



SHORT REPORT

## The effect of media use on the intergenerational perception of health risks during the COVID-19 pandemic

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Received: 16.03.2023, Accepted: 15.10.2023

### Abstract

**Objective:** This research was carried out in order to show the effect of the use of media tools on the risk perception of the society and behaviors, including society's tendency to get vaccinated in the context of generations during the Covid-19 pandemic.

**Methods:** The research was conducted with mixed method in which quantitative and qualitative research techniques were used together. The "Converging Parallel Mixed Method" was used and the findings obtained from the both methods were combined. For the quantitative part, 469 people were reached with the "purposeful sampling method" and Media Exposure Scale, Risk Perception Scale, The Behavior Scale and The Believability Scale were used. In-depth interviews were conducted for the qualitative part.

**Results:** In the quantitative part of this study, it was found that the most important behavioral difference is that the use of media directly affects vaccination behavior in all generations. It has been also determined that the media use variable doesn't differ according to age groups, thus all generational groups were found to use media invariably from each other.

**Conclusion:** It is of great significance that the information that both the whole society and individuals over the age of 65, who are in the risk group in terms of Covid-19 contamination and adverse process, need or may need, should be given in the most perspicuous, accurate and current manner in the media.

**Keywords:** COVID-19, Explanatory Model, Health Communication, Risk Perception, Stigma

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**Cite This Article:** Dudaklı GA, Yazıcıoğlu İ. The effect of media use on the intergenerational perception of health risks during the COVID-19 pandemic. Turk J Public Health 2023;21(3): 417-423.

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Turkish Journal of Public Health published by Cetus Publishing.



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## INTRODUCTION

The Covid-19 epidemic, which emerged in December 2019 and although highly defeated is still in effect, has caused a major health crisis and the loss of millions of lives worldwide.<sup>1</sup> When the historical background of the previous epidemics was examined, it is seen that besides the fatal consequences, the pandemics have critical results that affect societies and individuals in economic, social and political terms. For this reason, it is clear that Covid-19 is a situation that requires multi-dimensional communication planning concerning effective health, risk and crisis management.

Today, with the developing technology as a communication tool, media organs are used on a large scale effectively. For this reason, the role of the media, which provides the information flow between the governments and scientists who manage the crises in society, increased visibly during the Covid-19 pandemic, and the ways in which individuals are affected vary in terms of fundamental differences between generations. Similarly, differences can be seen in the media organs used by the generations in the flow of information.<sup>2</sup> Generation classification is as follows; The Silent Generation or War Generation (born 1925-1945), Baby Boomers (born 1946-1964), Generation X (born 1965-1982), Generation Y (born 1983-1999), and Generation Z (born 2000 and born after). The silent generation is respectful to the rules and authority, business-oriented, hardworking and contented; The baby boom generation lives to work, is adaptable and optimistic; Generation X establishes a work-life balance, is results-oriented, competitive and cares about personal development; Generation Y follows

technology, is individual, entrepreneurial, self-confident and challenging; Generation Z, on the other hand, consists of people who live very individually.<sup>3</sup>

Our research project was carried out in order to show the effect of the use of media tools on the risk perception of society, in the context of generations during the Covid-19 pandemic.

Throughout the research, it was aimed to measure risk perception and its impact on behaviors, including tendencies to vaccine with the quantitative method within the framework of the use of media tools and to determine daily life concepts such as the perception of freedom, and the perception of health and illness by the qualitative method.

In past health crises, many countries have published communication strategy reports on health crises.<sup>4,5</sup> Considering that there is no such study in Türkiye, it is thought that the research results can play an important role in creating a communication report or model on the subject for future unfortunate situations.

## METHODS

The sample of the research carried out between June 2020 and May 2021. Within the scope of the quantitative research, 469 people who were determined by the “purposeful sampling method” and met the inclusion criteria were reached. The sample consisted of people who lived in Türkiye, knew and understood Turkish, were adults (18 years of age and over), were not Covid-19 positive at the time of the research, and volunteered to participate in the research. Within the scope of qualitative research, on the other hand, 24 participants were reached by snowball sampling method. Within the scope of this research, the “Converging Parallel Mixed

Method”, one of the mixed methods, was used and the findings obtained from the quantitative and qualitative methods were combined. The Convergent Parallel Mixed Method is defined as a form of mixed method in which the researcher combines or fuses qualitative and quantitative data in order to provide a basis for a comprehensive analysis of the research problem.<sup>6</sup> Although the research was conducted with such a mixed method, here in this short report only the quantitative results will be affected.

In order to obtain quantitative data, a participant identification form consisting of 16 questions about sociodemographic characteristics, employment status, Covid-19 positive diagnosis, and quarantine status was prepared by the researchers. Then Media Exposure Scale, Risk Perception Scale, The Behavior Scale and The Believability Scale were used. The scales were constituted via Google Forms and shared with the participants online. The questions took an average of 25 minutes to complete.

The Media Exposure Scale developed by Li (2018) consists of two questions measuring the frequency and scope of media use.<sup>7</sup> Individuals’ exposure to the media during the Covid-19 pandemic, by scale; was aimed to measure the frequency and the scope of using media. In this study, Cronbach’s Alpha coefficient on this scale was found 0.74. The Risk Perception Scale, on the other hand, is applied to measure the risk perception of individuals after exposure to the media and consists of topics such as “voluntary risk”, “suddenness of the effect”, “level of knowledge about risk”, “level of controlling risk”, “newness of risk” and “chronic risk”. It eventuates 9 questions covering items such

as “chronically destructive/destructive”, “familiar/frightening risk” and “severity of consequences”.<sup>8</sup> In this study, Cronbach’s Alpha coefficient of this scale was found to be 0.80.

Furthermore, The Behavior Scale consisting of 3 questions was applied to the participants regarding the intention to get the Covid-19 vaccine and the vaccination behaviors planned by the individuals.<sup>9</sup> In this study, Cronbach’s Alpha coefficient of this scale was 0.94. Thus, finally The Believability Scale was applied to the individuals’ state of understanding and believing the information in the media.<sup>10</sup> In the study, the scale was used to reach the opinions of the participants about the Covid-19 disease and its vaccine. The scale was administered to the participants with the media and vaccine sub-dimension consisting of two questions each. In this study, Cronbach’s Alpha coefficient of this scale was 0.84. The scales were translated into Turkish with the support of a language translation expert and then a pilot application was carried out. In the statistical analysis performed after the pilot application, it was determined that the use of the scales was appropriate.

The data obtained from the quantitative research were analyzed with the SPSS 23.0 program. The reliability of the scales was evaluated with the Cronbach’s Alpha test and the descriptive data was evaluated by frequency, mean and standard deviation. Furthermore, the question of whether the data obtained from the scales were suitable for normal distribution was evaluated with the Kolmogorov-Smirnov test. It was found that the data were not suitable for normal distribution ( $p < 0.05$ ), then in the analysis of the data, the Mann-Whitney U test was

used in the comparisons between the two groups. Kruskal Wallis-H test was used for comparisons between more than two groups and Spearman's Rho Correlation test was used for the relationship between the two scores. Analysis of variance (ANOVA) was used to explain media exposure and risk perception on the intention to get vaccinated. When evaluating the data, the confidence interval was accepted as 95% and statistical significance was accepted as  $p < 0.05$ .

The qualitative data of the research were obtained through online interviews via the Blackboard System and audio recording systems and the data were deciphered manually. In both stages, consent was obtained from the participants and the confidentiality of personal data was ensured.

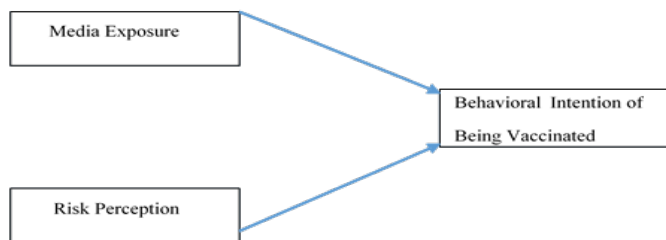
## RESULTS

As it is said above, in this short report, only the results of the quantitative data of the research are included.

When the demographic characteristics of the participants were evaluated, It was found that 8.3% of the participants were 65 years or older, 71.6% were women, 50.7% were married, 49.3% had a university education, 52.2% were working and 23% had a chronic disease. By general demographic data of 65+, more than half (51.3%) of the participants were women, 84.6% were married, 71.8% lived with their families and all had health insurance. However, our participants differed with the population over education ratios, where 30.8% of our 65+ participants were university graduates, 94.9% had income more than the minimum wage and 25.6% were still working when the survey took place. In addition, and with parallels with

the population, 48.7% had chronic diseases, 7.7% had Covid-19 positive diagnosis before and 12.8% had been taken into quarantine on Covid-19 suspicion. They reported that 28.2% of their relatives were diagnosed with Covid-19 and 61.5% were relatives of a healthcare worker. 61.5% of our group were vaccinated for influenza and pneumonia at least once in the last 5 years.

From the quantitative data, it is found that the most important behavioral difference is that the use of media directly affects vaccination behavior in all generations. Although the Covid-19 vaccines have not yet been used in Türkiye at the time of the quantitative part of the study, we predicted that in the future the vaccines will be developed soon. Thus to be able to look at the Covid-19 vaccine behavior of the participants, we asked them about their use of previous vaccinations for similar diseases (the flu and pneumonia vaccines). In addition to their early vaccine preferences, we also asked if they would be vaccinated or not when the Covid-19 vaccines were available. In this context, we found that the independent variables of our model (which are media exposure and risk perception through that exposure) explain the dependent variable of the behavioral intention of being vaccinated at a ratio of 51%, which is very significant. Therefore it can be said that as people's media use increases, their behavioral intentions (to be vaccinated) have also increased since there is a substantial relationship between vaccine intention and media risk perception (Figure 1).



**Figure 1:** The Research Model

When we looked at the generational differences in the effects of media on vaccine uptake, individuals over 65 were detected as the most affected group by their media exposure. In the scale score distribution of ages, the mean value of the Media Exposure Scale Score of the participants aged 65 and over was  $40.5 \pm 7.4$ . The mean value of the Risk Perception Scale Score was  $73.7 \pm 9.3$  and the mean value of the Believability Scale Score was  $14.3 \pm 2.1$ . The mean value of the Media Sub-dimension Score of the Believability Scale was  $3.1 \pm 0.7$  and the mean value of the Vaccine Sub-dimension Score of the Believability Scale was determined to be  $2.8 \pm 0.8$ . When these results were compared with other generations (18-24, 25-44, 45-64), they were found to be the highest (Table 1).

When the relationship between the scores of participants aged 65 and over from the scales used in the research is examined; a statistically significant relationship between The Risk Perception Scale and The Behavior Scale ( $r_s=0.07$ ;  $p<0.05$ ), and a statistically significant relationship between Media sub-dimension and Vaccine sub-dimension of The Believability Scale ( $r_s=0.07$ ;  $p< 0.05$ ) was detected (Table 2).

**Table 1:** Distribution of Participants' Media Exposure, Risk Perception, The Behavior and The Believability Scale Scores by Age Range

Participant age range	Scales	mean $\pm$ sd
18-24 (n=122)	Media Exposure Scale	38.5 $\pm$ 6.3
	Risk Perception Scale	67.6 $\pm$ 13.9
	The Behavior Scale	12.4 $\pm$ 4.8
	The Believability Scale Media sub-dimension	2.9 $\pm$ 0.7
	The Believability Scale Vaccine sub-dimension	2.8 $\pm$ 0.8
25-44 (n=159)	Media Exposure Scale	38.4 $\pm$ 6.6
	Risk Perception Scale	71.7 $\pm$ 10.7
	The Behavior Scale	13.8 $\pm$ 4.4
	The Believability Scale Media sub-dimension	2.9 $\pm$ 0.6
	The Believability Scale Vaccine sub-dimension	2.7 $\pm$ 0.7
45-64 (n=149)	Media Exposure Scale	39.1 $\pm$ 6.5
	Risk Perception Scale	70.2 $\pm$ 12.4
	The Behavior Scale	13.6 $\pm$ 3.6
	The Believability Scale Media sub-dimension	3.03 $\pm$ 0.7
	The Believability Scale Vaccine sub-dimension	2.9 $\pm$ 0.7
65 plus (n=39)	Media Exposure Scale	40.5 $\pm$ 7.4
	Risk Perception Scale	73.7 $\pm$ 9.3
	The Behavior Scale	14.4 $\pm$ 2.2
	The Believability Scale Media sub-dimension	3.1 $\pm$ 0.7
	The Believability Scale Vaccine sub-dimension	2.8 $\pm$ 0.8

x: mean, sd: standard deviation

It has been determined that the media use variable did not differ according to age groups, thus all generational groups were found to use media invariably from each other. Likewise, no difference was found between educational status and media use. At all educational levels, our participants used media consistently. In addition, it has been determined that the intention to be vaccinated did not make a difference in the group with and without Covid-19 positive diagnosis. On the other hand, it has been found that women (5.70) were more likely to be vaccinated than men (5.03). Therefore as a



**Table 2:** Correlation Between Scale Scores of Participants Aged 65 and Plus

Age range	Interscale correlation	Media Exposure Scale		Risk Perception Scale		The Behavior Scale		The Believability Scale Media sub-dimension		The Believability Scale Vaccine sub-dimension	
		$r_s$	p	$r_s$	p	$r_s$	p	$r_s$	p	$r_s$	p
		65 plus	Media Exposure Scale	-	-	0.28	0.07	0.07	0.66	0.25	0.12
	Risk Perception Scale	0.28	0.07	-	-	0.64	<b>&lt;0.001</b>	0.30	0.05	0.17	0.29
	The Behavior Scale	0.07	0.66	0.64	<b>&lt;0.001</b>	-	-	0.05	0.76	0.07	0.64
	The Believability Scale Media sub-dimension	0.25	0.12	0.30	0.06	0.05	0.76	-	-	0.71	<b>&lt;0.001</b>
	The Believability Scale Vaccine sub-dimension	0.06	0.71	0.17	0.29	0.07	0.64	0.71	<b>&lt;0.001</b>	-	-

'Data were analyzed by Sperman's Rho test

result of the quantitative part of our project, we concluded that, although all generations independent from their education, use media invariably, their risk perception varies, and not surprisingly the elderly were the most affected group –since from the beginning of the pandemic 65+ were seen as the main group at risk. In addition (surprisingly) while having a Covid-19 positive diagnosis didn't have a significant impact on the vaccine behavior, being a female slightly does.

### ***Limitations and Strengths of The Study***

In this study, most of the participants had medium or high education and economic levels. This situation and number of the participants makes it difficult to generalize the research results. On the other hand, although the vaccine applications did not start at the time of the research, the researchers predicted this application and added the research of the participants' tendencies to the study, which

constituted the strength side of the research.

### **CONCLUSION**

As a conclusion to this short report, we want to assert that, although more than three years have passed since the pandemic first emerged, unfortunately, it wasn't over yet. Both for the Turkish Ministry of Health and other health institutions (such as the World Health Organization, or other national ministries of health), the issue of vaccine rejection and media relations has been a problem that has been discussed and tried to overcome. Here, in this humble project, we tried to highlight the main issues in this relation, for we believe there would be times in the future the conclusions we arrived at would gain importance again, so as they are still.

The belief of individuals in science is one of the cornerstones in overcoming this health crisis, as it was in the past. The attitudes of

individuals towards the media, which is one of the sources that we can follow what scientists offer us, need to be conscious. In addition, it is of great significance that the information that both the whole society and individuals over the age of 65, who are in the risk group in terms of Covid-19 contamination and adverse process, need or may need, should be given in the most perspicuous, accurate and current manner in the media.

As our awareness of the age we live in and its developments increases, we believe that we will be able to overcome better this or possible future health crises.

## ACKNOWLEDGEMENTS

The authors thank all the participants and also Ezgi Eyüboğlu, Dilge Kodak and Ali Haydar Dudaklı for the contribution to the study process.

**Conflict of Interest:** The authors declare no conflicts of interest.

**Financial Support:** This study was funded by Maltepe University Scientific Research Projects.

**Ethical Declaration:** This study was approved by Maltepe University Ethical Committee (Approval No. 2020/03-08).

**Author Contrubition:** Concept: GAD; Design GAD, İY; Data collection: GAD, İY; Data Analysis: İY; Literature search: GAD, İY; Writing: GAD, İY; Final approval: GAD, İY.

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