state and non-state entities can use in a coordinated, joint manner to achieve specific goals. This is all done without a formal declaration of war and below the threshold of the usual reaction – it is difficult to intervene against them because they avoid or even employ the existing, valid legislative framework. For this reason, too, they are challenging, even impossible to strike in some cases, and the actors who carry them out are not always easily identifiable; therefore, it is difficult to take action against them and to carry out any reaction to their activities (Wigell, Mikkola & Juntunen, 2021; Draskovic et al., 2021).

Hybrid threats are mainly carried out through activities characterized by the centrally controlled intelligence and information activities of non-state actors, including paramilitary groups, or the deployment of the armed forces of a state actor without designation. These specified activities may begin before any military operations are openly declared, which is why they are dangerous. The aim of hybrid threats is also to polarise society and bring uncertainty into society, thereby undermining the legitimacy, trustworthiness and effectiveness of state institutions and the democratic constitutional order. Hybrid threats harm the security interests of states exposed to them. The significant number of political initiatives to combat hybrid threats themselves emphasize the need to develop a whole-of-society approach to this issue and the need for subsequent, effective development of a systematic and purposeful approach (Pamment, 2020).

Hybrid threats in and of themselves are nothing new in world history. Only the extent, method and scale of hybrid threat tools combined and coherently utilized by hybrid threat actors to achieve a strategic goal can be considered new (Cullen & Wegge, 2021). The individual elements of a mixed campaign may not necessarily even be illegal or represent a threat. The danger lies in their sophisticated combination, which simultaneously looks to obscure the true purpose of their individual goals. These facts indicate an ongoing need to research and develop the perception of hybrid threats in society.

Another phrase we examined during the research and where we found specific connections with the perception of the nature of hybrid threats among students is the *hybrid strategy*. Therefore, a hybrid approach is vital in conducting a conflict between two subjects, and its meaning determines how such a conflict occurs. Hybrid strategies, i.e. the circumstances of what and how hybrid threat actors want to achieve, are based on high adaptability, and the attackers

adapt the choice of means used to the weak points of a particular target state (Beckman & Rosenfield, 2008). The specific state is primarily responsible for identifying these weak points – the domains a hybrid threat actor could use. Based on the above, students who may become public administration employees or participate in legislation creation must perceive these facts.

Hybrid conflicts increase ambiguity, complicate decision-making and slow the coordination of effective activities within the defence and protection of the state. The characterization and definition of hybrid threats are not universal since their status, which exists at national and international levels, is ever-changing. Therefore, it is essential to always pay heed to all current circumstances that threaten state security and thus also to hybrid threats and their connection with the state's resilience to them (Apostol, Cristache & Năstase, 2022).

## **2. Theoretical background**

The attention focused on the issue of hybrid threats depends on several circumstances that condition the elements related to the concept and the dangers identified and emerging from hybrid threats. In connection with this, we will subsequently point out other primary starting concepts related to the examined issue. The international security environment, as has been mentioned, is changing and developing, and the development and progressivity of hybrid threats are directly related to this. While presenting the research results in this study, we have already mentioned the phrase *security environment* several times. Still, we needed to define the term *security* itself, and its perception needed to be more obvious even among the student sample.

Even if we do not realize it, security is a daily part of our lives. A person regularly makes decisions based on subjective and objective factors so that he feels secure and that nothing threatens his immediate existence. Although security is not among the most basic human needs, the feeling of security and certainty does help define a person's degree of freedom and the extent to which he is limited in his actions by various external factors. We distinguish between objective and subjective security based on these external factors. In the case of objective security, we are speaking about the absence of any risks that would threaten the values of individuals or states; subjective refers only to a specific actor who has no feeling of fear (Report on the Security of the Slovak Republic for the year 2015).

The concept of security is not clearly defined; however, it can be stated that security is a highly complex and multidimensional phenomenon with many areas and aspects. One of them is international and national security. Security has never been clearly characterized, so many definitions of the term and its content exist. In general, security is a state when the given actor (be it an individual, the state or another actor) does not feel danger or immediate threat. It must be stated that different countries understand the concept of security differently (Nordhaus, Oneal & Russett, 2012), which is why the perception of hybrid threats is also different.

The primary term that indicates the complexity and multidimensionality of the perception of hybrid threats is *internal security*, which can be defined as the sum of internal security conditions, legislative norms and measures by which the state ensures democracy, economic prosperity and the safety of citizens, as well as the enforcement of legal and moral standards. Internal security is a condition in which threats to the state and its interests from within are reduced to a minimum, and the state has created a sufficient legal environment, institutions, resources, forces, means and mechanisms for handling potential crises. This also includes the society's level of democracy, economic prosperity, protection of citizens and the application of legal norms, the provision of which is one of the essential functions of the state (Analysis of the Development Tendencies of the Internal Security of the Slovak Republic and the Resulting Risks and Threats to the Slovak Republic 2010).

In characterizing the basic terms, we stress terms such as *danger*, *conventional* and *unconventional conflict*, and *military* and *non-military conflict* because while carrying out this research, we came across vague definitions that

affect the perception of the essence of hybrid threats. These relevant terms were a crucial element in knowing the theoretical definitions of the issue. Still, they were also essential for the research participants because understanding the basic terms supports the perception of the danger of such hybrid threats.

An important concept associated with hybrid threats is danger. In this context, we note that danger is a potentially harmful physical event, phenomenon or human activity that may cause loss of life, property damage, social and economic disruption or environmental harm. We can thus refer to anything that has the potential to cause harm or damage as a danger. The test for determining whether a thing, object or substance represents a security risk consists of verifying to what extent this subject meets the four stated qualifications, namely tangibility (collision potential), mobility (closure potential), interaction and explicitness (Dziundziuk et al., 2022).

World societies have identified conventional military conflicts since ancient times. Such conflicts destabilized individual countries and the world as a whole. Conventional military conflict at present has significantly higher political, financial, human and moral costs, which is why more and more state and non-state actors rely on non-military means to avoid formally declaring war. With the parallel use of coercive and subversive activities and conventional and unconventional methods, such as hostile propaganda, support of extremism, the use of national or religious communities dissatisfied with their position in society, support of criminal activities and attacks on critical infrastructure, the targeted society can be destabilized and weakened, so that it is more easily influenced or, in extreme cases, less resistant to the use of conventional military force (Rinaldi et al., 2022).

In the context of the above, it is necessary to characterize a conventional armed conflict, which represents a type of armed conflict in which the individual parties use conventional weapons, i.e. all weapons except those of mass destruction, nuclear, biological and chemical weapons, while fighting openly on land, in the air or at sea. The forces of both warring parties are clearly defined and organized. The basic aim of conventional warfare is to weaken or destroy the enemy's armed forces, occupy territory and disrupt its ability to continue to wage conventional warfare. Combat operations conducted in line with the international law of war, defined by the Hague Convention, the Geneva Conventions and other documents, where the rights of prisoners of war and civilians are respected, are usually considered conventional conflicts (Leader Maynard, 2019). Conventional warfare is carried out using conventional weapons and tactics on the battlefield between two or more states in open confrontation. The forces on each side are well-defined and battle with weapons primarily aimed at the opposing army. In contrast, unconventional conflict includes several forms and tools whose aim is to weaken a specific state or society through hostile propaganda, support of extremism, use of national or religious communities dissatisfied with their position in the society, support for criminal activities, attacks on critical infrastructure or the use of cyber-attacks in a conflict between two entities (Tvaronavičienė et al., 2020; Ştahovschi, 2023).

With traditional, conventional, formal and accepted methods and tools, but also with the use of modern technologies, a whole line of states, state-sponsored actors and non-state actors attempt to achieve their political or economic goals in an open or hidden manner in a coordinated manner across the entire range of instruments of power. The relevance of threats capable of causing significant financial losses due to disruption, damage to the functioning of essential functions of the state or services that are necessary for the normal functioning of the state and society is increasing (Mumford & Carlucci, 2022), as is the readiness and ability of various actors to promote their interests at the expense of others. This development is driven by the changing nature of power and influence, when mutual dependence, technology and their interconnections give states new opportunities to influence their competitors, all without regard to international rules or national laws. Based on the above, internal security is disturbed. Apparent disproportions arise, which lead to gaps in internal security and, thus, more evident damage—ensuring internal security conditions the need for knowledge and perception of hybrid threats among university students who are to be faced with carrying out and providing internal security on a theoretical as well as a practical level because the understanding and perception of hybrid threats by members of society, as well as by various state



entities, the media and the like, differ significantly. Hybrid threats have a cross-sectional, multi-institutional nature and fall under the competence of several state authorities. Thus, they must be dealt with based on specific and targeted knowledge. Resilience depends significantly on the perceptions of the young generation (Spalova & Mikula, 2023; Rudenko et al., 2023). There is still a lack of research in this area, and this research contributed to filling this gap.

### **3. Research Methodology**

The goal of the research carried out herein was to point out the definition of elementary terms associated with the issue of hybrid threats, as well as to specify their essence, examine the level of knowledge of the term itself and the contexts associated with them among full-time and part-time students of two Slovak universities at all levels of study, and to define one of the effective elements for building resistance to hybrid threats – strategic communication. We set these goals based on knowledge acquired and identified during the research.

The relative independence of the perception of hybrid threats within the system of security threats at the global level is defined by the purpose and goals, which are fulfilled and achieved mainly through specific methods and means. It is clear from practice that the accurate picture of hybrid threats is, in most cases, developed retrospectively from detecting the consequences of the events that caused them. However, the effective application of unambiguous elements conditioning the perception of hybrid threats when fulfilling and seeing specific tasks associated with building resilience to hybrid threats forms a particular exception because, in their implementation framework, specific activities and circumstances may be reflected and identified even in the present. The mentioned situation arises when hybrid threats are neutralized, and resistance to them is prepared.

The focus of the study of the participants of the conducted research is constructed mainly so that during the study, they devoted themselves to the current security conditions related to the relevant links to the justified contexts of threats and dangers that occur in the security environment. The subjects that our selected students completed during their university studies are adapted to the level of criminal law, security and the applied needs of national and international security. It is essential that studying the perception of our chosen issue is addressed at the national and international levels because, as we have already mentioned, hybrid threats and their impact on security have a global character.

The presented research stem was conducted between May and September 2023 through questionnaires and guided interview results. The questions for the questionnaires and guided interviews were formulated and adapted to direct needs, following our previous research and appearing to be the most exposed. A classified research methodology was thus constructed and aimed at deriving basic hypotheses. The findings in verifying the hypotheses will subsequently be used in further research to present the declared issue of hybrid threats.

The hypotheses were formulated to reflect the theoretical and practical experience that the authors have and so that their results benefit both theory and practice. With the presented hypotheses, we achieved solutions that helped us bridge the identified problems between theory and observation. The hypotheses were clearly and succinctly formulated such that they were verifiable, and their result brought clear conclusions in association with the cyclical nature from the theory to the definition of the hypothesis, then to the verification of the hypothesis, and finally to the enrichment of the theory, but also practice in the studied area.

- H1: Knowledge of elementary terms connected with the issue of hybrid threats is critical in building Slovakia's resilience to hybrid threats.
- H2: There is a significant relationship between the gender of the respondent and the perception of the concept of hybrid threats at the selected significance level  $\alpha = 5\%$ .
- H3: There is a significant relationship between the level of study of the respondent and the perception of the concept of hybrid threats at the chosen level of significance  $\alpha = 5\%$ .
- H4: There is a significant relationship between the respondent's form of study and the perception of the concept of hybrid threats at the chosen significance level  $\alpha = 5\%$ .
- H5: One of the effective elements of building Slovakia's resilience to hybrid threats is strategic communication.

The cyclical process of establishing and verifying hypotheses and subsequent use of knowledge in practice conditioned the study's specific summarising and theoretical construct. The knowledge from scholarly research is a clear and distinct indicator of the focus and definition of particular curricula at selected universities so that they respond promptly and purposefully to national, international or global security threats. Specifically, the wording of curricula and the focus on individual subjects' final assessments are necessary to declare the topicality and structural nature of threats that affect internal and external security.

We think that the improvement of specific curricula also conditions the effectiveness of the education provided to university students because priority plausibility and the justification of true statements means that these statements are controllable by using various arguments, reasons and evidence (Čentěš & Beleš, 2023). Using arguments and reasons that confirm and allow checking the correctness of decisions and conclusions is a binding rule, for example, in a criminal trial. Verifiability is a characteristic feature of knowledge used in criminal proceedings (Lisoň & Vaško, 2020). Confirming or justifying the correctness of any statements, decisions and conclusions using arguments and facts is one approach to building effective resistance to hybrid threats.

### **3. Result and discussion**

For the needs of the presented study, we differentiated the research results according to the constructed content. The empirical part of the research was conducted as part of a pilot survey, preliminary research, own research and drawing conclusions. The pilot survey was conducted in the form of a questionnaire in May 2023; then, our research was carried out from June to August 2023, and the conclusions of the conducted research were formulated and constructed in September 2023.

Hypothesis H1 was verified as part of the theoretical definition of the issue and the processing of the results of guided interviews with university students. These were also presented in a previous text when we confirmed the first hypothesis because knowledge of the elementary concepts associated with the issue of hybrid threats is crucial in building Slovakia's resilience to hybrid threats. Only based on knowledge, clear specification and identification is it possible to understand and perceive the issue of hybrid threats with a clear primary goal, namely building resistance to their effects. Knowing elementary concepts is essential because this is the only way members of society can acquire a factual basis for further action and perception of the danger of hybrid threats. The subject of knowledge of hybrid threats is identifying all fundamental concepts and contexts.

We subsequently proceeded to present the results of verifying hypotheses H2, H3, and H4.

According to Table 1, the research sample comprised 252 men and 400 women. In analyzing the defined hypotheses, we set *StupenS* (Degree of study) and *FormaS* (Form of study) as the relevant input variables. The research sample

consisted of students from two selected universities in the Slovak Republic. A more detailed analysis of the research sample from the viewpoint of three relevant input variables is presented in Table 1.

Summary Table for all Multiple Response Items Totals/percentages based on the number of respondents Multiple identical responses were ignored						
	N=652 Gender	StupenS	FormaS full-time form of study	FormaS part-time form of study	Row Totals	
Count	male	bachelor's study	58	40	98	
Column %			43.94%	33.33%		
Row %			59.18%	40.82%		
Table %			23.02%	15.87%	38.89%	
Count		master's study	72	60	132	
Column %			54.55%	50.00%		
Row %			54.55%	45.45%		
Table %			28.57%	23.81%	52.38%	
Count		doctoral study	2	20	22	
Column %			1.52%	16.67%		
Row %			9.09%	90.91%		
Table %			0.79%	7.94%	8.73%	
Count		Total	132	120	252	
Table %			52.38%	47.62%	100.00%	
Count		female	bachelor's study	92	14	106
Column %				41.82%	7.78%	
Row %	86.79%			13.21%		
Table %	23.00%			3.50%	26.50%	
Count	master's study		126	144	270	
Column %			57.27%	80.00%		
Row %			46.67%	53.33%		
Table %			31.50%	36.00%	67.50%	
Count	doctoral study		2	22	24	
Column %			0.91%	12.22%		
Row %			8.33%	91.67%		
Table %			0.50%	5.50%	6.00%	
Count	Total		220	180	400	
Table %			55.00%	45.00%	100.00%	

Table 1. Description of the research sample

Source: Own research

In the context of research on hybrid threats, we asked ourselves a basic research question: How do the respondents, university students, perceive the term *hybrid threats*? From this primary research question, we also derived a secondary question: *Is there a difference in the perception of the concept of hybrid threats in terms of gender, degree or form of study?*



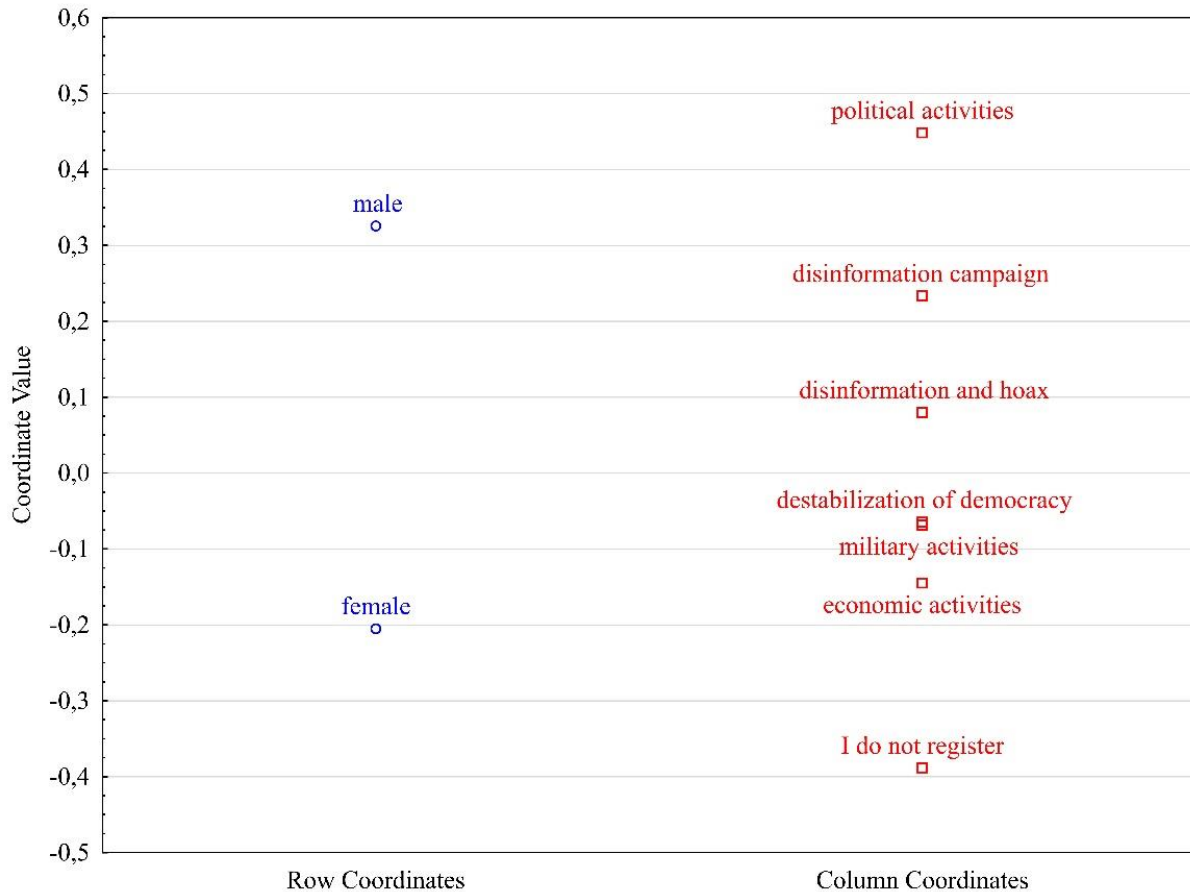
Based on these research questions, we established three basic research hypotheses:

H2: A significant relationship exists between the respondents' gender and the perception of the concept of hybrid threats at the chosen level of significance  $\alpha = 5\%$ .

H3: A significant relationship exists between the respondents' degree of study and the perception of the concept of hybrid threats at the chosen significance level  $\alpha = 5\%$ .

H4: A significant relationship exists between the respondents' form of study and the perception of the concept of hybrid threats at the chosen significance level  $\alpha = 5\%$ .

As the basic analysis method for these hypotheses, we selected correspondence analysis, a multivariate statistical method. The first find of interest in the analysis of the first research hypothesis is that up to 21.779% of respondents did not even register the concept of hybrid threats. From these, 11.111% of the men and 28.500% of the women. 13.191% perceive hybrid threats as a coordinated political virtual activity aiming to destabilize another country's political system; 20.635% of the men and 8.500% of the women favoured this option. Another option within the research tool was the perception of hybrid threats as a coordinated activity to destabilize democracy in another country. This answer was selected by 9.509% of respondents (8.730% of the men and 10.000% of the women). 38.957% of respondents selected various activities that employ disinformation and fake news to cause panic in another country, with 42.857% of the men and 36.500% of the women choosing this option. Hybrid threats such as coordinated military activity whose aim is to disrupt the political system of another country, a coordinated disinformation campaign aimed at undermining trust in the political elites of another country, and coordinated economic activity aimed at destabilizing the economic system of another country were selected by approximately the same percentage of respondents, at the level of about 5%. If we analyze the first research hypothesis, then based on the achieved level of significance  $p = 0.000$  ( $\chi^2 = 43.507$ ,  $df = 6$ ), it is possible to accept the conclusion that the gender of the respondent is related to the perception of hybrid threats at the chosen level of significance of 5%. We provide more detailed results in Figure 1. If we accept the result of the analysis of the first hypothesis as valid, then using the correspondence map, the preference from the point of view of gender can be monitored, as well as the perceived concept of hybrid threats. It is evident from Figure 1 that men understand the concept of hybrid threats mainly as a coordinated political virtual activity aimed at destabilizing the political system in another country and a coordinated disinformation campaign focused on undermining trust in the political elites of another country. On the other hand, women perceive the concept of hybrid threats above all as a coordinated activity whose goal is to destabilize democracy in another country, coordinated military activities whose aim is to disrupt the political system of another country, coordinated economic activities whose goal is to destabilize the economic system of another country, and up to 28.500% of women do not register this term as an issue. The respondents' perceptions of hybrid threats as diverse activities using disinformation and fake news to cause panic in another country have an interesting position, where both men (42.857%) and women (36.500%) preferred this option.

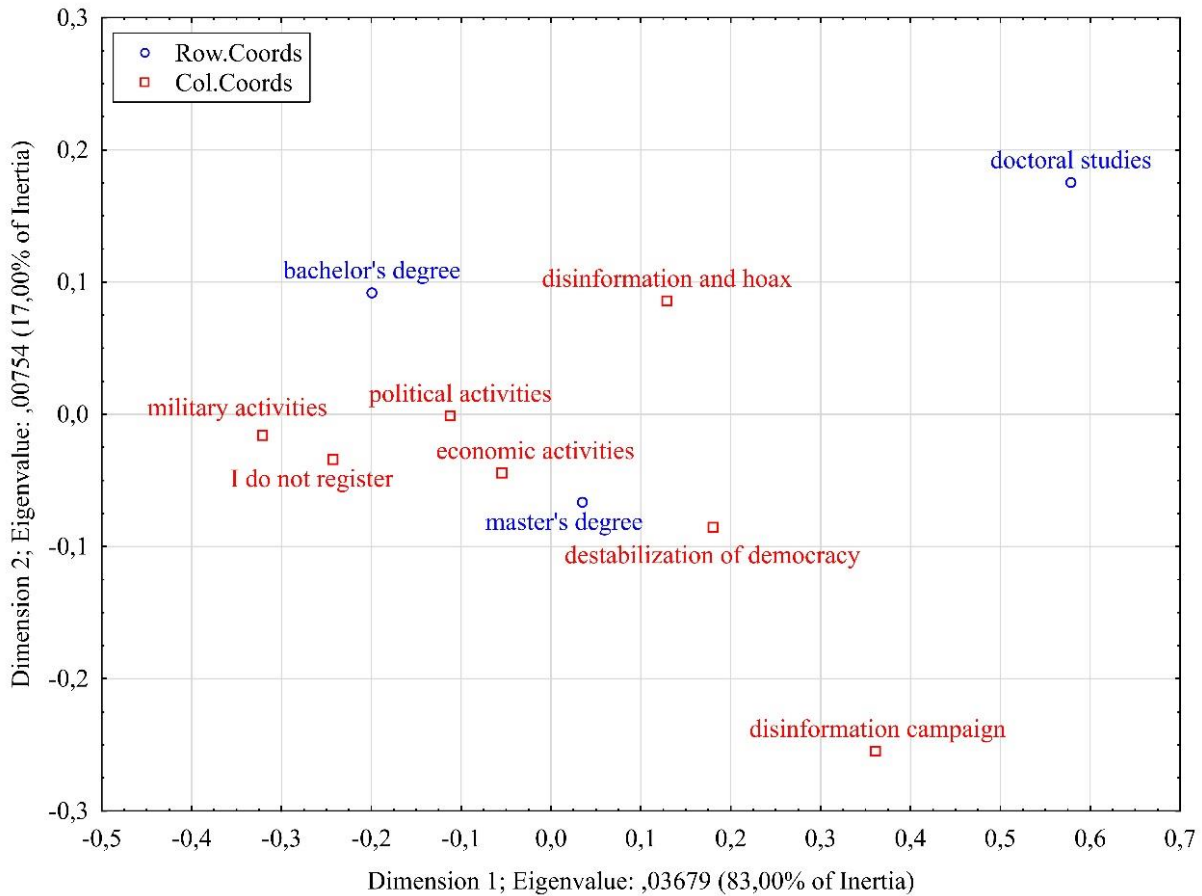


**Picture 1.** Correspondence map of the analysis of the first research hypothesis

*Source:* Own processing according to the available scientific literature

The second research hypothesis relates to the relationship between the respondents' degree of study and their perception of the concept of hybrid threats. The largest representation of the perception of hybrid threats among the respondents was the perception of hybrid threats as diverse activities using disinformation and fake news as a means to cause panic in another country. As mentioned above, this option was selected by 38.957% of all respondents. From the total number of 204 students at the bachelor's degree level (hereinafter referred to as Bc), 37.255% chose this option; from the 402 master's degree students (hereinafter referred to as Mgr), 37.313% chose this option, and from the 46 doctoral students (hereinafter referred to as PhD) 60.859% chose this option. The concept of hybrid threats is not registered by 21.779% of all students, and 26.471% of Bc students, 21.393% of Mgr students but only 4.348% of PhD students chose this option. A total of 13.190% of respondents perceive hybrid threats as a coordinated political virtual activity whose aim is to destabilize the political system in another country, with 14.706% of Bc students, 12.935% of Mgr students and 8.696% of PhD students selecting this option. Another aspect from the viewpoint of frequency of occurrence was assigning the concept of hybrid threats to the possibility that it is a coordinated activity whose aim is to destabilize democracy in another country. This option was chosen by 6.863% of Bc students, 10.448% of Mgr students and 13.043% of PhD students. From these findings, we can state that as the level of study increases, respondents attach greater importance to this option. Hybrid threats are perceived by 5.882% of Bc students, 5.970% of Mgr students and 4.348% of PhD students as a coordinated economic activity aimed at destabilizing the economic system of another country. In this context, we see a relatively balanced assessment, regardless of the respondents' study level. Of relative interest is the perception of hybrid threats as a

coordinated disinformation campaign whose goal is to undermine trust in the political elites of another country, where only 1.961% of Bc students, 6.965% of Mgr and 8.696% of PhD students chose this option. If we analyze the second research hypothesis on the basis of the achieved significance level of  $p = 0.0041$  ( $\chi^2 = 28.9002$ ,  $df = 12$ ), it is possible to accept the conclusion that the degree of study of the respondent is related to the perception of hybrid threats at the chosen significance level of 5%. We present more detailed results in Picture 2.



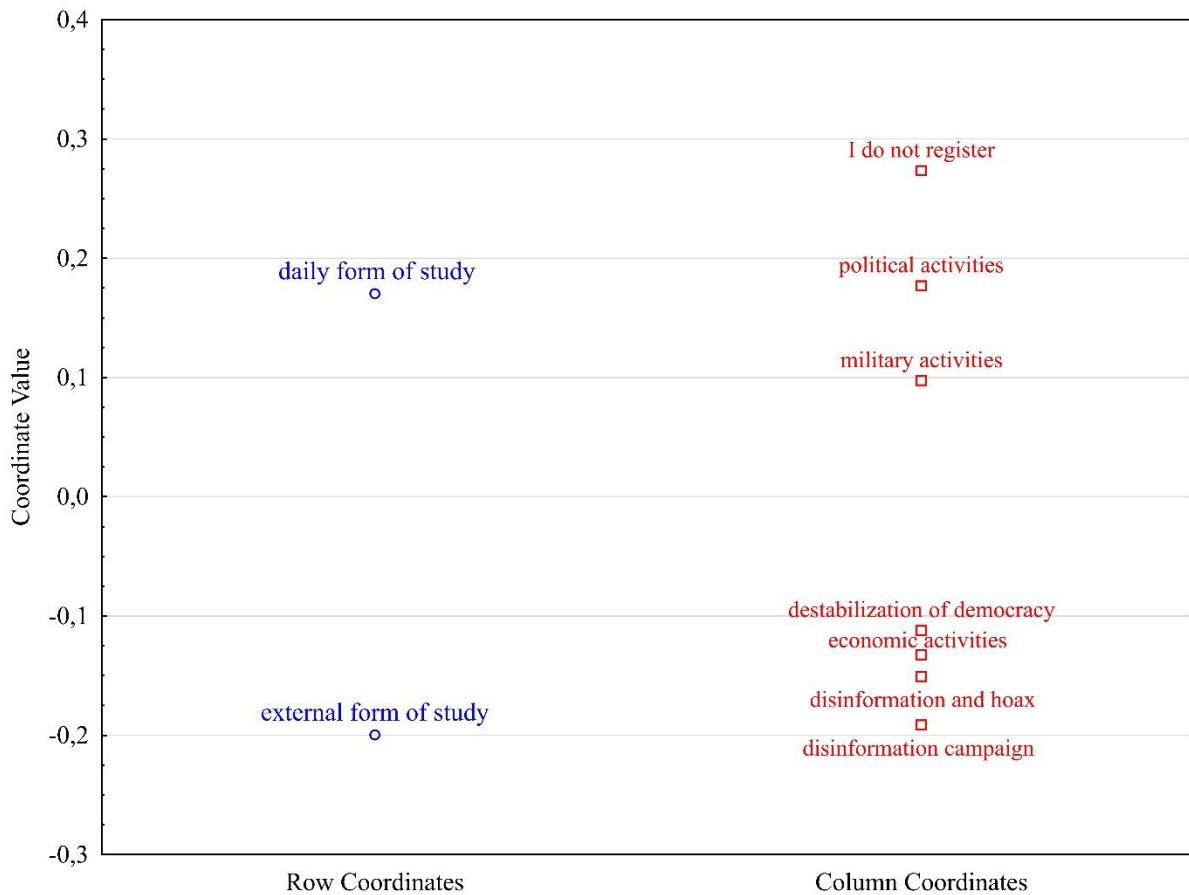
Picture 2. Correspondence map of the analysis of the first research hypothesis

Source: Own research

From Picture 2, it is evident that undergraduate students perceive hybrid threats primarily as diverse activities using disinformation and fake news to cause panic in another country. Master's students give priority to the understanding of hybrid threats as coordinated economic activity aimed at destabilizing the economic system of another country (5.790%), coordinated activity aimed at destabilizing democracy in another country (10.448%), coordinated political virtual activity aimed at destabilizing the political system in another country (12.936%), coordinated military activity aimed at disrupting the political system of another country (4.975%), and 21.393% of master's students do not register hybrid threats at all.

The third research hypothesis relates to the relationship between the respondents' form of study and their perception of the concept of hybrid threats. This input variable, the form of study, was selected to compare students aged 19 to 24 (22.30 years) who do not have work experience with part-time students, who are older on average (31.15

years) than the first group; at the same time we assume that within this group, the respondents are already working. 33.523% of full-time students and 45.333% of part-time students chose the most frequent option for defining a hybrid threat, namely different activities using disinformation and fake news to cause panic in another country. Another interesting difference is observed in the "I do not register" option, where 27.272% of full-time students and 15.333% of part-time students chose this option, and in the option "coordinated political virtual activity, the aim of which is to destabilize the political system in another country", which was selected by 15.341% of full-time students and 10.667% of part-time students. In the case of the other options, the differences in the number of answers are minimal, and both groups can be seen as homogeneous regarding these items. If we analyze the third research hypothesis, based on the achieved level of significance  $p = 0.0011$  ( $\chi^2 = 22.176$ ,  $df = 6$ ), it is possible to accept the conclusion that the form of study of the respondent is related to the perception of hybrid threats at the chosen significance level of 5%. We present more detailed results in Picture 3.



**Picture 3.** Correspondence map of the analysis of the third research hypothesis.

Source: Own research

From Picture 3, it is evident that full-time students understand the concept of hybrid threats as a coordinated military activity whose aim is to disrupt the political system of another country, a coordinated political virtual activity aimed at destabilizing the political system in another country, or they do not register this term at all. On the other hand, part-time students perceive hybrid threats as a coordinated activity whose aim is to destabilize democracy in another country (10.667%), a coordinated economic activity whose objective is to destabilize the economic system of another country (6.667%), various activities using disinformation and fake news aimed at causing panic in another

country (45.333%) and a coordinated disinformation campaign aimed at undermining trust in another country's political elites (6.667%).

All three research hypotheses were confirmed based on the use of correspondence analysis. The conclusion can thus be accepted that the perception of hybrid threats is significantly conditioned by the respondent's gender, degree and form of study. In the presented research, opinions on the understanding of the concept of hybrid threats among university students were analyzed, and the results entitle us to state that a comprehensive perception of this severe problem needs to be improved in all investigated groups.

Verifying the fifth hypothesis H5 was explicitly linked to identifying and characterizing an effective element that improves the building of Slovakia's resilience to hybrid threats. We identified this element based on knowledge from practice and detected contexts that condition the effective elimination of hybrid threats. Strategic communication, which primarily consists of tactical functions, was identified in the research as a prominent effective element. Strategic communication is one of the key instruments for building a secure country and a more resilient society ready to face modern challenges and crises through the systematic and coordinated cooperation of various authorities (Moss & Warnaby, 2010).

Even the professional literature needs to pay more attention to the discussion about the role of the communication function in the strategic decision-making process. Still, at the research level, we consider addressing it as justified. In the scope of conducting guided interviews with students, we identified that the nature and significance of strategic communication, in general, are less known to them, and its connection to eliminating the impact of hybrid threats on society is yet to be discovered. Therefore, for these reasons, we decided to interpret our findings to present the results of our research.

We believe that, even within the framework of a society-wide approach, it is crucial for authorized subjects in the field of strategic communication to cooperate with the academic sector so that strategic communication is as effective as possible. Strategic communication is marked by obvious elements that condition cooperation within the framework of international communication in solving transnational criminal activities; therefore, its use is extensive and almost inevitable. Illegal activities, including organized crime, stretching across state borders and affecting national security, must be solved based on a systematic approach and the application of elements of strategic communication (Vrtíková, 2023).

The advantages of strategic communication that we identified consist in the improved ability of a specific country to defend itself against disinformation campaigns and to more intensively cooperate and communicate with citizens as essential subjects of communication in building a safe society. Implementing the principles of strategic communication by state institutions is one of the critical prerequisites for an effective state response to hybrid activity. The need to elaborate a conceptual framework for strategic communication is based on fundamental documents of the Slovak Republic, which include strategic communication as an integral part of the defence and security of the Slovak Republic (Security Strategy of the Slovak Republic, 2021).

The aim of strategic communication is clearly, based on relevant knowledge, to set up and purposefully conduct a constructive dialogue between the state and citizens so that security threats to society can be prevented and, at the same time, eliminated to as great an extent as possible in the event of their intrusion, because the inconsistency, even chaos, that occurs in the presentation of important information in the country is unacceptable and requires an appropriate solution (Andersson, 2018).

In connection with the above, the future directions of developing strategic communication from the viewpoint of interdisciplinary science are also crucial because strategic communication is characterized by complexity and



difficulty (Nothhaft et al., 2020). It is specifically insufficient and unsystematic communication of the state without a strategic framework that contributes to the establishment of entities in the information space that, as the Slovak Information Service points out, systematically spread harmful content, including disinformation and misleading, questionable and polarising narratives (Report on the Activities of the Slovak Information Service 2021). The strategic communication of states that devote adequate attention to this area, as also results from research findings, is characterized by:

- the existence of a central coordinating body,
- the adoption of a strategic document that arranges processes, principles and obligations,
- establishing crisis communication processes (Security Strategy of the Slovak Republic, 2021).

From the above, the fifth hypothesis has been confirmed because strategic communication is an effective element that, when consistently applied, can eliminate the hybrid effects and their danger to society.

#### **4. Conclusions**

The current stance of the academic and scientific community in acquiring new information in the scope of scientific research is a challenge in the processing and effectively making scientific information available. Social and security changes and their significant impact on the security environment are precisely the reason for the intensive perception of the exposed issue of hybrid threats by students from selected universities and building effective resistance to their effects. Modern research needs fast and efficient access to high-quality information to enrich theory and support empiricism. Knowledge and experience supporting creative scholarly activity represent significant strategic capital for developing a specific university field and social knowledge.

The presented scholarly study responds to the immediate need to specify the perception of hybrid threats by students at selected universities at all levels of accredited study, but also to an element through which we can effectively respond to the impact of hybrid threats on society. This need is conditioned by the current development and prediction of hybrid threats at the national and international levels. Only in the context of a purposeful approach to the given subject can we ensure, on the one hand, the effectiveness of education and, on the other hand, the intentional realization of the acquired facts in practice.

In connection with the perception of the issue of hybrid threats and based on the results of the research, we believe that it is expedient to improve and support, above all, the cognitive personality assumptions of students and, based on this, to clearly define specific contexts that support the perception of current security threats. We need to specify that thinking about the obtained information and evaluating and constructing its meaning is essential (Jakušová, 2016).

Based on the above, we also offer suggestions for the future, which follow from a constructive assessment of the research results; these are a detailed specification of the concept of hybrid threats among university students focused on the development and maintenance of security and a specification of evident shortcomings that occur in society in the perception of hybrid threats. Further, developing the essence of strategic communication is an effective element in building Slovakia's resilience to hybrid actions and the specification of information based on scholarly research, which is subsequently distributed to the general public. The above is because members of society today receive a large amount of information but cannot evaluate it, or they cannot analyze it because it needs a clear and verified origin.

We thus conclude that the primary goals specified in the introduction of the presented study – the detection and presentation of the perception of “hybrid threats” among university students as well as the presentation of elementary concepts associated with the issue of hybrid threats and a selected element supporting resistance to

hybrid threats at the national level, strategic communication – has been fulfilled. The content of the study responds to the specific definition of the investigated issue and presents the results of verifying the defined hypotheses. We can conclude that the research results herein acquired and presented are an added value in the specification of individual specializations of students subsequently working in building an effective security environment and enriching the scholarly level in investigating the suggestion of hybrid threats to society.

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