



## The nature of influence and degree of confidence in the information about the pandemic among generation Z students






### La naturaleza de la influencia y el grado de confianza en la información sobre la pandemia entre los estudiantes de la generación Z

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#### Abstract

The article examines the nature of influence and degree of confidence in information about the COVID 19 pandemic among Generation Z students at Russian and Slovak universities. A sociological survey using the Likert methodology, an in-depth interview and a focus group were used as empirical methods. In the context of the COVID-19 pandemic, the study was conducted remotely using Google Form, VoIP service Skype and a cloud conference platform: Zoom. The study revealed that Russian and Slovak young people of Generation Z are contradictory to any information: Russian Gen Z students found a contradiction over the credibility of pandemic statistics and the usefulness of COVID 19 information in the media; Slovak Gen Z students are inclined to believe that information about the pandemic is far-fetched, while most Slovak respondents in this study expressed confidence in information about pandemic. When comparing the aggregates by qualitative characteristics, certain similarities were revealed: there is a statistical significance between the factorial and effective characteristics with a high and very high positive correlation. The results obtained can help develop views on the nature of the impact and the degree of confidence in information about the COVID 19 pandemic among representatives of different generations.

**Keywords:** Generation Z, COVID-19 pandemic, information, confidence, artificial intelligence, digitalization.

#### Resumen

El artículo examina la influencia y el grado de confianza en la información sobre la COVID 19 entre los estudiantes de la Generación Z en universidades rusas y eslovacas. Se utilizaron como métodos empíricos una encuesta sociológica con metodología Likert, una entrevista en profundidad y un grupo

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focal. El estudio se realizó de forma remota utilizando Google Form, el servicio VoIP Skype y una plataforma de conferencias en la nube: Zoom. El estudio reveló que los jóvenes rusos y eslovacos de la Generación Z son contradictorios con cualquier información: los estudiantes rusos encontraron una contradicción sobre la credibilidad de las estadísticas de pandemias y la utilidad de la información de COVID 19 en los medios; Los estudiantes eslovacos tienden a creer que la información al respecto es inverosímil, mientras que la mayoría de los encuestados eslovacos en este estudio expresaron confianza en la información sobre la pandemia. Al comparar los agregados, se revelaron ciertas similitudes: existe una significancia estadística entre las características factoriales y efectivas con una correlación positiva alta y muy alta. Los resultados obtenidos pueden ayudar a desarrollar opiniones sobre la naturaleza del impacto y el grado de confianza en la información sobre la pandemia de COVID 19 entre representantes de diferentes generaciones.

**Palabras clave:** Generación Z, pandemia COVID-19, información, confianza, inteligencia artificial, digitalización.

### Introduction

Modern society is characterized by the digitization of all socio-economic processes and the introduction of artificial intelligence. These processes give contradictory signals to people (Zimenkova, et al, 2018). The COVID 19 pandemic places significant constraints on all areas of society. It affects virtually every area of the global and regional economy (IMF, 2020; Barinov, 2020). Small and medium-sized businesses suffer especially heavy losses (Psychogios & Prouska, 2019). Freedom of movement is restricted (Zimmermann et al, 2020; Ozili & Arun, 2020), consumer confidence is reduced (OECD, 2020). The number of employees in organizations, wages and salaries are decreasing (Bartik & Hershbein, 2020) amid the introduction of artificial intelligence (Shi, 2019). Active digitalization aggravates all labor market problems (Abubakar et al, 2019; Tong et al, 2020) There is a growing risk of loss of freedom and individuality (Cha et al, 2020). The information received from the media causes alarm and fear among the population. However, representatives of different generations have different attitudes towards information on the COVID 19 pandemic.

For the other hand, the opinion of young people is of great interest. The future is determined by the young generation: Generation Z (Gen Z). According to the theory of Howe and Strauss (1992), the Generation Z is significantly different from previous generations. There is a difference in the definition of Generation Z in Russia and Slovakia. The Russian Generation Z should include youth born since 2000. This correlates with Ozhiganova (2015). In Slovakia, the Grenčíková and Vojtovič (2017) approach, which refers to the generation Z of young people born from 1995 to 2020, is used more frequently.

Young people learn to work with information on their own, and they are taught by their families and friends at school and at work. Teachers train students in higher education institutions to work purposefully and professionally with information and to identify reliable sources. They aim to bring cutting-edge information techniques to students (Reyes et al, 2020; Mendez-Reguera &

Cabrera, 2020). Generation Z is impatient to get the right information from the Internet by communicating on social media. They seek immediate feedback (Lerchenfeldt et al, 2020; Matraeva et al, 2020). Recently, young people are increasingly using YouTube for their own development (Alegre-Martínez et al, 2020).

Information about the nature of the impact of digitalization and the introduction of artificial intelligence in the context of a pandemic looks contradictory from the perspective of various faiths (Vinichenko, et al, 2020; Vinichenko, et al, 2020). In modern conditions, it is important to take timely measures to protect young people from the negative and aggressive flow of information in various forms of its manifestation (Demchenko et al, 2018; Frolova et al, 2016; Nikiporets-Takigawa, 2009).

It is now most important for medical students to receive reliable information due to the fact that they are actively involved in the fight against the COVID 19 pandemic (Vizcaya-Moreno, & Pérez-Canaveras, 2020). It is important to take into account the capabilities of Gen Z in the speed of information perception, so that false information does not leak into the general stream (DiMattio & Hudacek, 2020). It is useful to involve students in teamwork, scientific discussion to increase the degree of trust in the information used, reduce the negative impact of conflicting data (Mouton & Grange, 2020; Hogan, 2020; Burrell, 2019). In general, a situation is created in which large streams of reliable and false information merge into one.

In this case, it is difficult to figure out where is the truth and where is the lie, especially for the younger generation. This problem has been exacerbated by the worldwide COVID 19 pandemics. Therefore, the attitude to information, as well as the nature of its influence on Gen Z, is important for the further sustainable development of world civilization. In this regard, this study was organized and carried out.

## **Methodology**

### **Design of research**

The purpose of the study was to determine the nature of the impact and the degree of confidence in information about the COVID 19 pandemic among Generation Z. The main scientific tasks were: to determine the degree of confidence in information about the COVID 19 pandemic among the students of generation Z in Russia and Slovakia; and to identify the nature of the impact of information about the COVID 19 pandemic on Russian and Slovak students of generation Z (Lerchenfeldt et al, 2020; Matraeva et al, 2020).

The hypothesis of the study was that young people of generation Z are contradictory to any information, especially to that which essence is difficult for them to assess because of their limited life experience, complexity and contradictions of the information received about the new phenomenon, active digitalization of society and introduction of artificial intelligence.

## Participants

The study was conducted among Generation Z students at 35 Russian and 2 Slovak universities from September 10 to December 10, 2020. The study was conducted in September-October 2020 in Russia and in November-December 2020 in Slovakia. The study involved 1856 Russian and 316 Slovak students. The sampling error was 4.75%, with a confidence level of 95%. The study was organized by researchers from the Faculty of Humanities of the Russian State Social University and was carried out jointly with researchers from the Lomonosov Moscow State University and Surgut State University, with the involvement of a representative from the J. Selye University (Slovakia). In Russia, the survey was conducted in Russian, in Slovakia – in English. The main quota features were gender, age, and work experience. Analysis of the data showed that there were more males (65.1% Russian and 63.3% Slovak). Students over the age of 20 took part in the sociological research (77.5% Russian, 72.7% Slovak). At the same time, there were more Slovak students with work experience (73.7%) than Russian (56.1%). The focus group included 7 experts. Theorists and practitioners – specialists in the field of information work and work with youth – were invited to the focus group as experts. The focus group was conducted to clarify the problem and test the hypothesis of the research.

## Methods used

The main empirical methods were sociological survey in the form of a questionnaire survey using the Likert methodology (Likert et al, 1934), in-depth interviews (Brounéus, 2011) and a focus group (Levinson & Stuchevskaya, 2003). Due to limitations associated with the COVID 19 pandemic, empirical data collection was conducted in a remote format. The program used Google Form, Skype VoIP service, Zoom cloud conference platform. Also, the study used methods of comparative, statistical analysis, Pearson methodology (Kadnevskiy & Shirshova, 2014).

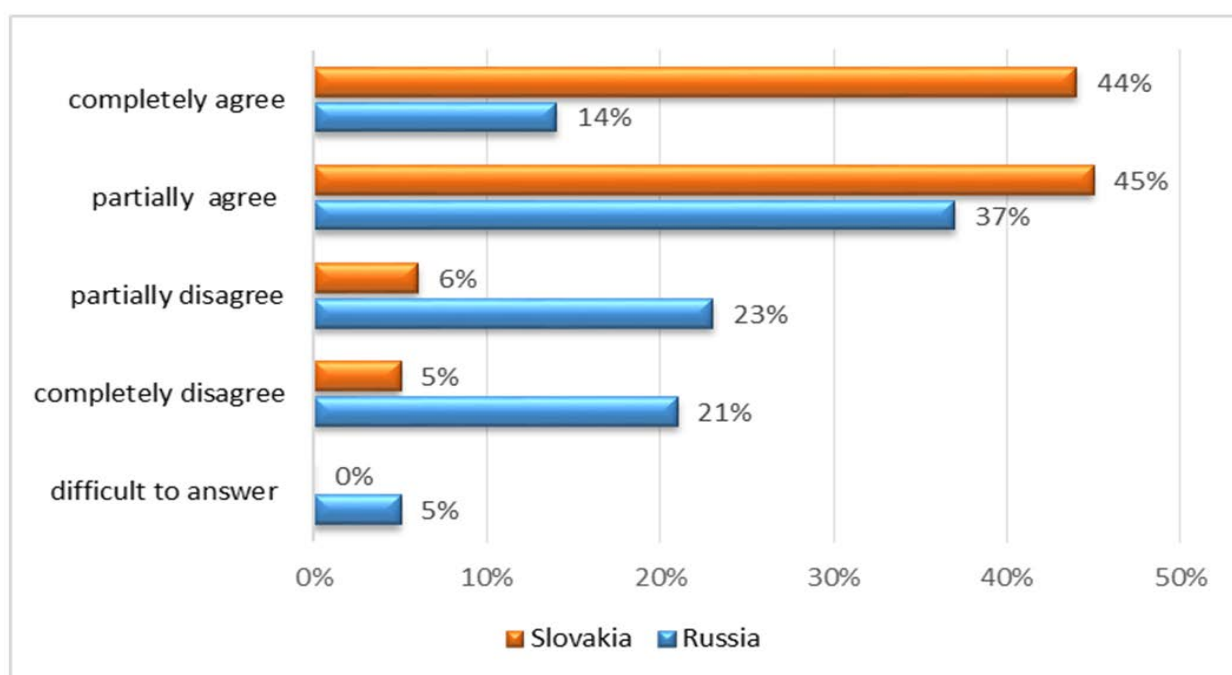
Problematic issues and the data obtained during the sociological survey were discussed in an in-depth interview. The essence of the problems related to the nature of the influence and the degree of trust of information about the COVID 19 pandemic among Generation Z, as manifested during the survey and in-depth interviews, was discussed in a focus group.

The team of authors was formed and worked as a cross-functional team, in which each author made a contribution based on the experience of scientific research and approaches and methods tested in other scientific projects. This made it possible to reduce the risks of subjectivity in the formation of the methodology, as well as obtaining and analyzing data. To compare the populations of Slovak and Russian Gen Z students on qualitative grounds, the Pearson method was used (the Pearson coefficient, the coefficient of determination, and the Pearson chi-square test were determined for arbitrary tables). A null hypothesis was put forward, according to which, there is no relationship

between these populations. In general, the entire methodology was aimed at conducting research based on qualitative indicators.

### Results

In the course of the study, it was found that the information received from various sources is generally assessed by Generation Z as reliable (Figure 1). At the same time, the answers of the Slovak respondents stand out. 89% of Slovak students of generation Z fully and partially trust the information received on the COVID 19 pandemic.

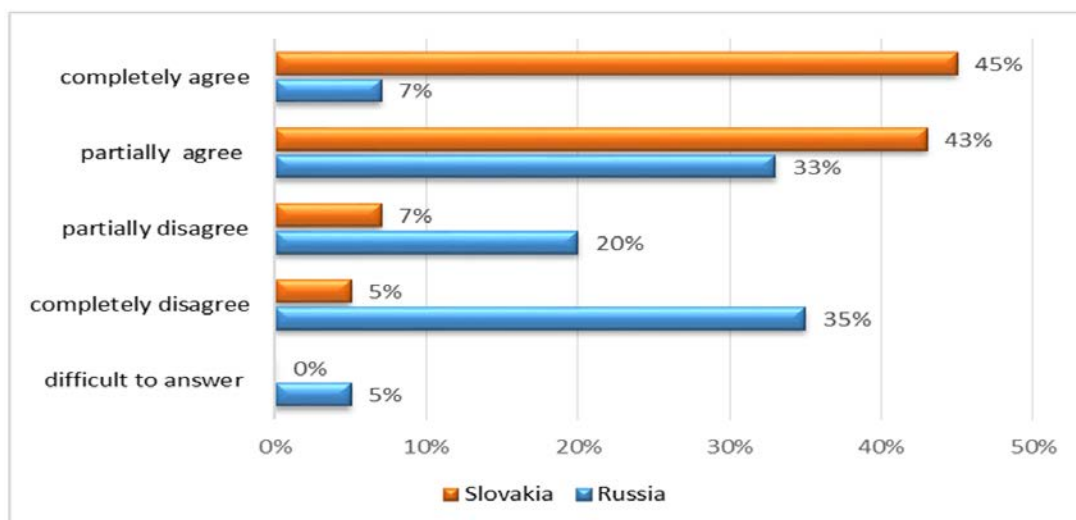


**Figure 1**  
Answer to the question: "Do you trust the information on the COVID 19 pandemic?"

Russian students were more balanced and evenly distributed in the answers. About half of Russian respondents (51%) trusts to one degree or another information on the COVID 19 pandemic. It should be noted that only Russian students found it difficult to answer this question. Slovak students took a clearly defined position.

When comparing the aggregates of Russian and Slovak Gen Z by qualitative characteristics (Pearson's chi-square test for arbitrary tables), the following results were obtained: the number of degrees of freedom is 4; the value of the criterion  $\chi^2$  is 226.933; the critical value  $\chi^2$  at a significance level of  $p = 0.01$  is 13.277. The relationship between the factorial and effective characteristics is statistically significant at a significance level of  $p < 0.01$ . The level of significance is  $p < 0.001$ , which shows the statistical significance between the factorial and effective signs with a high positive correlation. The coefficient of determination  $R^2$  is 0.7919,  $R = 0.8899$ . This allows the null hypothesis

to be rejected in favor of the alternative hypothesis. Slovakian respondents were also unanimous on the issue of trust in statistical data (Figure 2).

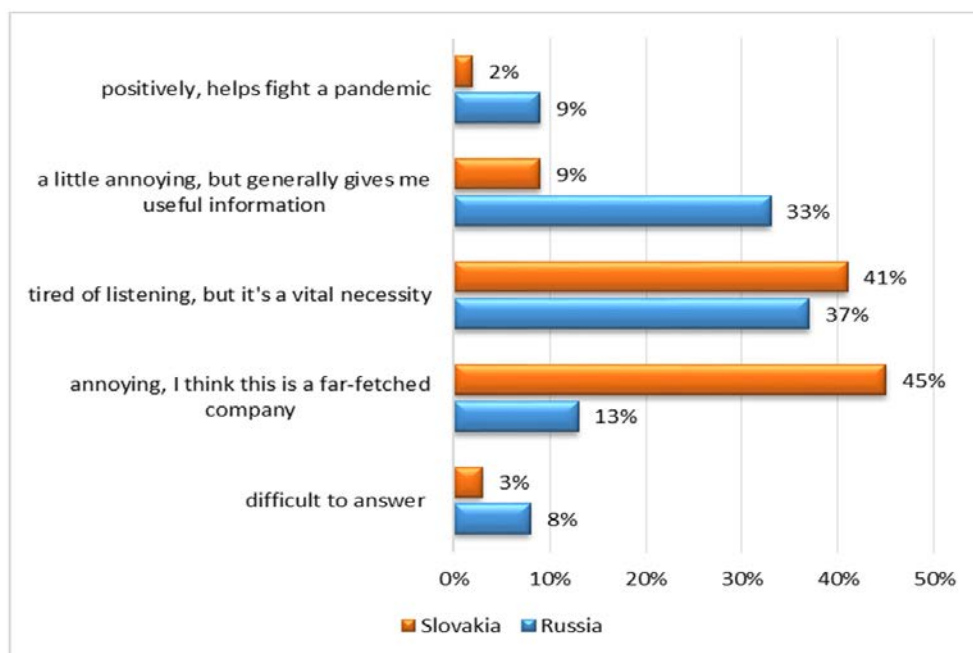


**Figure 2**

Answer to the question: “Do you trust the statistics on the COVID 19 pandemic?”

According to this information, 88% of Slovak students have some confidence in the statistics on the COVID 19 pandemic reported to the population. The evaluation of Russian Gen Z students is somewhat different. 55% of Russian respondents consider the statistics on the COVID 19 pandemic to be unreliable to varying degrees.

The study revealed: the number of degrees of freedom is 4; the value of the criterion  $\chi^2$  is 438.387; the critical value  $\chi^2$  at a significance level of  $p = 0.01$  is 13.277. There is a statistical significance between the factorial and effective indicators with a high positive correlation. Pearson's coefficient  $R = 0.8064$ , determination coefficient  $R^2 = 0.6503$ . There were interesting results of the answers to the question about the results of the impact on Generation Z students from the constant posting of information about the COVID 19 pandemic in all media (Figure 3).



**Figure 3**

Answer to the question: “How does the constant publication of information about the COVID 19 pandemic in all media affect you?”

Only 9% of Russian and 2% of Slovak respondents spoke about a positive impact, assistance in combating the pandemic. Approximately the same ratio was found among undecided students on this issue. Almost four times as many Russian students (33% as against 9% of Slovak students) stated that they were a bit tense about the constant presence of information about the COVID 19 pandemic in all media. But in general, they receive useful information.

A fairly large number of students in both countries (37% Russian and 41% Slovak) are tired of listening to and seeing the information presented in the media about the COVID 19 pandemic. However, they understand that this is a vital necessity. Almost half of Slovak students (45%) are annoyed by the constant posting of information about the COVID 19 pandemic in all media. They believe that this is a far-fetched campaign. Among Russian students, only 13% supported this position.

Revealing the nature of the correlation made it possible to establish that the number of degrees of freedom is 4; the value of the criterion  $\chi^2$  is 237.002; the critical value  $\chi^2$  at a significance level of  $p = 0.01$  is 13.277. There is a statistical significance between the factorial and effective indicators with a high positive correlation. Pearson's coefficient  $R = 0.875$ , determination coefficient  $R^2 = 0.7656$ . Additionally, a survey was conducted to what extent GenZ students trust AI in communicating and evaluating information (Table 1).

**Table 1**

Degree of confidence in AI of Gen Z students in Russia and Slovakia (%)

	Complete trust		Partial trust		Partial distrust		Distrust		Difficult to answer	
	1	2	1	2	1	2	1	2	1	2
Degree of trust in communicating information	8%	32%	42%	53%	23%	3%	15%	5%	12%	7%
Degree of trust in evaluating information	6%	17%	39%	56%	25%	8%	17%	10%	13%	9%

1 – Russia; 2 – Slovakia

In the course of comparing the aggregates of Russian and Slovak Gen Z by qualitative characteristics (Pearson's chi-square test for arbitrary tables), it was possible to establish that certain similarities were revealed in the questions "Degree of trust in communicating information" and "Degree of trust in evaluating information". There is a statistical significance between the factorial and effective indicators with a very high positive correlation; the Pearson coefficient is close in terms of  $R = 0.9115$  and  $R = 0.9438$ , respectively. In this case, the values of the  $\chi^2$  criterion are slightly different (294.954 and 127.479). The obtained values allow rejecting the null hypothesis in favor of an alternative hypothesis.

### Discussion

The sociological survey revealed that Russian and Slovak students of Generation Z rate the information received about the COVID 19 pandemic mainly as reliable. At the same time, Slovak students (89%) are more trustworthy than Russian students (51%). The massive impact on young people from all information sources has the desired effect (OECD, 2020). In an in-depth interview, it was found that communication with peers and the older generation causes more confidence among Generation Z than digital information and data obtained from artificial intelligence. Information about the really sick friends and relatives is more reliable. These data are projected onto information from the media. The focus group discussed the issue of the procedure for identifying cases, the danger of COVID 19 for young people. Young people have certain doubts about all these issues. Most of their peers either had the disease easily or were asymptomatic. There is a fact of inconsistency in the results of the tests taken. To a greater extent, it is typical for Russian students of Generation Z to have doubts about the reliability of the information (Zimenkova, et al, 2018).

The collected statistics and their transmission through the media are more satisfactory for the Slovak students of generation Z (88%). They believe that all procedural processes are well debugged, and the information collected about COVID 19 correctly forms the statistics communicated to the public. On the contrary, Russian students do not trust the statistics on the pandemic too much. More than half of the respondents (55%) doubt its reliability. During in-depth interviews, the doubts of



Russian students were explained by the inconsistency of information in the media over time, especially on the Internet (Lerchenfeldt et al, 2020; Matraeva et al, 2020). Also, an important factor was direct communication with peers, relatives, the older generation, who often refuted or questioned the statistics based on their own experience, the statements of local doctors. The focus group revealed a contradiction in the views of students of Generation Z about statistics. A number of students fully trust statistical data obtained from the media, relying on the properly established mechanism of data collection, integrity and honesty of management and analysts. Another part, especially large among Russian students, treats it with caution or completely distrusts statistical data, according to the study by Vizcaya-Moreno and Pérez-Canaveras (2020). With the active digitalization of society and the introduction of artificial intelligence, Generation Z has been using electronic devices since an early age and is used to receiving information from there. Social networks are actively used (Lerchenfeldt et al, 2020). Through these channels, information and statistics regarding the COVID 19 pandemic are often contradictory. This causes mistrust in official sources.

In this connection, the responses about the nature of the impact of information about the COVID 19 pandemic on Generation Z students seem logical. A small part of respondents turned out to be categorical. The information received from media practically does not help Slovak students of Generation Z to fight the pandemic (Zimenkova, et al, 2018). Slightly more Russian students find media information helpful to fight the pandemic. This is due to the general distrust of some young people towards official authorities and the media. One-third of Russian and only 9% of Slovak students felt that the information they received about COVID 19 was unpleasant for them, stressing about the dangers and consequences. In-depth interviews (Mouton & Grange, 2020; Mendez-Reguera & López-Cabrera, 2020) revealed that uncertainty about prevention, detection, and treatment were the most stressful. In the focus group discussion of the reliability of information about infection and the correctness of the use of various drugs to treat the disease was acute.

A large number of students (37-41%) were tired of hearing information about the COVID 19 pandemic. Speaking about the vital need for information about COVID 19 at the in-depth interview, respondents expressed the opinion that it is more relevant to the older generation. In the focus group, it was expressed that Generation Z is less likely than older generations to fear the effects of the pandemic. Young people have a large margin of health and strength, they are less affected by the disease. In addition, in the world, countries of residence (Russia, Slovakia) are taking active measures to create a vaccine against COVID 19. This will allow in the near future to solve the problem without causing significant harm to Generation Z (Hogan, 2020).

The opinion of Slovak students about the contrivance of the pandemic itself seems contradictory. Almost half of Slovak students consider it to be a far-fetched company, and this irritates them greatly. After all, more than half of them in the first question expressed confidence in the

information about the pandemic (Shi, 2019). Apparently Slovak students of Generation Z, trusting the information, see some common intention in everything that is happening. They can't make sense of it, and it stresses them out.

There were more than three times less Russian students of Generation Z on the question of the far-fetched COVID 19 pandemics. Here, to some extent, the difference in the total number of students who took part in the sociological research can affect. At the focus group, it was expressed that there is a deeper reason. Russian students are brought up in a different environment, with different traditions, a constant struggle with difficulties of the most varied nature. Constant pressure from abroad and sanctions form a system of views based on the fact that the events are not accidental (OECD, 2020). Therefore, the emergence of the COVID 19 pandemic may not be an accident, but a manageable one. In addition, some deeply religious people see the pandemic as God's punishment for humanity's sins.

In the course of the study, when comparing the aggregates of Russian and Slovak Gen Z according to qualitative characteristics (Pearson's chi-square test for arbitrary tables), certain similarities were revealed: there is a statistical significance between the factorial and effective characteristics with a high and very high positive correlation, like is observed in Kadnevskiy and Shirshova, 2014). Pearson's coefficient is in the range of  $R = 0.875-0.8899$  with a high correlation and  $R = 0.9115-0.9438$  with a very high correlation. The values of the  $\chi^2$  criterion are in the range of 127.479-438.387.

The results of this study have some limitations. They are connected with the fact that only a part of Russian and Slovak universities took part in the sociological survey of Gen Z students. The quality of the study was also influenced by the procedure for collecting primary information, which was carried out in a remote format. However, the results can serve as support for further research on youth attitudes and information about pandemic processes. In practice, the results will help form a more flexible approach to managing information flows designed for young audiences.

### **Conclusion**

In the course of the study, it was found that the Russian and Slovak youth of generation Z have a contradictory attitude to any information, especially to that, the essence of which is difficult for them to assess due to their limited life experience, the complexity and inconsistency of the information received about a new phenomenon, active digitalization of society and the introduction of artificial intelligence. This confirmed the hypothesis of the study. Indeed, the opinion of Slovak students that the COVID 19 pandemic is far-fetched seems contradictory, provided that the majority of Slovak respondents in this study expressed confidence in the information about the pandemic.

A contradiction on the issue of trust in statistics about the pandemic and the usefulness of information from the media about COVID 19 was found among Russian students of Generation Z. Almost half of respondents do not trust statistics, while more than half of Russian students of Generation Z believe that media information helps fight the pandemic, provides useful information, and is a vital necessity. Despite the great experience of Generation Z in obtaining information from digital media, social networks, and artificial intelligence, direct communication with peers and the older generation is more trustworthy. Overall, there is a multidirectional effect of information about the COVID 19 pandemic on Generation Z students in Russia and Slovakia.

In the course of the study, when comparing the aggregates of Russian and Slovak Gen Z by qualitative characteristics, certain similarities were revealed: there is a statistical significance between the factorial and effective characteristics with a high and very high positive correlation. The null hypothesis is rejected in favor of the alternative hypothesis.

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