



Reconsidering the Risk Society: Its Parameters and Repercussions Evaluated by a Statistical Model with Aspects of Different Social Sciences

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Abstract. Risk society theory, with its complexity and inclusion of different ideas with respect to the peculiarity of risk in the modern era, the role played by the media in the construction and communication of risk as well as the nature of reflexivity, has had repercussions in various fields. Since multiple elements are to be analysed to reconsider the risk society theory in the current global landscape characterized by emerging threats, an integrated approach has been chosen in this study for a comprehensive evaluation. The majority of the studies conducted on the relevant subject matter lack quantitative analyses; therefore, this study aims at bridging a gap in this regard by elucidating the parameters and implications of the concepts related to the risk society based on the results obtained by quantitative and qualitative analyses. To this end, a survey (including demographic, sociological and psychological items) on risk and economic uncertainty was designed and conducted online. Secondly, content analysis was done on a set of news items focusing on global economy. The results of the survey evaluated with statistical analyses (ANOVA, t-test and correlation analysis) were used to relate the responses to different aspects and thematic qualities of the risk society theory postulated and developed by Ulrich Beck, Anthony Giddens and other social philosophers. The experimental results of the study revealed certain relationships between demographic characteristics and sociological-psychological elements of the risk society theory and its parameters in the individuals' attitudes and perception. Correspondingly, repercussions of the risk society theory have been revealed in the news items handled. The majority of the results obtained support the key postulations of the risk society, which can shed light on understanding the significant transformation of our era along with the social attitudes, fears, insecurity and risk perception among individuals. In addition, the findings can lead to further interpretation of the interplay between economy, media, science and politics, opening up new perspectives toward reconsidering “contemporary” risks.

Keywords: Risk society · Uncertainty · Global threats · Demographic difference · ANOVA · Correlation analysis · Statistical analysis · Economy news

1 Introduction

The problematic concerned with defining concepts has become more conspicuous in the global landscape of the current era that is characterized by various threats and uncertainties, including economic downturns, health threats, particularly the uncontrollable spread of coronavirus (COVID-19), wars, refugees' problems, and catastrophes whether they be man-made or natural. Amidst such developments that have both regional and global effects, individuals may not be able to identify the relevant emotion they have been going through. As Fehr and Russell notably remarked [1], "everyone knows what an emotion is, until asked to give a definition". As this apt observation indicates, emotions are hard to define. The same elusiveness regarding definition is in question related to uncertainty and risk. During the decade when Fehr and Russell put forth the elusiveness of an exact definition of emotions in psychology, German sociologist Ulrich Beck put forth the concept of "risk society" which has generated an exhaustive amount of research in various fields such as sociology, economics and political science, to name but three. As well as the concept of "risk society", "risk civilization" of Patrick Lagadec and "risk culture" of Anthony Giddens support the movement that is based on a common principle which regards risk as a characteristic feature of contemporary societies and an essential parameter for their analysis [2]. Whilst the structure of feudal society was dissolved by modernization in the nineteenth century producing the industrial society, industrial society is currently being dissolved by modernization with another modernity coming into being [3]. Beck pronounces this paradigmatic shift from modernity to a "second modernity" in his sociological works, arguing that unwanted and man-made side-effects of modernity generate mounting societal uncertainties. Referred to as "reflexive modernization", this ongoing process conveys a boomerang effect since the majority of unplanned results of processes in modern societies rebound on these societies, forcing them to change in turn [4] and the "second age of modernity" opens new conceptual landscapes [5]. Due to the erosive effects of the conditions in risk society, consensus among competing experts lack regarding the exact definition or probability of a risk object or event. Since the estimates of the probability and extent of risk are intensified by competing powers, confidence in expert decisions are subjected to erosion; and creation of knowledge encounters instability [3, 6, 7]. Beck's original conceptualization was conceived at a period when people were trying to make sense of the Chernobyl accident while watching the unprepared authorities handle situations that involved risk and environmental destruction [8]. Likewise, the current global landscape is characterized by many threats aforementioned, leading the "risk society" concept to be placed on the global agenda. Risk, in this context, is defined as the prospects of physical harm or loss as a result of a particular process with far-reaching effects,

not only related to health but also to property and profit [3]. This state of affairs dominates the social, political and economic discourse with different processes shaping our lives, generating risks and unplanned outcomes for the individuals' well-being as well as the environment, as noted by Giddens [9]. Anyone is vulnerable in the face of risk, and being rich or powerful does not necessarily mean being able to evade risks [3].

With its various parameters in different fields, the risk society concept has been the subject matter of extant research in literature. Reflections on the theory and reviews make up the majority of works [7–13]. The study on the reappraisal of the risk society by [14] places the thesis in view of cultural concerns in contemporary society, while the same author deals with the critique of the world risk society in depth appreciating the explanatory value of the perspective by directing its utility to advance future risk studies [15]. Another work in sociology by [16] puts forth situation of the risks in their social context, as connected to actors' activities. The scope of the theory is not limited to sociology merely, it has had implications in various fields, which underpins its transdisciplinary view. To illustrate, the study of [17] adopts a transdisciplinary view with regard to how risk is induced stating that Beck's risk prevailing future society is likely to be validated. Another paper interprets the government responses to young people and drug use via main concepts based on the risk society theory, revealing that the theory explains some underlying contemporary conflicts [18]. Concerning the requirement of reinvention of politics, the study of [19] points to the fact that nation-state institutions cannot contain global risks like climate change. Cloud computing in the risk society has also been addressed in [20]. As noted above, creation of knowledge encounters instability in the risk society. Thus, additional skills become vital in this context to predict and withstand dangers, according to Beck [3]. Such additional skills to tackle knowledge instability currently can be efficient use of Artificial Intelligence (AI) and other technological innovations. Machine learning technologies have gained significance for accurate risk prediction and management. Among relevant studies, machine learning approach and multiple-discipline datasets were used for the simulation of worldwide terror attack risks [21]; responsible Artificial Intelligence is explored focusing on requirements of fairness, data privacy and accountability concerning real-life applications [22]; the efficiency of data mining methods were demonstrated through a real-world case study from banking for modelling ambiguous occurrences in liquidity risk assessment with Artificial Neural Network (ANN) and Bayesian Network model [23], and a risk management tool using machine learning was assessed for investment purposes in [24]. Some other studies on various risk factors in different fields based on quantitative methods deal with the following topics: effects of cosmopolitanism on environmental psychology [25], comparison of assets with statistical methods in finance [26], risk analysis in the measurement of investment [27], management in construction projects [28], examination of risk mitigation mechanisms in university setting [29], demographic differences in safety proactivity behaviours in small-scale enterprises [30], analysis of the effect of leaders' leadership styles for maritime organization

success [31], and exploration of factors of perceived risk concerning people with serious mental illness [32].

Even though the contributions of the risk society theory have been acknowledged in the literature, the criticisms are also in question. One criticism toward Beck and other social theorists is expressed in [33] as this sort of theorising lacks empirical evidence. As an answer to this critical point, young people's lives were used as a context specific example along with quantitative and qualitative data [34]. When compared with earlier works, the current study attempts to provide novel contribution in terms of the methodology chosen, employing quantitative and qualitative approaches, as well as the survey designed. By making use of sociological and psychological aspects that revolve around risk society thesis along with the news element, the study also aims at addressing the issue from a complementary frame with multiple dimensions.

As for the media aspect in the risk society thesis, it can be briefly conveyed that the risks produced in the late modernity bring about usually irremediable harm, and remain invisible. Mass media along with scientific and legal occupations are in the responsible position for the definition of risks [3]. Accordingly, mass media and journalism come into play by rendering risks visible [4] and media are identified as a key arena where the risks and their results are played out, and the emergence of social conflicts plays an informative role [35]. The study of [36] underlines the important role of the media in the construction and communication of risk, presenting the theoretical and methodological issues of risk reporting. One related recent study by [37] examines the way antimicrobial resistance, as a kind of modern risk, is covered in North American newspapers with a focus on reflexive modernization. Regarding visual media, the study of [38] examines the risk society discourses in television reality shows focusing on risk perception and uncertainties. In this study, global news items were selected concerning the elements that undermine modernity on the basis of the risk society thesis. These elements are globalisation, individualisation, gender revolution, underemployment and global risks which are deemed significant when taken collectively, constituting five inter-related processes [9]. The themes of the news reports handled herein also point to these elements, except for gender revolution.

The reason why risk society concept is taken as the theoretical paradigm in this study is derived from the critical and transdisciplinary approach of Beck and Giddens who enrich, merge and critique many prevalent disciplinary perspectives and theoretical approaches related to risk of the time established in the framework of sociology, psychology, geography, anthropology, political science, law and economics [7]. Taking these postulations and different dimensions into consideration, this study sets out to address the following research questions: 1. What is the relationship of demographic characteristics with the sociological and psychological elements of the risk society?, 2. Which parameters of the risk society theory find reflections in the individuals' attitudes and perception?, 3. What are the repercussions of the risk society as covered in a set of news items on global economy?

The organization of the rest of the paper is as follows: Sect. 2 describes the Materials and Methods, Sect. 3 provides the results based on statistical analyses of the survey and the content analysis of the news items. Finally, Sect. 4 is allocated to the discussion and conclusion referring to the research questions.

2 Materials and Method

2.1 Materials

2.2 Respondents

The first approach adopted in this study to reevaluate the risk society conceptualization is the administration of an online survey sent through a link (provided in the data availability part below) to a total of 204 respondents in Turkey in January 2020 based on convenience sampling method. The author designed the survey, with sociological component derived from the concepts and postulations of the risk society concept as conjectured by Ulrich Beck [3] and Anthony Giddens [39,40], and the psychological component including questions based on Financial Threat Scale [41], fearing the unknown: a short version of the Intolerance of Uncertainty Scale [42] and public's initial responses to crisis situations based on the study results by [43].

The general demographic characteristics of the respondents whose survey replies ($n = 199$) were evaluated are as follows: female and male respondents correspond to 53.5% and 46.5%, respectively, which provides a homogeneous distribution based on gender. University students aged between 17–25 (69.8%) constitute the majority of the respondents, followed by 36–45 and 46–55 age interval, both corresponding to 10.1%. University students and those holding a bachelor's degree make up 67.8%, followed by those holding a Master's degree (15.6%). A bigger portion of the sample (63.3%) stated that they are not currently working while the employed account for 36.7%, students account for 68.8%. 51.4 % have a professional experience of 10 years and more, followed by 1–4 years of experience (31.9%). Most of the respondents reported their economic status as average (56.7%).

News Items. The other approach employed in the study includes the content analysis of 25 global news items (dated from September 2019 to February 2020), the main theme being economy, retrieved from the electronic version of the *Guardian*. News reports with economy content and risk society concepts with the central focus make up the secondary data. Attention was paid to the coverage of different areas across the globe (USA, Turkey, China, Greece, France, Nordic countries, UK, Australia) and the analysis was conducted with respect to the six elements (provided in Sect. 3.3) that address both the sociological and psychological aspects of risk and uncertainty around the theme of economic problems.

2.3 Methods

In this study, a mixed-method approach has been chosen: qualitative analysis (content analysis of the news items and relating the risk society, as the theoretical paradigm, to the results obtained) and quantitative statistical analyses. The survey results were analysed by statistical methods, including the frequency, mean and standard deviation calculation to describe the basic features of the data. The basic analysis used for the reliability analysis is the Cronbach Alpha (α) value measured as 0.736, which indicates an acceptable level (since the rate falls within the range of $.8 > \alpha \geq .7$). For further statistical analyses, Analysis of Variance (ANOVA), t-test and correlation analysis were used. The analyses were performed using IBM SPSS Statistics for Windows, Version 23.0 [44]. Brief information on the tests utilized for statistical analyses is provided below.

ANOVA. ANOVA is used to perform statistical testing on experiments that involve either two or more groups. ANOVA is aptly suited for experimental designs consisting of repeated measures on the same subjects or to reveal different factors in interaction with one another in the experiment [45]. It is a frequently-used statistical procedure for comparing the means of a variable across a number of groups of persons [46]. The formulae used for ANOVA analyses are provided in (1), (2) and (3) [47, 48] as follows:

The variances in the denominator show the application/between group variation, whereas the ones in the numerator denote the error/within group variation.

- Application sum of squares and variance (See (1)) [47, 48]

$$SS_T = \sum_{i=1}^k n_i (\bar{X}_i - \bar{X}_{GM})^2 \tag{1}$$

\bar{X}_{GM} : grand mean; \bar{X}_i : group mean

$$df_T = k - 1; S_T^2 = \frac{SS_T}{df_T}$$

- Error sum of squares and variance (See (2)) [47, 48]

$$SS_E = \sum_{j=1}^{n_1} (X_{1j} - \bar{X}_1)^2 + \sum_{j=2}^{n_2} (X_{2j} - \bar{X}_2)^2 + \dots + \sum_{j=1}^{n_k} (X_{kj} - \bar{X}_k)^2 \tag{2}$$

$$df_E = N - k; S_E^2 = \frac{SS_E}{df_E}$$

$$SS_{TOT} = SS_T + SS_E; df_{TOT} = N - 1$$

- Strength of relationship (See (3)) [47, 48]

$$w^2 = \frac{SS_E - (k - 1)S_E^2}{SS_{TOT} + S_E^2} \tag{3}$$

In this study, ANOVA was used for the comparison of three or more groups (i.e. education level, income level and economic status) and to identify whether there is a significant difference between these three groups at a 95% confidence interval.

T-Test. A t-test is a parametric statistical method employed for the comparison of the means of two groups. T- tests are used when the samples fulfil the conditions of normality, independence and equal variance [49].

The formulae for t-test are provided in (4) and (5) [47,48] as follows:

- If the variances are unequal/not homogenous (See (4)), [47,48]:

$$t = \frac{(\bar{X}_1 - \bar{X}_2) - (\mu_1 - \mu_2)}{\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}}; \tag{4}$$

$df = \text{smaller } n - 1$

- If the variances are equal/homogenous (See (5)), [47,48]:

$$t = \frac{(\bar{X}_1 - \bar{X}_2) - (\mu_1 - \mu_2)}{\sqrt{\frac{(n_1-1)s_1^2 + (n_2-1)s_2^2}{(n_1+n_2-2)} \cdot \sqrt{\frac{1}{n_1} + \frac{1}{n_2}}}}; \tag{5}$$

$df = n_1 + n_2 - 2$

T-test was employed in this study to investigate whether there is a difference between the means of two groups (female-male, employed-not employed, etc.).

Correlation Analysis. As a frequently used statistical analysis, correlation analysis enables one to identify whether there is a relationship between two or more variables. If there is a relationship, correlation analysis also demonstrates the intensity and direction of the relationship. Calculated over the correlation coefficient which ranges $-1 < r < +1$, the relationship gets weaker as the correlation coefficient approaches 0 while the opposite holds true when the coefficient is closer to 1. The calculation is made using the formula provided below as indicated in (6), [47,48].

$$r = \frac{\sum xy - \frac{(\sum x)(\sum y)}{n}}{\sqrt{\left(\sum x^2 - \frac{(\sum x)^2}{n}\right) \left(\sum y^2 - \frac{(\sum y)^2}{n}\right)}} \tag{6}$$

The correlation analyses conducted in this study yielded which statements in the survey were correlated.

3 Experimental Results

The relationship based on demographic, sociological and psychological aspects and the risk society concept has been evaluated through the following analyses: the summary results of the questions in the survey (Frequency, Standard Descriptive (SD) and Mean (M)), reliability analysis (Cronbach alpha), ANOVA and t-test, the correlation analysis of some questions in the survey as well as the significance tests of questions in relation to all the questions in the demographic part (see Table 1).

Table 1 presents the breakdown for the selected questions of the survey based on the descriptive statistical analyses mentioned above. Statistical analyses of the results obtained from the survey responses yield certain differences based on different demographic characteristics. The following Subsects. 3.1 and 3.2 address research question 1 and 2 and Subsect. 3.3 provides the results as derived from the content analysis of the news items in answer to research question 3.

Table 1. The descriptive statistical details of the selected questions in the survey.

Descriptive statistics	M	SD	N
11. Individuals have an increasing level of welfare under the current economic circumstances	1.9	1.05	199
12. In recent years, individuals have felt insecure about the future due to economic uncertainty	4.4	0.90	199
13. Today being powerful means having a high level of income	3.7	1.07	199
14. It is mainly the governments' responsibility to manage economic problems	4.1	0.84	199
15. The rapid advancement of technology will lead to a substantial rise in unemployment	3.5	1.05	199
16. Risk is a negative concept	2.4	0.93	199
17. Risk is related to uncertainty and worry	3.1	1.10	199
18. I trust the economy news reported in the mass media (television, radio, newspaper, etc.)	2.1	0.90	198
19. I learn the details related to the threats and risks encountered currently (economic uncertainty, natural disasters, catastrophes, etc.) from mass media	3.6	0.96	199
22. Taking your financial situation into account, how uncertain do you feel?	3.8	1.01	199
23. Considering your financial situation, how much do you feel at risk?	3.7	0.90	199
24. How much do you worry about your current financial situation?	3.4	1.03	199
25. How often do you think about your financial situation?	3.8	0.85	199
26. Uncertainty keeps me from having a full life	3.8	1.12	199
27. Uncertainty stops me from having a firm opinion	3.8	1.02	199
28. When I am uncertain, I can't function very well	3.3	1.18	199
29. Uncertainty makes me vulnerable, unhappy and sad	3.6	1.17	199
30. I think it is unfair that other people seem sure about their future	3.4	1.18	198
31. Being uncertain means that I lack confidence	2.8	1.26	198

3.1 Statistical Analysis Results Based on the Sociological Aspects

Some of the significant findings based on different demographic characteristics obtained by the statistical analyses regarding the sociological aspects in the survey (questions 11–21) are as follows: No significant difference was identified related to the responses provided for the statements (11–19) based on gender. As for the age group, agreement with statement 11 among 17–25 had a higher mean ($M = 2.02$, $SD = 1.046$) compared to that of the individuals aged 46 and

above ($M = 1.54$, $SD = 0.905$). This difference was found to be statistically significant with a relatively higher mean of the younger age group. There was a statistically significant difference across different age groups for statement 12, for which the agreement rates of the middle age and older age group indicated a higher mean score ($M = 4.59$, $SD = 0.657$; $M = 4.81$, $SD = 0.402$, respectively) compared to that of the younger ($M = 4.31$, $SD = 0.992$), revealing the belief in insecurity due to economic uncertainty among older individuals. Likewise, a statistically higher level of agreement was observed among the older age group for statement 13. Younger age group rated higher significantly with respect to the agreement with statement 15 so technology and unemployment correlation is more prevalent among the young age group. Perceiving risk as a negative concept was also relatively higher among the young age group but relating risk to uncertainty and worry was statistically higher in older age group. Having trust in the economy news reported by mass media had a lower mean among the older age group. For the last question in the sociological part (not indicated in the table, numbered 20 in the survey), “Which of the following do you think best describes today’s society?”, the majority of the respondents (40%) selected the “risk society” option which was followed by “cosmopolitan society” (27.7%). The rates of “modern society”, “post-modern society” and “industrial society” were found as 13.3 %, 9.7% and 8.2%, respectively. While 18.7% of the males described today’s society as “modern society”, this rate was 8.7% among females, demonstrating a significant difference between genders. The rates of the responses for other types of societies were at homogeneous levels. Depending on the age group, respondents in the young age range were more inclined to define today’s society as “risk society” compared to the other age groups, which also revealed a statistically significant difference across the age groups. “Cosmopolitan society” was statistically higher among middle and older age groups. Based on the employment status, “risk society” was statistically higher among those who were not working (45.53%) compared to the employed respondents (30.6%). Yet, no significant difference was demonstrated depending on the income level or economic status. As for the correlation analysis of this part, the correlation analyses demonstrated that a moderate positive linear correlation ($r = 0.527$) existed between statements 16 and 17.

3.2 Statistical Analysis Results Based on the Psychological Aspects

Based on the analyses of the responses in this part, including psychological components, certain observations that display significance with respect to demographic characteristics have been demonstrated. Starting with gender, it was revealed that males ($M = 4.05$, $SD = 0.790$) tend to think about their financial situation more frequently than females ($M = 3.62$, $SD = 0.856$). It was also observed that the mean scores related to items 22, 23, 24 and 25 of the older age group (those aged 46 and above) ($M = 4.35$, $SD = 0.485$; $M = 4.12$, $SD = 0.516$; $M = 4$, $SD = 0.632$; $M = 4.27$, $SD = 0.452$, respectively) were significantly higher than those of the younger group ($M = 3.72$, $SD = 1.050$; $M = 3.60$, $SD = 0.906$;

$M = 3.26$, $SD = 1.059$; $M = 3.78$, $SD = 0.901$, respectively). Additionally, the middle age group had higher mean scores for items 28 and 30. The mean scores of married individuals were observed to be higher than those who are not married for responses to Items 24, 25, 26 and 31. The mean scores related to items numbered 23, 24 and 25 were higher among employed individuals compared to those who are not employed. In addition, those who are not students had higher mean scores than the students for the items 23, 24, 26, 27 and 31. Another significant finding derived is that when compared with the respondents with a lower level of income, those with a higher income level stated they would feel vulnerable and unhappy due to uncertainty. Item 21 (not indicated in the table) in the survey posed the question: "Which of the following would an economic recession affect most?" The option "other" revealed the highest score (23.6%), followed by governments (23.1%), companies (19.1%), myself (18.6%) and the ones I love (15.6%). Respondents with an income level of TL 3000-7000 perceived the effects of an economic downturn more personally, stating they would themselves be affected most (42.3%) and those who described their economic status as "bad" also took the effects of economic recession more personally (50%) compared to those who described their economic status as "good" (14.8%). Another item not indicated in the table is the last question (numbered 32). "Which of the following condition(s) worry you most?" "Having a lower standard of living" was the option with the highest mean score (65.3%), followed closely by "having a hard time making ends meet" (63.8%). "Being unable to find a job in the future" had a mean score of 51.3% and "being an embarrassment to my family" had 48.7%. The significance tests based on the gender aspect reveal that males (59.8%) are more concerned with being an embarrassment to their families compared to females (39.6%), which is statistically significant. As the most worrying condition, "having a lower standard of living" and "losing my job" were found to be higher among the employed individuals. "Losing my job" was also found to be higher among the ones with a high level of income (50%) compared to individuals with a lower income level (42.3% with income ranging from TL 3000-7000 and 21.4% with income of TL 3000 and less). "Being unable to find a job in the future" was also very high at 83.3% among those who described their economic status as "bad", indicating a prevailing future uncertainty parallel to having a poor economic condition. The correlation analyses for this part showed that a moderate positive linear correlation existed between the following statements: 22 and 24 ($r = 0.530$); 23 and 24 ($r = 0.661$); 26 and 27 ($r = 0.508$); 27 and 28 ($r = 0.631$) and 28 and 29 ($r = 0.507$). The highest correlation for the data in this study was obtained for the statements 24 and 25, namely worrying and thinking about financial situation.

3.3 Results Obtained from the Content Analysis of Economy News Items

The content analysis of the 25 economy news around the world covered by the *Guardian* focused on the following questions: "1) Is there an element of concern and/or uncertainty?", 2) "Is the tone of the news item optimistic or

pessimistic?”, 3) “Is there a negative orientation with respect to reducing or eliminating the uncertainty?”, 4) “Is there a positive orientation and guidance with respect to reducing or eliminating the uncertainty?”, 5) “Are the effects of abruptly emerging global threats on markets included in the economy news item?,” 6) “Are the effects of abruptly emerging global threats on individuals included in the economy news item?” Based on these, the statistical analyses revealed that concern and uncertainty prevailed in the majority of the news items ($n = 22$, 88%); 16 news items had pessimistic tone while 8 were neutral, and only one was optimistic. Negative orientation was existent in 15 of the news items (60%) while positive orientation in 16, corresponding to 64%. Related to the fifth question, the majority of the news items (60%) covered the effects of abruptly emerging global threats on the markets.

Figure 1 provides the analyses for the aforementioned sixth question with the statistical breakdown of the effects of global threats on individuals as sorted by theme (Fig. 1 (a)) and the frequency of those effects depicted as histogram (Fig. 1 (b)). As Fig. 1 shows, societal problems (45%) have the highest coverage, followed by environmental factors, political unrest, epidemic, wars and technological advances. It should, however, be noted that coronavirus outbreak at the time of the analysis had just emerged in Wuhan, China and COVID-19 was declared a global pandemic by the World Health Organization (WHO) on March 11, 2020, which does not cover the period of the news items’ retrieval for the present study. Needless to say, the global and regional landscape as well as the news agenda have changed tremendously after the unprecedented spread of the virus.

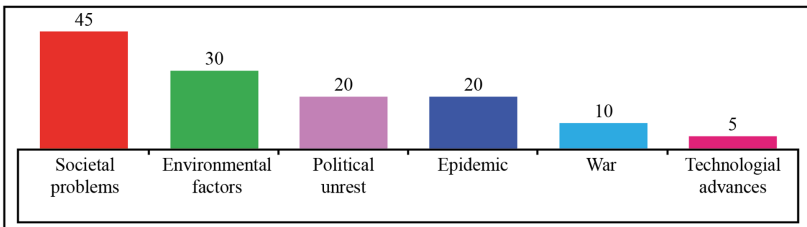
4 Discussion and Conclusion

Risk concept has the potential of influencing the perceptions, attitudes, and hopes of individuals as well as responses of the society at emotional, behavioural and cognitive levels. Including the sociological and psychological aspects in the survey items can be considered as one novelty of the study. During the times of economic problems, people naturally are uncertain, fearful and worried about how they will be affected. Based on this premise, one of the principal aims of this study has been to relate the risk concept to economic uncertainty, and thus add further clarity to the subject matter. This section relates the findings of the research results to certain aspects and parameters of risk society theory along with some of its relevant repercussions as per the news items.

The key experimental results based on the survey results assessed by statistical methods demonstrate the predominance of the risk society perception among individuals ($n = 78$), with the second most common answer being cosmopolitan society ($n = 54$). Both of these perceptions are also included in the risk society hypothesis so this question yielded parallel results with the postulations of the risk society theory. Post-modern society was also among the choices, yet, only 19 respondents opted for that, which is also parallel with the view of Beck who refused the post-modernist approach because it involves a gap between the past

The effects of abruptly emerging global threats on individuals	Theme	Count	Column N (%)
	Societal problems (discrimination, income gap, decrease in demand, exploitation of labour, loss of employment)	9	45
	Environmental factors	6	30
	Political unrest (disputes between leaders, commercial problems)	4	20
	Epidemic (virus threat)	4	20
	War (its effects such as flow of refugees, conflict, civil war, terror, etc.)	2	10
	Technological advances	1	5
	Total	20	100

(a) Statistical breakdown of the effects of global threats on individuals by theme



(b) Frequency of the effects of global threats on individuals by theme

Fig. 1. The effects of abruptly emerging global threats on individuals as covered in the news reports analysed (a) Statistical breakdown of the effects of global threats on individuals by theme (b) Frequency of the effects of global threats on individuals by theme.

and today [50]. In the late-modernity, individuals have become more aware of risks, complexity, uncertainty and lack of trust [51]. Parallel to this observation, trust in media was observed to be low as a result of the analyses, which ties well with the risk society hypothesis. No respondent totally agreed with the statement 18. On the contrary, 57 of them totally disagreed and 74 disagreed. Likewise, this concern was mentioned in one news item analysed about Eastern Europe which stated that confidence in the reliability of information provided by mainstream media was low [52]. One finding that did not find resonance with the risk society theory was the relationship between being powerful and having a high level of income. Majority of the respondents agreed with this statement. Yet, as Beck posited, in the second modernity, the way of handling risks is more important than the distribution of power and wealth [4]. Another finding worthy of being discussed is the correlation between having a higher income and feeling unhappy due to uncertainty. This finding is in accordance with the risk society thesis, which is also put forth by Luhmann as “the wealthy have more to lose, the

poor starve more often” [7, 50]. This analysis is also supported by the question about what worries respondents most. The ones who have the highest income level gave the answer of having a lower standard of living (88.9%). Another worrying situation was “being an embarrassment to my family”, which was higher among men (males 55% and female 42%) which could be explained by cultural expectations and the gender role assigned to the male. This also reveals culture and context as two parameters to be considered while theorising on risk society. About the connotation of risk, a higher number of respondents (105) disagreed with the statement “risk is a negative concept”. This finding is also in accordance with the risk society arguments put forth by Giddens who made a distinction between positive and negative risks. Risk can be considered an opportunity that can motivate an individual [50]. On the other hand, for Beck, risk is parallel with danger, associated with potential harm [7]. As for the technology and unemployment correlation, it was observed that agreement with this statement was more prevalent among the young age group. This is also in congruence with the risk society theory in which the threats are not only related to environment and health risks but to shifting employment patterns and job insecurity [53]. The repercussion of this situation was covered in the news items analysed which mentioned the advances in AI would affect some sectors negatively [54] and the need to address rapid technological change during faltering growth [55]. Another salient parameter of the risk society, as Beck puts, is that modernization risks emerge in geographically specific areas and universally; moreover, their effects may be unpredictably deleterious [3]. The change in the temporal, spatial and demographic distribution of risk brings about a new category of borderless risks [7]. This consequence is expressed saliently, as analogous to Beck’s argument, in one of the news about climate change [56].

As the coronavirus pandemic has conspicuously demonstrated, everyone, regardless of location, race or socioeconomic status, is vulnerable to risk. This situation has also evoked the elusiveness of the risk concept, as noted in the introduction, and succinctly expressed by Beck as: “where everything turns into a hazard, somehow nothing is dangerous anymore [7]”. Thus, risk society is not only identified by uncertainty regarding the severity and reality of risk, but also by its elusive nature [7]. The prime feature of the global order is the management of risk [39]. Under such circumstances, global risk may have its hidden emancipatory side effects since modern catastrophes are likely to result in constructive changes in the way of organising lives and societies [57]. Along with this positive note on global risk, it is obvious that risk and uncertainty discourse will remain to be prevalent as the nature of risks is constantly evolving. Accordingly, revisiting the risk society as well as reflecting upon its projective themes in different contexts can provide new insights for future works and open up “new sociological imagination” as humanity is ubiquitously surrounded and tested by complex contemporary risks. Taken together, utilising intelligent systems and AI will enable management and communication of risk more efficient, which will in turn alleviate uncertainty, rendering individuals and societies self-organising.

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Data Availability. The survey questions and responses are available at: https://docs.google.com/forms/d/17sOFZwH_KcqCSXjqwsD0FjF7ak1EwLSOaES6_a8z_Fg/edit. The detailed results of the statistical analyses and headlines of the news items analysed are also included within the same link and can be retrieved upon request.

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