

Article

DEMOGRAPHIC, SOCIO-ECONOMIC AND PSYCHOLOGICAL PERSPECTIVE OF RISK PERCEPTION FROM DISASTERS CAUSED BY FLOODS: CASE STUDY BELGRADE

Jovana Perić¹, Vladimir M. Cvetković²,

¹ Scientific-Professional Society for Disaster Risk Management, Belgrade;
jovana.peric07@gmail.com

² Faculty of Security Studies, University of Belgrade, Gospodara Vucica 50, 11040 Belgrade,
Serbia; vmc@fb.bg.ac.rs

* Correspondence: jovana.peric07@gmail.com.

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Abstract: : Taking into account that floods are a very common occurrence in the Republic of Serbia, as well as the fact that they directly endanger the life and health of people, their property and the environment, it is necessary to see into how an individual perceives the risk of a natural disaster caused by a flood. In accordance with what is mentioned earlier, the research on which this paper is based was conducted in the area of several Belgrade municipalities - Palilula, Zemun, New Belgrade, Old Town, Savski venac, Grocka and Čukarica, with a sample of 120 respondents and with the aim of examining the perception of risk among the citizens of Belgrade. The results of the research show that there is a correlation between demographic (gender, age and education), socio-economic (property ownership and income levels) and psychological (fear and previous experience) factors with risk perception. Based on the results of the research and the knowledge gained, recommendations can be made that the competent authorities, institutions and organizations will be able to use in their educational activities, all with the aim of improving the perception of risk in the population. In this way, conditions are created for the implementation of preventive activities that can significantly reduce the consequences of natural disasters.

Keywords: risk perception, natural disaster, floods, prevention.

1. Introduction

Risk perception is defined as a way of acknowledgment by the community and how it grades the possibility of some disaster happening and, mostly negative, effects of that disaster (Bubeck et al. 2012; Grothmann & Reusswig 2006; Lechowska, 2018). Risk perception

appertains to the psychological factor which affects the citizens understanding of disasters, in addition to previous experiences, motivations and fear, comprehension, worries, etc. (Cvetković, 2015: 171). What is important is that the method in which individuals perceive risk coming from a certain natural disaster is a crucial factor in the decision of their response to the warnings of a supposed natural danger (Burn, 1999: 3451). Likewise “humans estimate dangers to which they are or could be exposed to, and that exactly is named “risk perception” (Rohrmann, 2008: 2). Almost three decades prior a German sociologist Ulrich Beck presented a thesis that risks to which we are exposed to became priceless and unforeseeable since we live in a perilous society. Beck stated then: “scientific rationality without social rationality remains hollow, also social rationality without scientific rationality remains blind” (Beck, 1992: 30). For that reason it is necessary to deeper explore risk perception which refers to socio-cultural dimensions of risk perception, the resistance of the community and social behavior, using cognitive psychological approaches towards their understanding (Botzen et al., 2009; Guo & Kapucu, 2019; Fujita & Shaw, 2019; Mavrodieva et al., 2019). Having in mind that the concept of “risk” is a human construct, “real” or “objective” risk cannot be discussed, since it is the notion of subjective character (Rausand, 2011). Using the activity of the media, political and institutional subjects responsible for assessment and procurations of risks, as key social and political partakers, the risk perception as the public perceives it can be affected upon (Beck, 1992). The understanding of risk perception allows us (1) to predict, to a certain point, human reactions to natural disasters such as floods, (2) comprehension of risk perception enables the creators of politics and institutions to produce efficient strategies which are in accordance with public expectations, (3) allows the creation of a two-way dialogue among the citizens and government bodies about the risks of natural disasters, which leads to an increase of preparation and effective reactions in the case of a natural disaster (Cologna et al., 2017: 2). Slovic and Weber (Slovic & Weber, 2002) further explain that “in the limits of a psychometric paradigm, people bring about quantitative judgements regarding a current and wanted riskiness of various dangers and an ideal level of regulation for each one”. In other words, the goal of the psychometric paradigm is to divulge the factors that define risk perception (Siegrist, Keller, Henk & Kiers, 2005).

In risk perception theory there has been a great influence by Paul Slovic, who among his colleagues, firstly researched risk perception of citizens through the theory of personality, to later add to the research based on a psychometric approach. Based on the theory of personality they required from the respondents, based on personal opinions about natural disasters, to adduce characteristics which affect their risk perception. Aside from the information mentioned above, Slovic pointed out that risk in a “modern world” is perceived in two ways, the first one being “risk as a feeling” which is manifested as an instinctive and intuitive reaction to a certain danger, and the second one being “risk as analysis” which is recognized by a logical and sensible reasoning and is manifested as an assessment of risk and bringing forth decisions (Slovic & Peters, 2014: 322). A well-known study by Slovic (Slovic, Flynn, & Layman, 1991) included posing the following question to people “how will their trust act under the influence of various happenings” (Sjöberg, 2003: 6). At that point a conclusion has been reached that it is “easy to destroy trust, but difficult to regain it” (Slovic, Flynn, & Layman, 1991).

2. Literary review

Numerous foreign theorists have engaged in research into the risk perception of natural disasters. Relevant research has been conducted in Chile (Bronfman & Cifuentes, 2003), Japan (Motoyoshi, 2006), coastal areas (Magliocca & Walls, 2018), China (Liu et al., 2018),

New Zealand (Crawford et al., 2018), Portugal (Rego, 2018), Germany (Frondel et al., 2017), northern Italy (Cabini et al., 2018), Greece (Diakakis, 2018), Burkina Faso (Schlef, 2018), Brazil (Adraya et al., 2017), Great Britain (Cologna et al., 2017), Serbia (Cvetković, 2016), etc. The aforementioned research in Chile aimed to explain the perception of natural disasters risk using a psychometric paradigm. The goals were: to assess what danger preoccupies Chileans, to describe the risks that affect perceptions of them; explore the differences between perceived social risk and perceived personal risk; to examine risk acceptability issues. In Japan, a survey of citizens' perception of flood risk as a prerequisite for devising activities to engage residents in disaster prevention was conducted. Surveys of flood risk perception in rural Henan Province, China showed that women have a better perception of flood risk than men, respondents with more education, children at home and previous experience with floods perceive floods more as natural hazards than others, old age the group between 18 and 44 had the highest perception of flood risk, etc. In Greece, results of a survey on the perception of natural disaster risk showed that respondents treat floods of third importance behind earthquakes and forest fires, and respondents' responses indicate a low level of confidence in the competent state authorities but also a low level of knowledge about flood protection and awareness activities. The questions that aroused researchers' attention when examining risk perception were most often whether citizens were aware of the risks (Cvetković, 2016; Cvetković & Sandić, 2016) of natural disasters (Jakovljević, Gačić & Cvetković, 2015; Cvetković, Milojković & Stojković; Cvetković, Vucic & Gacic, 2015; Cvetkovic, Gacic & Jakovljevic, 2016).

The impact of demographic, socio-economic and psychological factors has been examined in disaster theory. Thus, the influence of gender has been studied (Becker, 2011; Cvetković, 2016; Ardaya, Ribbe & Evers, 2017), years of age (Heller, Alexander, Gatz, Knight, & Rose, 2005; Marshall Jr & Mathews, 2010; Cvetković, 2016), education level (Cvetković et al., 2015; Öcal & Topkaya, 2011; Smawfield, 2012; Tuswadi & Hayashi, 2014; Jakovljević, Cvetković & Gačić, 2015), household income (Werritty, Houston, Ball, Tavendale & Black, 2007; Cvetković, 2016), property ownership (Baker, 2011; Cvetković, 2016), marital status (Spittal, McClure, Siegert, & Walkey, 2008; Cvetković 2016), victim characteristics, and type of natural disaster (Ho & al., 2006) etc. Residents living in areas often affected by natural disasters are often more aware of threats than such events (Lindell & Perry, 1992), take preventative measures (Faupel, Kelly & Petee, 1992) and are better aware of warning and notification systems for impending hazards (Cvetković, 2016; Cvetković & Gačić, 2016); individuals who have experienced serious material and psychological consequences as a result of natural disasters, pay much more attention to media writing about disasters (Cvetković and Milojković, 2016), but are more prepared to respond (Cvetković, 2015); in the motivation phase to improve preparedness for response to natural disasters, the following variables influence: risk perception, critical awareness and fear of natural disasters (Paton, 2003) indicates in his research that these variables influence the degree of motivation of people for implemented a disaster preparedness measure. In the context of the perception of natural disasters risk, a study conducted by Cvetković (2016) led to the following conclusion: "a statistically significant correlation between fear, previous experience, risk perception and motivation to take preventive measures was identified". The following has been identified in the disaster literature: socio-economic characteristics influence the perception of natural disasters risk (Bronfman & Cifuentes, 2003); risk perception is influenced by communication between competent authorities and the potentially vulnerable population; as well as awareness of the costs that a flood can cause (Motoyoshi, 2006); women have a better perception of flood risk than men, respondents with more education, children in the home and previous experience with floods perceived floods as more natural than others, the age group between 18 and 44 had the highest perception of flood risk (Liu et al., 2018); local government has a dominant

role in influencing the perception of natural disasters risk (Crawford et al., 2018); disaster knowledge influences risk perception (Rego, 2018); personal disaster experience and personal disaster damage are strong drivers of individual risk perception (Frondel et al., 2017); in Greece, results of a survey on the perception of natural disaster risk showed that respondents treat floods of the third highest importance after earthquakes and forest fires, and respondents' responses indicate a low level of confidence in the competent authorities and a low level of knowledge about flood protection and awareness activities (Diakakis, 2018); Burkina Faso's perception of flood risk perception has shown that following previous flood experiences (2009), risk perception has hardly changed due to the view that prevention measures are expensive and people's accountability for action is limited (Schlef, 2018); the media play a crucial role in shaping citizens' risk perceptions (Cologna et al., 2017).

Talking about gender and the impact of gender on risk perception (Ho & al., 2006; Becker, 2011; Cvetković, 2016; Ardaya, Ribbe & Evers, 2017), some researchers have come to the conclusion that the importance of gender factor testing is greater in countries where the cultural and legal differences between the sexes are stronger, as is the case in Pakistan (Ardaya, Ribbe & Evers, 2017). According to Slovic (1994), some studies have pointed to the fact that women experience a higher level of risk than men. This conclusion was reached in a study conducted by Wang (Wang et al., 2018) as well as Jonkman & Vrijling (Jonkman & Vrijling, 2008), which found that men account for more than 70% of flood victims. They attribute the above to a high proportion of men in emergency situations, that is, in providing assistance and services during emergencies, which puts them at greater risk. In addition, they point out that men are more likely to take risks. In this regard, more than 90% of the men surveyed would participate in flood prevention activities (Urcan, 2012).

Concerning the correlation between age and risk perception, numerous studies have also been conducted (Heller, Alexander, Gatz, Knight, & Rose, 2005; Marshall Jr & Mathews, 2010; Cvetković, 2016). One of them (Wang et al., 2018) indicated a significant correlation between age and risk perception. Specifically, it concluded that the level of risk perception is higher among senior citizens, those aged 51 to 70 years. Urcan (2012) found the following results in terms of the impact of age on flood risk perception: people between 50 and 60 (especially women) would only leave their homes if they were forced to do so by the authorities, all because of they find it difficult to leave their belongings; those who would rather face the flood are people, especially men, between 30 and 50 years of age, who feel they can face any type of danger and are unaware of its severity; older people, both men and women, will take preventative measures in a smaller number of cases.

Ho et al. (Ho et al., 2006), as one of the conclusions they reached, point out that education plays a significant role in creating risk perception. Specifically, they point out that people with a high level of education have a lower level of risk perception due to the fact that they have a better understanding of the information they receive (about the characteristics of floods, the measures to be implemented) and accordingly feel that they can control the situation. In the context of education, both the results cited by Wang et al (Wang et al., 2018) indicated a significant correlation between education and knowledge and risk perception. They came to the same conclusion - people with higher education level have lower level of risk perception, and in that sense those with a college degree perceive risk differently than those with a primary, secondary or higher education. A study conducted by Wang et al (Wang et al., 2018) concluded that people with lower monthly incomes had a higher level of flood risk perception, while those with higher monthly incomes correlated with those with higher education level. These results coincide with those obtained by Kellens et al (Kellens, Terpstra & De Maeyer, 2013).

2. Methods

The research of risk perception relating to natural disasters among citizens of Belgrade based on demographical, socio-economical and psychological factors is established upon a statistical quantitative research. In this respect, the results of previous research has been tested primarily, and afterwards a survey in the form of a questionnaire was formed. The survey was based upon the one used in a survey conducted in Australia (Becker, Johnston, Coomer, & Ronan, 2007). The survey consists of a general part and a part connected to risk perception. In the first, general part, questions connected to demographical and socio-economical characteristics of the examinees: gender, age, marital status, educational level, extent of the monthly income per household and ownership of the property they live in, can be found. The second part of the survey holds the statements which were evaluated by the respondents, with a purpose of researching their stance about the consciousness relating to flood, preparedness and worry regarding floods. Adults of age, from municipalities belonging to Belgrade and which in the most part overlook rivers Sava and Danube – Zemun, Novi Beograd, Cukarica, Grocka, Palilula, Stari Grad and Savski venac, were interviewed during this survey. The households, in which the survey was conducted, were chosen by a random sampling method. 120 citizens were questioned in total. The majority of the respondents is from the Novi Beograd and Grocka area, each 19.2%, and the minority from Savski venac (8.3%), and from the total number of respondents, a larger share hold the men (55%) compared to women (45%). Analyzing the education level, it is noticeable that most of the examinees are those with a high education (39.2%), and the least are those with an elementary school degree (1.7%). Regarding marital status, the majority of the respondents was married (34.2%), followed by those who are not engaged in a relationship, i.e. single (31.7%) and respondents in a certain type of a relationship (20.8%). In the context of age, younger examinees are dominant where the largest percentage is among people between the ages of 25 and 35 (42.5%), whereas the number of older respondents, those over the age of 55, is minor (5.8%). Additionally, while examining the socio-economical parameters, it is noticeable that based on the extent of the monthly income per household, the majority of the respondents has income above 90.000 dinars (64.2%), and also lives in a property owned by a family member (56.7%). Within the survey three groups are formed that are based on risk perception caused by floods and those are as follows: consciousness, preparation and concern. For each of the mentioned groups questions have been asked which as a goal have representation of the level of risk perception among citizens. From the questionnaire, the key questions have been secluded and processed, that is the ones which have been considered to the most important for evaluating the connection between demographic, socio-economic and psychological factors relating to risk perception from floods. Firstly, we approached to counting the cases which belong to different categories and following the data which has been gained had been intertwined for the sake of researching the differences among the groups.

3. Results

Examining the influence of demographic factors on risk perception from floods (gender, age and education), with some of the aspects of risk perception (conscience, preparation and concern regarding floods) it is concluded that there is no statistically significant connection regarding the hold of neither of the mentioned demographical factors related to the understanding of flooding ($p > 0.05$). In that sense, men and women, in a nearly equal percentage have conscience about floods, as well as older and younger respondents along with respond-

ents of different educational levels. In each category, the biggest percentage of examinees answered the question “Do you consider that you live in an area which is in immediate danger of floods” with an answer that they do not (54%). What should be pointed out is that the majority of the respondents consider that their house/apartment could not be endangered by floods is above the age of 55 (85.5%). Likewise, men and women almost equally appraised the possibility of flooding occurring in the are of their municipality. On both sides, the biggest percentage of the respondents labeled that the occurrence of floods is possible up to a certain level, specifically 60.6% of the total number of men examined and 70.4% of the total number of women. Next, the majority of respondent considers that a flood could occur in the following 5 years, respectively 42.2% from the total amount of questioned men and 38.9% of questioned women.

Considering the preparedness to react in the case of a flood, different results have been achieved. To the question “Do you consider that it is necessary to engage preventive measures in case of a flood occurring”, the majority of the respondents answered affirmatively (85%). With further analysis it is confirmed that 87% of the total number of women examined considers that it is necessary to include preventive measures, and the same is though of by 83.3% of men. Although a bigger percentage of women stated that they consider it necessary to engage preventive measures, likewise that they have the intention to inform themselves about risk from flooding (53.7% of women and 45.5% of men), men, in a bigger percentage (45.5%) have the intention to include themselves in the implementation of measure to reduce the risk of flooding, comparing to women (31.5%). In the correlation with age, it is determined that the majority of the respondent which would participate in the methods mentioned is between the ages of 36 and 45 (50%). However, although it can be concluded that men between the ages of 36 and 45 are prepared for floods in a more serious manner, it is not determined whether there is a significant correlation between gender and age in relation to preparedness for flood, as one of the aspects of risk perception ($p>0.05$). When analyzing the influence of education on preparedness for floods, the results showed that college educated individuals, above all those with a high education, in a more significant amount that others, consider that it is necessary to implement preventive measures (91.5%), but that only a lesser percentage among them is ready to include themselves in the implementation and has affirmatively answered the question “Do you intend to, in any way, include yourself in the implementation of actions where the goal is to reduce the risk of flooding” (38.3%). Also, what should be mentioned is that the least percentage of the respondents which stated that they have an intention to inform themselves regarding risk of flooding (28.6%), as well as actions regarding reducing the risk (14.3%) is in the category of those aged over 55 year. Based on the facts that were previously mentioned, it can be deduced that older citizens, in addition that they deem they cannot be affected by floods, they are also the least prepared in case of floods.

The results gained form intertwining demographic factors and concerns regarding floods, showed that women in a larger percentage, in a certain measure, fear floods (48.2%), comparing to men which have stated that they have no fear from this danger (60.6%). In that manner it is concluded that there is a statistically important connection between gender and fear from flooding ($p=.002$), hence it can be deduced that women perceive risk from floods more than men. It is stated that in accordance to precious results which indicate that men, in a higher percentage, have the intention and are ready to join the actions towards reducing the risk of floods comparing to women, although women consider, in a higher percentage, that it is necessary to carry out preventive measures and inform about the risk of flooding and the actions connected to reducing said risk.

Taking into consideration socio-economical factors (ownership of a property and the extent of the monthly income per household) and crossing them with aspects of risk perception

(conscience, preparedness and concern), it is confirmed that there is no statistically significant connection neither between ownership of a property and conscience, nor the extent of the monthly income per household and conscience regarding floods ($p > 0.05$). Independently from the fact in whose household they live in, as well as how high their monthly income is, the majority of the respondents considers that the municipality in which they live, thus their household is not endangered by floods. However, there are differences in the answers of the respondents, thus the highest percentage of the total number of the respondents which live in a property owned by them personally consider that they, nevertheless, live in an area which can be affected by floods (42.9%), followed by respondents who live in a property owned by a family member (41.2%) and lastly the respondent that live in a property owned by a third party from whom they rent the property (36.4%). The answer to the following question is stated with a certain contrast "Could your household be damaged in the case of floods", where the majority of the respondents who lives in a property which they personally own (64.3%) considers that it cannot be endangered.

The highest number of the respondents which lives in a personal property (92.2%) considers that it is needed to implement preventive measures, and among that percentage a smaller amount has the intention to participate in said implementation (50%), as is mentioned that this is a higher number than those who live in a property owned by a family member (33.8%), or a third party whom they are renting from (40.9%). The respondents, depending on their monthly income, have declared their opinions regarding implementation of preventive measures and the intention to be included in actions towards reducing flood risk. Majority of the respondents, independently from their monthly incomes, agreed that it is necessary to implement preventive measure, however a smaller number declared that they would be included in the implementation itself. Thus, from the total amount of the respondent whose monthly income is between 50.000 and 75.000, the majority (53.1%) clarified that they have an intention, whereas from the total amount of respondent with incomes above 90.000 (39%) clarified that they have no intention, as well as respondents with monthly incomes between 25.000 and 50.000 (30%). However, despite the mentioned differences, and regarding the connection of socio-economic factors and preparedness for floods, there is no significant statistical correlation ($p > 0.05$).

On the other hand, it is deduced that there is a statistically important connection between the ownership of a property and concerns about floods ($p = .000$). Namely, the respondents who live in a personally owned property perceive the flood risk in a bigger amount and consider that flood are a subject of concern to a certain amount, comparing to the respondents who live in a third-party owned property which they rent. Also, 63.6% of these respondents stated that they have no fear of floods, comparing to those who own the property (42.9%) or whose property is owned by a family member (41.2%). Analyzing the influence of other socio-economic factors, the extent of the monthly salary, a conclusion was formed that the crucial factor in determining floods as a cause of concern or fear, hence the statements from the respondents were mostly equal. However, what should be mentioned is that the respondents with a monthly income between 25.000 and 50.000 stated in a larger percentage that they have no fear from floods (50%) which is a higher percentage comparing to other categories.

The results also showed that respondents with higher levels of education had lower levels of risk perception. Specifically, they are less likely to consider floods as a threat to their personal safety or their household. These results are consistent with the conclusion reached by Wang et al (Wang et al., 2018). They pointed to a significant correlation between education and knowledge and perception of risk, and pointed out that people with higher levels of education perceived risk less, and in that sense those with a college degree perceived risk differently than those with primary or secondary education. Speaking of ownership of the

building, it has been shown that respondents who live in a building that is their personal property in a larger number find it necessary to implement preventive measures compared to respondents who live in the building owned by a third party from whom the property is rented. A statistically significant correlation was also found with regard to the relationship between facility ownership and flood care, where it was found that respondents living in the facility that owned them were more likely to think that floods were to some extent a concern. This has indicated an association with the results obtained in some previously conducted studies (Grothmann & Reusswig, 2006; Burningham, Fielding & Thrush, 2008; Kellens et al., 2013). The above suggests that ownership of the property results in a higher level of perceived risk of renting the property. When it comes to the impact of income levels, unlike the results obtained by Cvetković (2016) - that the employed and with household income exceeding 90,000 dinars have taken more preventative measures, this research has shown that in relation to other categories based on the criteria of the amount of income, out of the total number of respondents with monthly incomes over 90,000, a smaller percentage stated that they intended to inform about flood risk, activities that reduce the level of risk, and participate in the implementation of these activities.

4. Discussion

The results of this survey indicate that a larger percentage of the total respondents believe that they do not live in the area at risk of flooding, but believe that the implementation of preventive measures is necessary and that floods are, to some extent, still a matter of concern. Men and women, in almost the same percentage, believe that they cannot be threatened by the flood, that is, they do not live in the area endangered by the flood. Regarding gender linkage and flood preparedness to risk perception, it has been found that both men and women consider that measures and activities to reduce flood risk are necessary. While women in the greater proportion are intended to be informed about flood risk as well as the above activities, men are more likely than women to participate in activities aimed at reducing flood risk. The above confirmed the results obtained by Cvetković (2016) in his research, as well as by Jonkman & Vrijling (Jonkman & Vrijling, 2008), who concluded with their research that men are more likely to take risks and that there is a high proportion of men in emergency situations, that is, in providing assistance and services during emergencies. Also, the results obtained by Urcan (Urcan, 2012) confirmed that men were more likely to participate in flood prevention activities (more than 90% of respondents stated this way).

Starting with flood concern, the study further concluded that women have more fear of floods than men, and found that there was a statistically significant connection, confirming the results of research conducted by Wang et al. (Wang et al., 2018), which state that women experience a higher level of risk than men. Also, worth mentioning here is a survey by Jonkman & Vrijling (Jonkman & Vrijling, 2008), which points out that precisely because women experience greater and lesser risk of participating directly in various activities to reduce flood risk, men are more at risk and make up more than 70% of flood victims. The study also found a statistically significant connection between education and preparedness with risk perception. Specifically, it turns out that the majority of citizens think that it is necessary to implement preventive measures, but the most significant percentage is among citizens with higher education. The above confirmed the results obtained by Urcan (Urcan, 2012), namely that knowledge encourages openness to better organization in the implementation of preventive measures as well as measures to reduce the consequences of danger. However, although a statistically significant connection was observed between education level and thinking about

the need for preventive measures, there was no statistically significant connection with intentions to inform the activities to be undertaken and intentions to engage in flood risk reduction activities.

The results also showed that respondents with higher levels of education had lower levels of risk perception. Specifically, they are less likely to consider floods as a threat to their personal safety or their household. These results are consistent with the conclusion reached by Wang et al (Wang et al., 2018). They pointed to a significant connection between education and knowledge and risk perception, and pointed out that people with higher levels of education perceived risk less, and in that sense those with a college degree perceived risk differently than those with primary or secondary education. Speaking of ownership of the property, it has been shown that respondents who live in a building that is their personal property in a larger number find it necessary to implement preventive measures compared to respondents who live in the building owned by a third party from whom the property is rented. A statistically significant connection was also found with regard to the relationship between facility ownership and flood care, where it was found that respondents living in the facility that is their own property were more likely to think that floods were to some extent a concern. This has indicated an association with the results obtained in some previously conducted studies (Grothmann & Reusswig, 2006; Burningham, Fielding & Thrush, 2008; Kellens et al., 2013). The above suggests that ownership of the property results in a higher level of perceived risk of renting the property. When it comes to the impact of income levels, unlike the results obtained by Cvetković (2016) - that the employed and with household income exceeding 90,000 dinars have taken more preventative measures, this research has shown that in relation to other categories based on the criteria of the amount of income, out of the total number of respondents with monthly incomes over 90,000, a smaller percentage stated that they intended to inform about flood risk, activities that reduce the level of risk, and participate in the implementation of these activities.

5. Conclusions

Starting with the fact that risk perception is a complex term which correlates with a certain amount of factors, it is necessary to examine their influence adequately, in order to plan actions in the future which could benefit the reduction of negative consequences of floods. Based on the results of the research and knowledge gained references could be given which the authorities, institutions and organizations could use in their educational activities, all with the purpose of advancing risk perception among the population. In that manner, conditions to implement preventive actions which can be used to reduce the consequences of natural disasters, can be used. In this case, the results indicate that the education of senior citizens and women should be focused upon, in addition to inventing programs which would as a certain goal have the presentation of actions which could be used as a reduction of flood risk. As previously mentioned, risk perception presents an intensely complex term on which, in certain measures, different factors can influence upon. Therefore it is of importance to conduct further research which would indicate potential changes which could appear in the future. What is mentioned is of utmost importance when considering the continuous development and progress of the society which is conditioning changes, either in the human environment or human perception of the mentioned environment. Thus, with further research of various factors, measures could be recommended which would go side by side with the changes, would be the most efficient and have the best performance.

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