

KNOWLEDGE AND PERCEPTIONS OF STUDENTS OF THE ACADEMY OF CRIMINALISTIC AND POLICE STUDIES ABOUT NATURAL DISASTERS¹

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Abstract: The subject of quantitative research is analysis of the factors influencing the knowledge and perceptions of first year students of the Academy of Criminalistics and Police studies about natural disasters. The authors used survey method to identify and describe the factors that influence the knowledge and perceptions of students about natural disaster. Of the total number of first-year students of the Academy of Criminalistics and Police studies, 360 of them were examined. The results show that respondents have a high level of knowledge on natural disasters and the best knowledge on safety procedures when handling droughts. Limitation of research relates to the fact that the research is based only on the first year students of the Academy of Criminalistics and Police studies. Considering the evident lack of education on natural disasters in Serbia, the survey results can be used when creating the strategy of educational programs, which would contribute to improving the safety of youth culture. The research results can be used for the improvement of existing knowledge and preparedness for responding to natural disasters.

Keywords: security, emergency situations, natural disasters, statistics, students, knowledge, perception, fear

INTRODUCTION

Natural disasters, as adverse events to people, their material goods and environment, occur on/in different spheres of the earth (lithosphere, hydrosphere, atmosphere and biosphere), such as, for example, earthquakes, floods, epidemics, hurricanes, etc. Depending on nature of onset process, natural disasters can be divided into: geophysical (earthquakes, volcanoes, tsunamis, landslides, mudslides); meteorological (tropical cyclones/hurricanes, thunderstorms, tornadoes, lightning, hailstorms, snowstorms, ice storms, blizzards, cold and hot waves, snow landslides, fog and frost); hydrological (floods, streams); biological (epidemics and insect pests); and cosmic (meteors)². In the period from 1900 to 2013 there have been 25,552 natural disasters. Of these, most of them were hydrospheric followed by atmospheric, lithospheric and biospheric disasters.³

Historically, the role of education in some way has ignored the importance of the need for education in the field of disasters. There are several reasons:⁴ Disasters have always been considered as the events that rarely occur, appear in many different forms, bring a variety of different causes and consequences. These considerations lead to the conclusion that it is almost impossible to standardize forms of action. However, practice has shown that children familiar with the phenomenon and the response in natural disasters are able to react quickly and appropriate in order to protect themselves and to warn others of potential dangers. One of the classic examples of the power of knowledge and education is the story of 10-year-old girl from Britain, Tilly Smith, who warned tourists to flee before the tsunami in the Indian Ocean came to the coast.⁵ In this way, she

¹ This paper is the result of the research on project: "Management of police organization in preventing and mitigating threats to security in the Republic of Serbia", which is financed and carried out by the Academy of Criminalistic and Police Studies, Belgrade - the cycle of scientific projects 2015-2019.

² Mlađan, D., Cvetković, V.: *Classification of Emergency Situations*. Belgrade: Thematic Proceedings of International Scientific Conference "Archibald Reiss Days", Academy of criminalistic and police studies, 2013, pp. 275-291; Cvetković, V.: Geoprostorna i vremenska distribucija vulkanskih erupcija. *NBP – Žurnal za kriminalistiku i pravo*, 2/2014, 153-171; Cvetković, V.: Spatial and temporal distribution of floods like natural emergency situations. *International scientific conference Archibald Reiss days* (pp. 371-389). Belgrade: The academy of criminalistic and police studies, 2014.

³ Cvetković, V., Mijalković, S.: *Spatial and Temporal distribution of geophysical disasters*. Serbian Academy of Sciences and Arts and Geographical Institute Jovan Cvijic, Journal of the Geographical Institute "Jovan Cvijic" 63/3, 345-360; Cvetković, V., Milojković, B., & Stojković, D.: Analiza geoprostorne i vremenske distribucije zemljotresa kao prirodnih katastrofa. *Vojno delo*, 2014, letnje izdanje; Cvetković, V.: Geoprostorna i vremenska distribucija vulkanskih erupcija. *NBP – Žurnal za kriminalistiku i pravo*, 2/2014, 153-171; 46; Cvetković, V., Dragičević, S.: Prostorna i vremenska distribucija prirodnih nepogoda. Zbornik radova Geografskog instituta „Jovan Cvijic“ SANU, 293-309, 2014.

⁴ Lidstone, J.: *Disaster education: Where we are and where we should be*. In: Lidstone, J. (Ed.), *International perspectives on teaching about hazards and disasters* (p. 3). Philadelphia, USA: Channel View Publications, 1996:34.

⁵ Rajib, S., Koichi, S., Yukiko, T.: *Disaster education*. United Kingdom, Emerald Group Publishing, 2011.

saved more than 100 tourists in 2004. She recognized the signs of an approaching tsunami, having learned at school about this phenomenon within geography, only a week before she visited Thailand.⁶ Also, it is necessary to bear in mind that the UK is not a state in which such phenomena occur, and that she had no previous experience, but acquired knowledge at school contributed to saving the lives of a large number of people.

The role of education in reducing the risk of natural disasters is often directly or indirectly regulated by legislation and policy documents. For instance, the law on emergency situations of the Republic of Serbia in point 6 titled training and education, Article 119 states that in order to acquire the necessary knowledge in the field of personal and collective protection, citizens receive education and training in preventive care and rescue. Furthermore, it is stated that the training is done within primary and secondary education in order to acquire knowledge about the dangers of natural and other disasters and how to protect against them, in accordance with the specific law and the appropriate program.⁷ Educational activities which are carried out through educational programs in schools are effective measures to emphasize the importance of reducing the risk of natural disasters, because working with children, this knowledge extends to their families.⁸

Bearing in mind the enormous importance of education about natural disasters, the authors within quantitative study analyze the factors that influence the knowledge and perceptions of first year students of the Academy of Criminalistics and Police studies about natural disasters. In this paper, the authors used the survey method to describe and identify these factors that have an impact on students' knowledge and perception on natural disasters. In the first part of the paper is discussion on previous studies that have dealt with this issue. The second part is devoted to the issues of the methodological framework. The third part of the paper presents the results of descriptive statistics and use of chi - square test.

LITERATURE REVIEW

The role of education in reducing the risk of natural disasters is a very topical issue studied by many disaster researchers.⁹ In addition, a large number of papers relate to the link between education and preparedness to respond in the event of a natural disaster.¹⁰ Tanaka examines how education on disasters increases the preparedness of people for disasters.¹¹ Specifically, in the paper, „Impact of education about disasters on preparedness of population and mitigation of effects of earthquakes: the comparison between a city in Japan and city in California“, the author deals with the following research questions: what kind of education is the most appropriate to encourage the preparedness of population for future earthquakes?; how education on disasters increases the preparedness of disasters?; Can education about disasters really encourage that is motivate

⁶UN/ISDR.: *World disaster reduction campaign. Disaster risk reduction begins at school.* Available at http://www.unisdr.org/eng/public_aware/world_camp/2006-2007/pdf/WDR-2006-2007-English-fullversion.pdf, 2006 (Accessed on January 10.04. 2013).

⁷ Zakon o vanrednim situacijama Republike Srbije, *Službeni glasnik Republike Srbije*, broj 111/2009.

⁸ Ivanov, A., Cvetković, V.: The role of education in natural disaster risk reduction. *Horizons, international scientific journal, year X Volume 16, 2014.*

⁹ Radu, C.: Necessity of training and education in earthquake-prone country”, Training and Education for Improving Earthquake Disaster Management in Developing Countries, UNCRD Meeting Report Series, 1993, No. 57, pp. 15-33; Kuroiwa, J.A.: Peru's national education program for disaster prevention and mitigation (PNEPDPM)”, Training and Education for Improving Earthquake Disaster Management in Developing Countries, UNCRD Meeting Report Series, No. 57, 1993, pp. 95-102; Arya, A. S.: Training and drills for the general public in emergency response to a major earthquake, Training and Education for Improving Earthquake Disaster Management in Developing Countries, 1993, pp. 103-14, UNCRD Meeting Report Series No. 57; Ronan, K. R., & Johnston, D. M.: Correlates of hazard education programs for youth. *Risk Analysis*, 2001, 21(6), 1055-1064; Frew, S.L.: Public awareness and social marketing”, Regional Workshop on Best Practices in Disaster Management, Bangkok, 2002, pp. 381-393; Shaw, R., Shiwaku, K., Kobayashi, H., Kobayashi, M.: Linking experience, education, perception and earthquake preparedness. *Disaster Prevention and Management*, 2004, 13(1), 39-49; Panic, M., Kovacevic-Majkic, J., Miljanovic, D., & Miletic, R.: Importance of natural disaster education - case study of the earthquake near the city of Kraljevo: First results. *Journal of the Geographical Institute Jovan Cvijic, SASA*, 63(1), 2013, 75-88.

¹⁰ Faupel, C. E., Kelley, S. P., & Petee, T.: The impact of disaster education on household preparedness for Hurricane Hugo. *International Journal of Mass Emergencies and Disasters*, 10(1), 1992, 5-24; Edwards, M. L.: Social location and self-protective behavior: Implications for earthquake preparedness. *International Journal of Mass Emergencies and Disasters*, 11(3), 1993, 293-303; Liu, S., Quenemoen, L. E., Malilay, J., Noji, E., Sinks, T., & Mendlein, J.: Assessment of a severe-weather warning system and disaster preparedness, Calhoun County, Alabama, *American journal of public health*, 86(1), 1996, 87-89.

¹¹ Tanaka, K.: The impact of disaster education on public preparation and mitigation for earthquakes: a cross-country comparison between Fukui, Japan and the San Francisco Bay Area, California, USA. *Applied Geography*, 2005, 25(3), 201-225.

residents to take appropriate actions? Awareness about disasters and knowledge about neighborhood, and prior experience have a significant contribution to improving citizens' preparedness for an earthquake.¹²

Tomio et al. suggest that the older, female members and better educated individuals are positively associated with a higher level of preparedness for disasters at the household level, while at the community level such a connection exists with length of residence, marital status, presence of an older family member.¹³ By examination of association between participation in educational programs about the dangers and awareness about danger, risk perception, knowledge and preparedness of households, Finnis et al. indicated that there is a positive correlation between participation in educational programs and a higher level of preparedness of the household.¹⁴ Kohn et al. suggest that there are significant variations in the results of research related to the impact of education on the level of preparedness of citizens¹⁵. Some research indicate that individuals with high levels of specific knowledge are likely prepared for such events.¹⁶ Edwards indicates that households with higher levels of education, higher income and children will be to a greater extent adapted to the implementation of necessary measures of preparedness.¹⁷ Faupel et al. suggest by their results that participation in educational programs about disasters is closely linked with the level of preparedness.¹⁸ Becker et al. suggest that traditional education programs about disasters that are focused on passive information provide a very low level of awareness and motivation in relation to disaster preparedness.¹⁹ Shaw et al., as a result of their work, state the fact that previous experience with an earthquake does not contribute significantly to awareness about this disaster, but it helps students to know what an earthquake is.²⁰ In addition, they stress that school education is crucial in improving the knowledge and perceptions about an earthquake as a disaster. Johnson et al. indicate that there is a positive correlation between the preparedness of households with participation of children in educational programs on disasters.²¹ Mishra and Suar suggest that education about disasters and resources are partial mediators between anxiety and preparedness for floods and major mediators between anxiety and preparedness for heat waves.²² Shiwaku et al. present the results that current school education - which is based on the lessons - can raise awareness about the risks, but cannot allow students to know the importance of preventive measures aimed at reducing the risk.²³ At the same time, they indicate that self-education about disasters is effective to implement the measures and that the local community plays a decisive role in promoting the undertaking of current actions by students. Future school education must be based on active learning. Adem shows that there is a clear correlation between knowledge and attitudes about an earthquake²⁴ Hurni and McClure point out that prior knowledge about earthquakes is correlated with preparedness to earthquakes.²⁵ Ronan and Johnston confirm the significant role of educational programs about dangers in raising the level of preparedness of households for disasters.²⁶ Kurita et al. indicate that more than 90% of the population does not have adequate knowledge about tsunami and that the main sources of information during disasters were family

¹² *Ibid.*

¹³ Tomio, J., Sato, H., Matsuda, Y., Koga, T., & Mizumura, H.: Household and Community Disaster Preparedness in Japanese Provincial City: A Population-Based Household Survey. *Advances in Anthropology*, 2014.

¹⁴ Finnis, K. K., Johnston, D. M., Ronan, K. R., & White, J. D.: Hazard perceptions and preparedness of Taranaki youth. *Disaster Prevention and Management*, 19(2), 2010, 175-184.

¹⁵ Kohn, S., Eaton, J. L., Feroz, S., Bainbridge, A. A., Hoolachan, J., & Barnett, D. J.: Personal disaster preparedness: an integrative review of the literature. *Disaster medicine and public health preparedness*, 6(03), 2012, 217-231.

¹⁶ Mishra, S., & Suar, D.: Do lessons people learn determine disaster cognition and preparedness?. *Psychology & Developing Societies*, 19(2), 2007, 143-159.

¹⁷ Edwards, M. L.: *Opus citatum*.

¹⁸ Faupel, C. E., Kelley, S. P., & Petee, T.: *Opus citatum*.

¹⁹ Becker, J., Johnston, D., Paton, D., & Ronan, K.: *Community resilience to earthquakes: Understanding how individuals make meaning of hazard information, and how this relates to preparing for hazards*. Paper presented at the New Zealand Society for Earthquake Engineering Conference, 2009.

²⁰ Shaw, et al.: *Opus citatum*.

²¹ Johnson, V. A., Ronan, K. R., Johnston, D. M., & Peace, R.: Evaluations of disaster education programs for children: A methodological review. *International Journal of Disaster Risk Reduction*, 9, 2014, 107-123.

²² Mishra, et al.: *Opus citatum*.

²³ Shiwaku, K.: Essentials of school disaster education: Example from Kobe, Japan. In: R. Shaw & R. Krishnamurthy, R. (Eds), *Disaster management: Global challenges and local solutions* (pp. 321-387). India: Universities Press, 2009.

²⁴ Adem, Ö.: The Relationship between Earthquake Knowledge and Earthquake Attitudes of Disaster Relief Staffs. *Disaster Advances*, 4(1), 2011, 19-24.

²⁵ Hurnen, F., & McClure, J.: The effect of increased earthquake knowledge on perceived preventability of earthquake damage. *Australas. J. Disaster trauma study* (3), 1997.

²⁶ Ronan, K. R., Johnston, D. M., Daly, M., & Fairley, R.: School children's risk perceptions and preparedness: A hazards education survey. *Australasian Journal of Disaster and Trauma Studies*, 1, 2001.

members and neighbors.²⁷ In addition, they point out that school education is very important in raising the awareness on disasters.

METHODOLOGICAL RESEARCH FRAMEWORK

The subject of quantitative research is to examine the level of knowledge, factors that influence the knowledge and perceptions of students of the Academy of Criminalistics and Police studies about natural disasters. In addition, perceptions and actual knowledge of students about natural disasters are measured. In order to reach valid conclusions about what influences the knowledge of respondents about natural disasters, we examined the impact of several groups of factors. First, we examined the influence of demographic characteristics and the impact of factors of the close environment of the respondents such as gender, education, people with whom she/he lives, employment and education of parents on the knowledge of natural disasters. We then examined the effect of place or media where the respondent has obtained information about natural disasters. The results of the impact of these factors will allow the selection of instruments that will be the most effective way to influence the knowledge of high school students about an earthquake. In addition, this paper will examine the impact of personal experience or experience of closest family members related to natural disasters. These results will determine whether it is necessary the same degree of influence on the education of students of the Academy in the areas where they occurred in areas where major consequences occurred and in areas where major consequences of natural disasters were not reported. Finally we examine the association between feelings of fear and knowledge about the earthquake and the linkage of knowledge and desire for further learning about the earthquake. The results of these tests will allow the selection of the best ways of learning. The following will show concrete results in the order provided in this paragraph.

Sample

Bearing in mind that the students of the Academy of Criminalistics and Police studies are in formed groups of years of studying we chose a cluster sample. Therefore, we decided not to perform the election of members of the population for the sample directly but to select an entire group (first year students). We have chosen first year because it is the largest and did not have the subjects related to this area. More specifically, members of the population consisting of all students of the Academy of Criminalistics and Police studies (from the first to the fourth year of study) were not pulled out individually for the sample but from the population one group (first year students) was pulled out. Since we have decided to include all members of the selected year in the sample, we conducted single-stage cluster sampling. The advantages of this kind of sampling are related to lower costs of implementation, while the negative side is that there is no question about the independence of the election, as members of the same cluster are more likely to be found in the sample than members of different clusters (years of studies).

In order to gain insight into the representativeness of the sample it is necessary to analyze the structure of respondents according to key characteristics for the field of natural disasters. Below we will present the structure of the sample by gender, family members with whom respondents live, education of these family members and their employment. The survey covered a total of 360 respondents. The men in the sample were represented with 60.3%, while women made up 39.7%. Based on the structure of students by the members of the household with whom they live, it is observed that 90.3% of respondents live with their father and 97.5% with the mother. It is observed that a smaller number of respondents live with their father, which could be related with the divorce proceedings or other factors. In addition to parents, 10.6% of respondents live with a grandfather as well, while 21.4% also live with her grandmother. Also, it is expected that a small number of high school students live with grandparents. In order to gain a better insight into the representativeness of the sample we analyzed the structure by education of parents. The results showed that the structure of education of parents both in the sample and in the population does not differ substantially and that the structure of education is expected. There is a very small percentage of respondents with parents who have only primary education. Also, it is expected that most parents have completed secondary school (63.3% of fathers, 65% of mothers), then higher education (19.2% of fathers, 13.6% of mothers), high education (9.6% fathers, 13.6% mothers) and finally with academic titles (4% of fathers, 1.4% of mothers). If we observe the structure by parents' employment, it can be seen that in 46.1% of cases, both parents are employed, in 37.5% of cases only one parent, and in 16.4% of cases, both parents are unemployed (Table 1).

Variables	Categories	Frequency	Percent (%)
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²⁷ Kurita, T., Nakamura, A., Kodama, M., & Colombage, S. R.: Tsunami public awareness and the disaster management system of Sri Lanka. *Disaster Prevention and Management*, 15(1), 2006, 92-110.

Gender	Male	217	60.3%
	Female	143	39.7%
Living with father	Yes	325	90.3%
	No	35	9.7%
Living with mother	Yes	351	97.5%
	No	9	2.5%
Living with grandfather	Yes	38	10.6%
	No	322	89.4%
Living with grandmother	Yes	77	21.4%
	No	283	78.6%
Education of father	Primary education	19	5.3%
	Secondary education	227	63.3%
	Higher education	69	19.2%
	High education	35	9.7%
	Academic title	10	1.4%
Education of mother	Primary education	23	6.4%
	Secondary education	234	65.0%
	Higher education	49	13.6%
	High education	49	13.6%
	Academic title	5	1.4%
Employment of parents	One parent is employed	135	37.5%
	Both parents are employed	166	46.1%
	Unemployed	59	16.4%

Table 1. Review of descriptive statistical indicators of categorical variables.

Bearing in mind the importance of calculating the „aggregated“ statistical indicators for continuous variables, we chose to perceive the mean, median and standard deviation for variables such as age and average score of respondents in the previous year relating to the final year in high school. For age variable, we have data on 360 respondents, their age ranges from 18 to 22 years, a mean is 19.1 years and a standard deviation from this mean is 0.698 years. Average score ranges from 2.92 to 5.00, mean is 4.46 and standard deviation from this mean is 0.48550. It is very important to say something about the distribution of values of continuous variables (skewness and kurtosis of their distribution). The positive value of the skewness of 1,223 for age of respondents shows that most of the results is on the left from the middle value among smaller results, while positive value of kurtosis of 3.723 indicates that the distribution is more peaked than normal distribution, i.e. more results are concentrated around the center of the distribution. The positive value of the skewness of 1,223 for ages of respondents shows that most of the results are on the left from the mean among smaller results, while positive value of kurtosis of 3.723 indicates that the distribution is more peaked than normal distribution, i.e. more results are concentrated around the center of the distribution. On the other hand, negative skewness and kurtosis values for average score of respondents indicate that most of the results is on the right from the mean among higher values, while the value of the kurtosis which is below 0 indicates that the distribution is more peaked than normal distribution (Table 1 and Table 2).

Variables	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Age of respondents	360	18	22	19.01	.698	1.223	.129	3.723	.256
The average score	360	2.92	5.00	4.4641	.48550	-.756	.129	-.014	.256

Table 2. Review of descriptive statistical indicators of continuous variables.

Instrument

The main instrument used in the study was a questionnaire which was created for the purposes of research. All questions are closed-ended. The first set of questions relates to the knowledge and perceptions of students about natural disasters, while the second set refers to a way of gaining information about natural disasters. Other questions were related to feelings (fear, anxiety) and the desire to learn more about natural disasters.

Method of questioning

All first-year students of the Academy of Criminalistics and Police studies received questionnaires which they filled out under the supervision in one of the amphitheatres. All confusions and questions that the students had regarding the questionnaire, were responded by present interviewer.

Data analysis

Analysis of data collected from the survey was based on the application of the methods of descriptive statistics, namely the determination of frequencies, calculating percentages and mean values. Used statistical tests are the chi-square test for testing the independence between the knowledge of the respondents in terms of natural disasters and the factors that are assumed to influence this knowledge.

RESULTS AND DISCUSSION

In the first step, the respondents answered the question of whether they know what represents one of the following natural disasters. During the survey, respondents were noted that this does not refer to the knowledge of definition, but rather a clear idea of what such natural disaster presents. Based on the results, it is evident that there is a high level of knowledge on natural disasters. However, in the first place by the level of knowledge on natural disaster are floods 99.4%, followed by drought 99.2%, fire, 98.6%, earthquake 98.3%, tsunami 98.1%, epidemics 97.8%, hurricanes 96.9%, volcanic eruptions 96.1%, extreme temperature 95.3% and landslides 93.3%. Thus, the natural disasters that are best known are common in our region. Landslides are in last place. However, the answers that were given represent a subjective judgment about the knowledge on natural disasters (Table 3). That is why we decided to also examine realistic knowledge of natural disasters.

		Frequency	Percent
Earthquake	Yes	354	98.3
	I'm not sure	5	1.4
	No	1	.3
Flood	Yes	358	99.4
	I'm not sure	2	.6
	Total	360	100.0
The extreme temperature	Yes	343	95.3
	I'm not sure	15	4.2
	No	2	.6
Landslide	Yes	336	93.3
	I'm not sure	18	5.0
	No	6	1.7
Drought	Yes	357	99.2
	I'm not sure	2	.6
	No	1	.3

Volcanic eruptions	Yes	346	96.1
	I'm not sure	10	2.8
	No	4	1.1
Tsunami	Yes	353	98.1
	I'm not sure	5	1.4
	No	2	.6
Hurricane	Yes	349	96.9
	I'm not sure	11	3.1
	Total	360	100.0
Forest fire	Yes	355	98.6
	I'm not sure	3	.8
	No	1	.3
Epidemic	Yes	352	97.8
	I'm not sure	2	.6
	No	6	1.7

Table 3. Review of responses to the question related to knowledge on certain natural disaster.

The results of testing of real knowledge on certain natural disasters differ from their subjective perceptions on knowledge. Specifically, of 98.3% of respondents who answered that they know what an earthquake is, 92.2% of respondents was right. Thus, 6.1% of respondents only think they know what an earthquake is. When talking about other natural disasters, the results are as follows: flood (99.4% replied positively, 93.1% really know, 6.3% only think they know); drought (99.2% answered positively, 97.8% really know, 1.4% only think they know); fire (98.6% responded positively, 71.9% really know, 26.7% only think they know); tsunami (98.1% responded positively, 88.9% really know, 9.2% only think they know); epidemics (97.8% answered positively, 98.1% really know, therefore, more respondents know than the number of respondents who think they know); hurricane (96.9% answered positively, 95.6% really know, 1.3% only think they know); volcanic eruptions (96.1% replied positively, 95.6% really know, 1.5% only think they know); extreme temperatures (95.3% replied positively, 77.8% really know, 17.5% only think they know); landslides (95.3% replied positively, 59.4% really know, 35.9% only think they know). Based on the results we can conclude that most respondents wrongly believed that they know about landslides 35.9%, fire 26.7% and extreme temperatures 17% (Table 4).

		Frequency	Percent
Earthquake	Massive landslides	20	5.6
	Sudden shakes	332	92.2
	Raising in water level	5	1.4
Flood	Heavy rains	23	6.4

The extreme	Large ponds on the street	1	.3
	Raising in water level and overflow of the river bed	335	93.1
	A large number of	70	19.4

temperature	fires		
	High and low temperatures	280	77.8
	Snowfalls	2	.6
Landslide	Sudden movement of soil	214	59.4
	Cracking of soil	58	16.1
	Slow movement of soil	71	19.7
Drought	Bad weather conditions	4	1.1
	Lack of rainfalls	352	97.8
	Increased humidity	2	.6
Volcanic eruptions	Lava and ash	344	95.6
	Underwater earthquakes	6	1.7
Tsunami	Surge	320	88.9
	Snow slips	1	.3
	Strong gusts of	34	9.4

Hurricane	wind		
	Hot air	8	2.2
	Strong winds	344	95.6
Forest fire	High temperatures	1	.3
	A lot of smoke	28	7.8
	Process of uncontrolled burning of combustible materials	259	71.9
	Process of spreading fire without smoke	70	19.4
Epidemic	Massive number of diseased people	353	98.1
	A large number of insects	1	.3
	Massive number of infected plants	7	1.6

Table 4. Review of responses to the question of what best describes a particular natural disaster.

Given the importance of knowledge on safety procedures in the event of a natural disaster, we wanted to research the level of their knowledge about it. The best knowledge on safety procedures refers to drought, because 98.6% of respondents indicate appropriate action. The lowest level of knowledge on safety procedures is registered in extreme temperatures and it amounts to 52.5%. Specifically, the respondents were in a serious dilemma when deciding whether it is necessary in extreme temperatures to drink plenty of fluids or not to leave the house. The problem can be found in the fact that many people associate extreme temperatures only with high temperatures. Yet even in these situations, the use of liquid cannot help in protecting the health and life of humans. In addition to extreme temperatures, concern refers to one of the most common natural disasters such as forest fires. Although 60.3% gave the correct answer, it is worrying that even 26.4% of respondents opted for pouring as one of the ways of protection. Thus, one third of respondents are in a serious delusion that they will be protected against the effects of fire and smoke by pouring. Results related to knowledge on safety procedures in the event of natural disasters are: floods, 85.3% of respondents gave the correct answer; landslides 91.9%; volcanic eruptions 95%; tsunamis 97.2%; hurricanes 92.2%; epidemics 77.8% (Table 5).

		Frequency	Percent
Earthquake	I leave the house in an open space.	265	73.6
	I go to the basement.	67	18.6
	I hide myself next to the wall.	25	6.9
Flood	Seeking the help of rescuers	32	8.9
	Climbing to higher ground	307	85.3
	Closing all the openings in the apartment/house	20	5.6
Extreme temperature	Going out into the open	18	5.0
	Staying in the house	189	52.5
	Drinking plenty of fluids	145	40.3
Landslide	Going outside to watch	5	1.4
	Getting out of the path	331	91.9
	Getting in the house	6	1.7
Drought	I don't leave the	3	.8

Volcanic eruptions	house		
	Ensuring adequate supplies of water	355	98.6
	Going to lower ground	7	1.9
Tsunami	I stay in the house	1	.3
	Evacuation or finding shelter	342	95.0
Hurricane	Immediate evacuation	350	97.2
	Lying down on the ground	6	1.7
Forest fire	Entering the boat and going as far away from the coast	14	3.9
	Staying at safe home until the end of the hurricane	332	92.2
	Getting out into the open space	8	2.2
Drought	Water pouring	95	26.4
	Lying down on the ground and	217	60.3

	crawl to a safe place		
	Closing the openings in the room	46	12.8
Epidemic	Going to an open	1	.3

	place		
	Going to the infirmary	73	20.3
	Avoidance of contact with other people	280	77.8

Table 5. Review of responses to the question of how to stay safe in the event of a natural disaster.

When talking about reducing the risk of natural disasters, we can say rightly that schools are unavoidable entities that play an increasingly important role. They play a crucial role in providing basic information on natural disasters in a local community. Shivaku says that the importance of school education on natural disasters has increased rapidly, stating the following reasons: children are most susceptible category in society; they represent the future; school is a center of education and the actual outcomes of the educational process are transferred to their families and local community itself; schools are recognized as centers of culture and education.²⁸ The question is what the situation is with the education of students about natural disasters in Serbia. Based on survey results, it can be said that serious attention is given to these thematic units. Of the total number of respondents, 86.9% answered that someone at school talked them about natural disasters, as opposed to 13.1% who answered negatively (Table 6).

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	313	86.9	86.9	86.9
	No	47	13.1	13.1	100.0
	Total	360	100.0	100.0	

Table 6. Review of answers to the question of whether someone at school has talked about natural disasters.

When asked to indicate person at school who has talked to them about some of the natural disasters, the respondents said: teacher 63.6%, school organized a lecture on the topic 10.8%, and some other services (police, first respondents, emergency service), 12.8%.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	285	79.2	79.2	79.2
	No	75	20.8	20.8	100.0
	Total	360	100.0	100.0	

Table 7. Review of answers to the question whether someone in the family has talked to you about natural disasters.

Of the total number of respondents, 79.2% were introduced with some of the natural disasters by a family member, while 20.8% were not introduced. When asked who in the family introduced them to some of the natural disasters, the respondents said: father 66.4%, mother, 55.3%, grandfather 21.4% , grandmother 15.3%. When asked to specify these natural disasters, they gave the following answers: floods 56.9%, flash floods 17.2%, tsunami 22.5%, epidemics 39.4%, extreme temperatures 23.9%, droughts 38.9%, landslides 20.3%, volcanic eruptions 20.3%, about every disaster a little bit 23.1%, about some other disasters 5.6% (Table 7).

Sources of information		Frequency	Percent	Valid Percent	Cumulative Percent
Television	da	334	92.8	92.8	92.8
	ne	26	7.2	7.2	100.0
Radio	da	50	13.9	13.9	13.9
	ne	310	86.1	86.1	100.0
Video games	da	21	5.8	5.8	5.8
	ne	339	94.2	94.2	100.0
Internet	da	256	71.1	71.1	71.1
	ne	104	28.9	28.9	100.0
Lectures	da	135	37.5	37.5	37.5
	ne	225	62.5	62.5	100.0

²⁸ Lindstone, J.: *Isto, str 45.*

Table 8. Review of answers to the question about the way of obtaining information about natural disasters.

In order to improve the knowledge and security culture of Academy students, it is important to examine what are the most common ways in obtaining information about natural disasters. In this way, we can get clear arguments in encouraging certain ways of transferring knowledge. The largest number of students gained information about natural disasters through television 92.8% , the Internet 71%, lectures 37.5%, radio 13.9% and video-games 5.8% (Table 8).

		Frequency	Percent	Valid Percent	Cumulative Percent
Father	Yes	47	13.1	13.1	13.1
	No	313	86.9	86.9	100.0
Mother	Yes	25	6.9	13.1	13.1
	No	335	93.1	86.9	100.0
Blanket	Yes	39	10.8	10.8	10.8
	No	321	89.2	89.2	100.0
Grandmother	Yes	38	10.6	10.6	10.6
	No	322	89.4	89.4	100.0

Table 9. Review of answers to the question of whether someone in your family directly / indirectly suffered the consequences of natural disasters.

In order to better understand the attitude towards natural disasters, it is important to consider whether someone in the family suffered the consequences of natural disasters. The question that arises refers to the relationship between experienced natural disasters and education of children in such situations. According to the survey results, it is evident that a small number of people suffered the consequences and these are: fathers 13.1%, mothers, 6.9%, grandparents 10.8% and grandmothers 10.6%. The next question was related to the specifying the natural disaster that someone from the family suffered: earthquake 28.6%, flood 10.6%, flash flood 1.1%, extreme temperatures 6.4%, droughts 3.6%, landslides 0.6% (Table 9).

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	292	81.1	81.1	81.1
	I'm not sure	36	10.0	10.0	91.1
	No	32	8.9	8.9	100.0

Table 10. Review of responses to the question of whether you would like to learn more about natural disasters.

Given the seriousness of the consequences of natural disasters, one of the most important measures of preparedness refers to the education of citizens. In this part of the paper we examine the motivation of students to acquire knowledge about various natural disasters. Based on survey results, it is unequivocally recognized that the interest is high. Specifically, 81.1% of them said that they want to learn more, about 10% were not sure and 8.9% do not want to learn more. The question that arises refers to the way in which they would like to learn. Therefore, we asked students if they would like to learn more about natural disasters in school or family. 77.8% of them stated that they wanted to learn in school, while 9.7% chose the family. When asked why they want to learn more, most respondents gave as answer one of the reasons of security (Table 10)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	218	60.6	60.7	60.7
	I'm not sure	116	32.2	32.3	93.0
	No	25	6.9	7.0	100.0
	Total	359	99.7	100.0	

Table 11. Review of answers to the question whether you feel secure in the building of the Academy from natural disasters.

Being protected against natural disasters is a very important safety issue. Such a variable can be in a very close relationship with the taking of measures of preparedness for a specific natural disaster. The survey results indicate that 60.6% of respondents feel protected, 32.2% are not sure and 6.9% do not feel protected in the facilities of the Academy when it comes to natural disasters. Of the total number of respondents who answered that they feel protected against natural disasters, the reasons were as follows: because the school buildings are safe, 22.5% of respondents; because teachers are trained in handling such situations, 23.6%; because I know what I should do in such situations ,30.6% (Table 11).

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	95	26.4	26.4	26.4

	I'm not sure	73	20.3	20.3	46.7
	No	192	53.3	53.3	100.0
	Total	360	100.0	100.0	

Table 12. Review of answers to the question of whether you have a fear of natural disasters.

Of the total number of respondents, 26.4% feel the fear from natural disasters, 20.3% are not sure and 53.3% do not feel fear. It can be said that the number of respondents who feel fear is not negligible, especially considering the number of those who are not sure. Accordingly, we wanted to examine in which natural disasters that fear reaches its highest level (Table 12).

	Flood	Earthquake	Extreme temperature	Landslides	Tsunami	Volcanic eruptions	Epidemics
I am not concerned	42,5%	42.5%	39.7%	56.7%	71.1%	70.0%	30.3%
Sometimes concerned	35,0%	35.0%	36.4%	24.7%	11.7%	10.3%	29.2%
Concerned	17,8%	17.8%	16.9%	12.2%	8.3%	10.3%	23.3%
Very concerned	3,1%	3.1%	3.6%	4.4%	5.3%	5.3%	8.6%
Extremely concerned	1,7%	1.7%	3.3%	1.9%	3.6%	4.2%	8.6%

Table 13. Review of answers to the question of how much you are concerned about natural disasters.

By the question referring to the concern, we examined the level of concern for each of these natural disasters. Results correspond to logic of common sense that respondents are most unconcerned about natural disasters that have never happened in our area. For instance, 71.1% of respondents are not concerned about tsunamis and 70% about volcanic eruptions. However, when it comes to earthquakes 35%, extreme temperatures 36.4%, landslides 24.7% and epidemics 29.2%, there is a distinct level that refers to sporadic concerns. It is characteristic that most respondents are extremely concerned about epidemics with share of 8.6% (Table 13).

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	302	83.9	83.9	83.9
	I'm not sure	32	8.9	8.9	92.8
	No	26	7.2	7.2	100.0
	Total	360	100.0	100.0	

Table 14. Review of answers to the question of whether you would like to get some form of training in emergency situations caused by natural disasters?

A frequently asked question relates to the interest of citizens, students and pupils on training in emergency situations. That is why we wanted to examine the interest of students of the Academy for one such training. A large number of respondents 83.9% would like to undergo training, 8.9% are not sure and 7.2% do not want this training. The results are in some way expected bearing in mind the work of police officers which they are educated for. Of course, we wanted to examine the reasons why they would like training: 60.3% said they would feel safer; 45% said they could inform their family members about the ways of protection against natural disasters. Accordingly, we examined whether they are for the introduction of the subject on which they would be educated about emergency situations. 55.6% of them answered positively, while 37.8% were not sure and 6.7% answered negatively (Table 14).

Methods of obtaining information	Classic lessons	Educational films and series	Case studies	Interesting video games	Workshops
Yes	26.4%	58.3%	25.8%	8.6%	41.1%
No	73.3%	41.4%	73.9%	91.1%	58.6%

Table 15. Review of answers to the question of how you would like to gain information about natural disasters and how to protect against them?

Most of the respondents 58.3% answered that they would like to obtain information about natural disasters and the way of protection through educational films and series. These are followed by workshops 41.1%, classical lessons 26.4%, case studies 25.8% and interesting video games 8.6% (Table 15).

To test the independence of individual factors and knowledge of the respondents it is used the chi-square test. The final results were obtained summing the test results for each type of natural disasters and dividing by the total number of disasters.

		Gender	Living with father	Living with mother	Living with grandfather	Living with grandmother	Father's education	Mother's education	Employment of parents	Fear	Television	Radio	Internet	Lectures
Perception of knowledge	x ²	2,23	1,19	0,98	3,12	1,42	2,01	3,12	1,21	5,16	18,6	1,03	19,5	1,72
	df	2	2	2	2	2	2	2	3	2	2	2	2	2
	p	0,39	0,54	0,78	0,09	0,24	0,41	0,32	0,41	0,68	0,05	0,60	0,04	0,44
	V	0,07	0,03	0,04	0,01	0,10	0,02	0,17	0,05	0,08	0,30	0,20	0,20	0,02
Knowledge	x ²	1,10	0,38	0,18	1,96	2,65	23,7	18,6	19,6	1,73	0,43	1,14	3,41	2,57
	df	2	2	2	2	2	2	2	3	2	2	3	2	3
	p	0,57	0,62	0,96	0,36	0,08	0,03	0,04	0,05	0,42	0,80	0,12	0,12	0,09
	V	0,05	0,03	0,02	0,07	0,26	0,30	0,10	0,30	0,06	0,04	0,02	0,04	0,05
Knowledge of security procedures	x ²	5,12	1,28	1,90	9,79	1,18	1,90	1,73	0,477	2,66	1,42	2,14	3,1	4,1
	df	2	2	2	2	2	2	3	3	2	3	2	3	2
	p	0,24	0,43	0,13	0,58	0,93	0,13	0,28	0,38	0,07	0,55	0,28	0,30	0,41
	V	0,02	0,02	0,07	0,06	0,03	0,00	0,03	0,03	0,03	0,02	0,07	0,06	0,03

Table 16. Results of testing the influence of selected factors on the knowledge of high school students about the earthquake.

In order to determine a correlation between certain characteristics of respondent and his/her perception and knowledge on safety procedures for responding to natural disasters, we have opted for the chi-square test of independence (Chi-Square - χ^2). In order to research the level of impact of gender, we used Cramer's V which takes into account the number of degrees of freedom. We chose Cramer's coefficient instead phi coefficient because it is a table larger than 2 by 2. Taking into account that for R-1 or K-1, in our case it is equal to 1, to assess the level of impact of gender on the knowledge of security procedures we used the following criteria: small = 0.01; medium = 0.30; big = 0.50 impact. Judging by the results, there is a statistically significant correlation between: father's education ($p = 0,03 \leq 0,05$, $\phi = 0.30$ - medium); mother's education ($p = 0,04 \leq 0,05$, $\phi = 0.10$ - small); employment of parents ($p = 0,05 \leq 0,05$, $\phi = 0.30$ - medium) and knowledge about natural disasters. Also, there is a statistically significant relationship between television and the perception of knowledge about natural disasters ($p = 0,05 \leq 0,05$, $\phi = 0.21$ - medium) (Table 16).

CONCLUSION

Experience has shown that access to high-quality educational programs about natural disasters is of crucial importance in protecting children and their families. It was also noted that instead of considering children and women as the most vulnerable categories (victims), they can be recognized as contributors to the recovery of community assuming that they have acquired a solid knowledge on natural disasters and elimination of their consequences. Education about risk of natural disasters can be represented through special programs or through the implementation into basic curriculum. Furthermore, such education can be realized through curricular and extra-curricular activities (such as, for example, various workshops, games, etc.). Although the education of young people for the protection of life, health and the environment has its roots in the family and pre-school education, the school is irreplaceable in achieving this goal. The school is obliged to develop the knowledge, awareness and habits that prevent dangers, in fact, in its basic function it has the task to enable human, on the one hand, to rule over nature, and on the other, protection against hazards that may befall them and against his human „ nature“ itself.²⁹ It is important to have awareness that we „ cannot escape“ from danger, they can only be prevented ,that is, consequences can be prevented by knowledge, awareness and education to automatism of habits. In addition, education for active and passive protection of self and others, physical integrity or natural properties and the environment, while creating habits and feelings of responsibility, truthfulness, humanity,

²⁹ Kuroiwa, J. A.: *Peru's national education program for disaster prevention and mitigation (PNEPDPM)*. Training and Education for Improving Earthquake Disaster Management in Developing Countries, UNCRD Meeting Report Series, 57, 95–102, 1993.

justice, modesty is subject of educational influence of school education. The main findings are: respondents showed a high level of knowledge about natural disasters, however, the level is the highest in natural disasters that are present in our region; the best knowledge on safety procedures is in relation to droughts, because 98.6% of respondents indicate appropriate treatment. The lowest level of knowledge of safety procedures is registered in extreme temperatures and amounts 52.5%; of the total, 86.9% of respondents said that they had someone at school who talked about natural disasters, as opposed to 13.1% who responded negatively, 79.2% of respondents were introduced with some of the natural disaster by a family member, while 20.8% were not; 60.6% of respondents feel protected, 32.2% are not sure and 6.9% do not feel protected in the facilities of the Academy when it comes to natural disasters; 26.4% feel the fear of natural disasters, 20.3% are not sure and 53.3% do not feel fear; 83.9% of respondents would like to undergo training, 8.9% are not sure and 7.2% do not want; the largest number of respondents gained information about natural disasters through television 92.8%, and the smallest number through video-games 5.8%. The results indicate that there is a statistically significant correlation between: the father's education ($p = 0,03 \leq 0,05$, $\phi = 0.30$ - medium); mother's education ($p = 0,04 \leq 0,05$, $\phi = 0.10$ - small); employment of parents ($p = 0,05 \leq 0,05$, $\phi = 0.30$ - medium) and knowledge about natural disasters. Also, there is a statistically significant relationship between television and the perception of knowledge about natural disasters ($p = 0,05 \leq 0,05$, $\phi = 0.21$ - medium);

REFERENCES

1. Adem, Ö.: The Relationship between Earthquake Knowledge and Earthquake Attitudes of Disaster Relief Staffs. *Disaster Advances*, 4(1), 2011, 19-24.
2. Arya, A. S.: Training and drills for the general public in emergency response to a major earthquake, Training and Education for Improving Earthquake Disaster Management in Developing Countries, 1993, pp. 103-14, UNCRD Meeting Report Series No. 57.
3. Becker, J. S., Paton, D., Johnston, D. M., & Ronan, K. R.: A model of household preparedness for earthquakes: how individuals make meaning of earthquake information and how this influences preparedness. *Natural hazards*, 64(1), 2012, 107-137.
4. Becker, J., Johnston, D., Paton, D., & Ronan, K.: Community resilience to earthquakes: Understanding how individuals make meaning of hazard information, and how this relates to preparing for hazards. Paper presented at the New Zealand Society for Earthquake Engineering Conference, 2009.
5. Cvetković, V., Mijalković, S.: *Spatial and Temporal distribution of geophysical disasters*. Serbian Academy of Sciences and Arts and Geographical Institute Jovan Cvijic, *Journal of the Geographical Institute "Jovan Cvijic"* 63/3, 345-360.
6. Cvetković, V., Milojković, B., & Stojković, D.: Analiza geoprostorne i vremenske distribucije zemljotresa kao prirodnih katastrofa. *Vojno delo*, 2014, letnje izdanje.
7. Cvetković, V.: Geoprostorna i vremenska distribucija vulkanskih erupcija. *NBP – Žurnal za kriminalistiku i pravo*, 2/2014, 153-17.
8. Cvetković, V., Dragičević, S.: Prostorna i vremenska distribucija prirodnih nepogoda. *Zbornik radova Geografskog instituta „Jovan Cvijic“ SANU*, 293-309, 2014.
9. Cvetković, V.: Spatial and temporal distribution of floods like natural emergency situations. *International scientific conference Archibald Reiss days* (pp. 371-389). Belgrade: The academy of criminalistic and police studies, 2014.
10. Edwards, M. L.: Social location and self-protective behavior: Implications for earthquake preparedness. *International Journal of Mass Emergencies and Disasters*, 11(3), 1993, 293-303.
11. Faupel, C. E., Kelley, S. P., & Petee, T.: The impact of disaster education on household preparedness for Hurricane Hugo. *International Journal of Mass Emergencies and Disasters*, 10(1), 1992, 5-24;
12. Finnis, K. K., Johnston, D. M., Ronan, K. R., & White, J. D.: Hazard perceptions and preparedness of Taranaki youth. *Disaster Prevention and Management*, 19(2), 2010, 175-184.
13. Fortuin, J., Bush, R. (2010). *Educating students to cross boundaries between disciplines and cultures and between theory and practice*. *International Journal of Sustainability in Higher Education*, 11(1), 19–35, 2010.
14. Frew, S.L.: Public awareness and social marketing”, Regional Workshop on Best Practices in Disaster Management, Bangkok, 2002, pp. 381-393.
15. Hurnen, F., & McClure, J.: The effect of increased earthquake knowledge on perceived preventability of earthquake damage. *Australas. J. Disaster trauma study* (3), 1997.
16. Ivanov, A., Cvetković, V.: The role of education in natural disaster risk reduction. *Horizons, international scientific journal, year X Volume 16, 2014*.

17. Johnson, V. A., Ronan, K. R., Johnston, D. M., & Peace, R.: Evaluations of disaster education programs for children: A methodological review. *International Journal of Disaster Risk Reduction*, 9, 2014, 107-123.
18. Kohn, S., Eaton, J. L., Feroz, S., Bainbridge, A. A., Hoolachan, J., & Barnett, D. J.: Personal disaster preparedness: an integrative review of the literature. *Disaster medicine and public health preparedness*, 6(03), 2012, 217-231.
19. Kurita, T., Nakamura, A., Kodama, M., & Colombage, S. R.: Tsunami public awareness and the disaster management system of Sri Lanka. *Disaster Prevention and Management*, 15(1), 2006, 92-110.
20. Kuroiwa, J.A.: Peru's national education program for disaster prevention and mitigation (PNEPDPM)", Training and Education for Improving Earthquake Disaster Management in Developing Countries, UNCRD Meeting Report Series, No. 57, 1993, pp. 95-102.
21. Lidstone, J.: *Disaster education: Where we are and where we should be*. In: Lidstone, J. (Ed.), *International perspectives on teaching about hazards and disasters* (p. 3). Philadelphia, USA: Channel View Publications, 1996:34.
22. Liu, S., Quenemoen, L. E., Malilay, J., Noji, E., Sinks, T., & Mendlein, J.: Assessment of a severe-weather warning system and disaster preparedness, Calhoun County, Alabama, *American journal of public health*, 86(1), 1996, 87-89.
23. Mishra, S., & Suar, D.: Do lessons people learn determine disaster cognition and preparedness?. *Psychology & Developing Societies*, 19(2), 2007, 143-159.
24. Mladan, D., Cvetković, V.: *Classification of Emergency Situations*. Belgrade: Thematic Proceedings of International Scientific Conference "Archibald Reiss Days", Academy of criminalistic and police studies, 2013, pp. 275-291.
25. Naill M. Momani, Asad Salmi, "Preparedness of schools in the Province of Jeddah to deal with earthquakes risks", *Disaster Prevention and Management*, 2012, Vol. 21 Iss: 4 pp. 463 – 473.
26. Panic, M., Kovacevic-Majkic, J., Miljanovic, D., & Miletic, R.: Importance of natural disaster education - case study of the earthquake near the city of Kraljevo: First results. *Journal of the Geographical Institute Jovan Cvijic, SASA*, 63(1), 2013, 75-88.
27. Radu, C.: Necessity of training and education in earthquake-prone country", Training and Education for Improving Earthquake Disaster Management in Developing Countries, UNCRD Meeting Report Series, 1993, No. 57, pp. 15-33;
28. Rajib, S., Koichi, S., Yukiko, T.: *Disaster education*. United Kingdom, Emerald Group Publishing, 2011.
29. Ronan, K. R., & Johnston, D. M.: Correlates of hazard education programs for youth. *Risk Analysis*, 2001, 21(6), 1055-1064.
30. Ronan, K. R., Johnston, D. M., Daly, M., & Fairley, R.: School children's risk perceptions and preparedness: A hazards education survey. *Australasian Journal of Disaster and Trauma Studies*, 1, 2001.
31. Shaw, R., Shiwaku, K., Kobayashi, H., Kobayashi, M.: Linking experience, education, perception and earthquake preparedness. *Disaster Prevention and Management*, 2004, 13(1), 39-49.
32. Tomio, J., Sato, H., Matsuda, Y., Koga, T., & Mizumura, H.: Household and Community Disaster Preparedness in Japanese Provincial City: A Population-Based Household Survey. *Advances in Anthropology*, 2014.
33. UN/ISDR.: *World disaster reduction campaign. Disaster risk reduction begins at school*. Available at http://www.unisdr.org/eng/public_aware/world_camp/2006-2007/pdf/WDRRC-2006-2007-English-fullversion.pdf,2006 (Accessed on January 10.04. 2013).
34. Zakon o vanrednim situacijama Republike Srbije, *Službeni glasnik Republike Srbije*, broj 111/2009.