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RESEARCH ARTICLE

## Assessing Covid-19 Threat Perceptions of Employees: A Generation Oriented Research in Turkiye

Osman Yalap[1] , Mustafa Canbek[2]

**Abstract**

Coronavirus threatens the physical and mental health of human beings throughout the world. Besides that, extraordinary measures, which are taken in order to protect the public health, have devastating effects on the global economy. In this context, it can be said that understanding the perceptions of employees who are surrounded by health and economic risks is crucial for the field of management. In the current study, it was investigated how Covid-19 threat perceptions of employees differ according to generation. With this purpose, data was collected from 535 public and private sector employees working in various provinces of Turkey. In order to analyze the collected data Independent sample t-test and one-way analysis of variance (ANOVA) were conducted. Findings indicated that Generation Z individuals are significantly different from other generations regarding Covid-19 threat perceptions. Generation Z perceives threats less than generation X and Y. The results of this research can be interpreted as that Generation Z employees feel more confident against the risks accompanying the coronavirus. In addition, statistically significant differences were found between some of the demographic characteristics of the participants and their perceptions of COVID-19 threats.

**Keywords**

Threat Perception of Covid-19, Generations, Employees

## Introduction

COVID-19 first appeared in Wuhan, China at the end of 2019 and soon became a global epidemic, causing many people to die. As of January 2021, the virus had claimed more than 1.87 million lives across the world and more than 86 million people were reported to have been infected (Worldometers, 2020). Although some infected people do not show any symptoms, many of them need a difficult treatment process before returning to normal life. Since the known treatment methods are inadequate against this virus, governments are asking

1 **Corresponding Author:** Osman Yalap (Asst. Prof. Dr.), Artvin University, Faculty of Health Sciences, Department of Emergency Aid and Disaster Management, Artvin, Turkiye. E-mail: osman.yalap@artvin.edu.tr ORCID: 0000-0003-1058-2457

2 Mustafa Canbek (Asst. Prof. Dr.), Amasya University, Merzifon FEAS, Aviation Management Department, Amasya, Turkiye. E-mail: mustafa.canbek@amasya.edu.tr ORCID: 0000-0002-2590-9910

people to stay home and not go out unless there is a reasonable excuse. Therefore, as in the epidemics of SARS (Severe Acute Respiratory Syndrome) and MERS (Middle East Respiratory Syndrome), COVID-19 also has great economic impacts as a result of the measures taken in addition to being a threat to human life. Global supply chain disruptions, job cuts and job losses, and more employees starting to work from home show that the virus has devastating social and economic impacts (Evans, 2020, p. 6-8; Ratten, 2020). The rapid spread of coronavirus, which was believed to have emerged from an animal source, caused a slowdown in the global economy and temporarily shut down sectors such as the automotive, tourism, and education sectors (Ayittey et al., 2020, p. 1-2; Pérez-Fuentes et al., 2020, p. 2).

Currently, a very high level of daily cases and deaths are reported in the USA, Brazil, India, and Russia, and the new variant identified in the UK seems to spread faster (Gallagher, 2020). Although some of the vaccines developed appeared to be highly reliable, the COVID-19 pandemic seems set to incur difficulties globally for a while due to the uncertainties that lie ahead concerning the roll-out of COVID-19 vaccines and their distribution (Robert, 2020, Zimmer et al., 2020, World Health Organization, 2020).

As the coronavirus threatens all humanity, it is perceived as a threat at different levels by individuals with different characteristics (Doğan & Düzel, 2020, p. 750). It is quite natural that individuals with different mentalities, experiences and competencies react differently to events and situations. Researchers emphasize that individuals' perceptions of disease or disasters are far more important than objective assessments of the current threat (Kim, 2020, p. 109). Accordingly, it is necessary to observe how the COVID-19 virus is perceived by individuals to understand the reflections of this virus threat in the business world. Thus, the necessary measures to ensure that individuals are less affected by the panic of COVID-19 can be discussed more realistically.

## Threat Perception of Covid-19

The rapid increase in the number of coronavirus deaths and the serious measures taken due to the unknown nature of the virus cause various mental disorders such as anxiety, depression, fear, and stress in humans (Bozkurt et al., 2020, p. 307-308). COVID-19 has become a very important threat to physical and mental health and its devastating effects are already being felt in economic and social domains. The quick spread of the virus across the world in just a few weeks caused the shut-down of many sectors such as tourism, education, manufacturing as well as significant job losses. Despite COVID-19, efforts are made to carry out the necessary activities in a lifestyle called "*the new normal*" and thus social and economic life is less affected (Bonacini et al., 2020, p. 330). However, it is very difficult to make absolute predictions about the future due to uncertainties about coronavirus (Ratten, 2020, p. 504).

Extensive measures that seriously affect economic life and social habits also significantly affect individuals' perceptions of COVID-19 (Pérez-Fuentes et al., 2020, p. 2). It can be said that as a result of the dramatic changes in the business world, employees' feelings and thoughts were significantly affected by COVID-19. The pandemic seriously threatens not only the health of employees but also their income. It has been reported that the rate of those who are temporarily or permanently laid off due to COVID-19 in the USA is 11%, furthermore, in addition to those who try to overcome economic difficulties by savings accounts or short-term debt, 21% are trying to reduce their expenses by skipping meals and eating less (Norc, 2020).

In this chaotic environment of COVID-19, it was considered that employees' perceptions and attitudes towards their organizations and jobs might change significantly due to the serious change in the way of doing business in many sectors (Fernandez & Shaw, 2020, 40). In this regard, it can be argued that employees will experience huge pressure, their attitudes towards their jobs and their work-related beliefs will change significantly and thus they are likely to experience anxiety by constantly feeling the risk of losing their health or job. The uncertainty about how long the pandemic could last and the vaccine required for the treatment of patients raise concerns (Gica et al., 2020, 9).

Studies conducted over a short period of time are guiding in understanding the emotional reactions of individuals to COVID-19. Paredes et. al (2020, p. 4-5) found that perceptions of the threat of COVID-19 increase individuals' future anxiety and decrease mental well-being. Similarly, the results of another study revealed that the COVID-19 threat perception causes an increase in anxiety, depression, and anger-hostility levels in individuals (Pérez-Fuentes et al., 2020, p. 5-6). Accordingly, it can be stated that the perceptions of the threat of COVID-19 might cause various problems at the individual, organizational and community levels. While there may be differences among nations perceiving COVID-19 as a threat, significant differences can also be observed between people of the same society with different characteristics. It can be argued that the perceptions of the threat of COVID-19 might be different, especially across generations.

## Generations X, Y, and Z

The differences between generations in business life have been examined in numerous empirical studies. The results obtained in those studies in general revealed that the conditions of the period in which individuals were born and grew up are likely to have an impact on their perceptions, attitudes, and behaviors (Arklina et al., 2020, p. 13; Kızıldağ, 2019, p. 33; 92). Situations such as important events, social and economic developments, popular culture and media that take place within a certain period affect individuals who experience these developments and naturally, value judgments and preferences of those individuals could vary when

compared to other generations (Twenge et al., 2010, p. 1120). Among the generations that exist in business life today, the generation called *Baby Boomers* (due to the post–World War II baby boom) can be discussed. Although different dates are stated in the literature, individuals born between the mid-1940s and the first half of the 1960s can be considered as this generation (Beytekin & Doğan, 2019, p. 384; Ball & Gotsill, 2011, p. 18; Appelbaum et al., 2005, p. 1-2). On the other hand, generations X, Y, and Z are the generations after the Baby Boomers, respectively, with different characteristics (Waligóra & Austen, 2019, p. 244). A comparative examination of the definitions of these generations can provide a deeper insight into the differences between the generations and the reflections of these differences in business life.

Although there are no certain agreed dates regarding the birth years for each generation, it is mostly accepted that generation X covers people born between the first half of the 1960s and 1980s, generation Y between the early 1980s and the first half of the 1980s, and finally, generation Z covers people born from the mid-1990s through to today (Cilliers, 2017, p. 190; Lissitsa & Kol, 2016, p. 305; Ball & Gotsill, 2011, p. 26). Regarding the studies conducted in this field, it can be said that the most problematic generation for determining the age group is generation Z (Dolot, 2018, p. 44). Currently, it can be argued that Gen-Xers are in leadership roles or approaching their retirement, Generation-Yers are climbing the career ladder, and Gen-Zers have just entered the working life (Gaidhani et al., 2019, p. 2804; Kızıldağ, 2019, p. 33).

According to previous studies; since both parents of Gen-Xers are usually working, it can be argued that they have become used to being lonely since their childhood. Therefore, these individuals enjoy working alone and try to be self-sufficient, in other words, they have individualistic characteristics. Moreover, Gen-Xers have strong technical skills and are successful in developing alternative solutions for problems. These individuals often tend to display skeptical behaviors towards events and individuals. It can be stated that their authority dependence is less than that of previous generations. Moreover, Gen-Xers are extremely careful when maintaining the balance between work and family (Kanbur & Şen, 2017, p. 121; Bejtkovský, 2016, p. 108; Lissitsa & Kol, 2016, p. 305; Abrams & Von Frank, 2013, p. 9-10; Twenge et al., 2010, p. 1120).

Gen-Yers, also referred to as *Millenial, Net-Generation, GenMe, nGen, iGen, or civic generation,* witnessed the emergence of the internet at an early age and they have grown accustomed to accessing information easily thanks to the internet. Although Gen-Yers are similar to Gen-Xers regarding characteristics such as technology addiction, antipathy towards formality, accepting differences, and balancing work-family life, they distinguish in terms of predisposition toward teamwork and attaching importance to social relations. They can tolerate differences in culture, ethnicity, religion and gender, and have no difficulty working with people who have different values. Gen-Yers can adapt quickly to changes due to their flexibi-

lity. Furthermore, they can complete multiple tasks simultaneously without having difficulty (Kolnhofer-Derecskei, 2017, p. 108; Clarke, 2015, p. 566; Krahn & Galambos, 2014, p. 95; Sa'aban et al., 2013, p. 549-550; Twenge et al., 2010, p. 1120).

Since Gen-Zers grew up with technologies such as the internet, laptop computers, and mobile phones at a very early age, it can be argued that the keyword in their lives is *digitization*. Generation Z can exist in both the real and virtual worlds and easily make transitions between these two worlds. One of their basic characteristics is that they can easily access information they need and share it with others. Furthermore, it can be also claimed that they communicate constantly with people through various communication tools and social media. They often tend to solve problems they face using the internet. Generation Z behave relatively impatiently and are agile compared to other generations and they wish to work on different things. It can be argued that they are not afraid of constant change. Furthermore, since they lack sufficient work experience, they may have unrealistic expectations about the company or their managers which do not coincide with the realities of the business world such as flexibility in working hours (Schroth, 2019, p. 7; Dolot, 2018, p. 45; Andrea et al., 2016, p. 93). Since Gen Zers are new in business life, there is relatively little information about the characteristics of this generation, their expectations of business life, their attitudes and their working styles (Gaidhani et al., 2019, p. 2804-2805).

## Methods

### Research Design

In the current study, the descriptive method was chosen in terms of methodological research. As a research technique, the deductive assumptions and quantitative research techniques were discussed. The measurement tool used in the survey was a 5-point Likert-type scale. The survey form also includes several open-ended items which were employed to determine the demographic characteristics of the participants (such as age, marital status, education). On the other hand, all procedures performed in this current research involving human participants were in accordance with the ethical standards of the Artvin Coruh University in 2020 and with the decision no: 18457941-050.01.04-.

Although the periods of the generations differ in the literature, certain amount of studies define specific characteristics of each generation in depth. Therefore, the mentioned studies which have minor differences regarding periods of the generations were referred to. In this regard, generations were defined as Gen X, born between 1965 and 1979, Gen Y, born between 1980 and 1999 and Gen Z, born after 2000 (Bejtkovský, 2016, p. 108; Lissitsa & Kol, 2016, p. 305; Abrams & Von Frank, 2013, p. 10).

## Sample

Our sample consisted of 535 full and part-time school teachers from public and private sector organizations in Turkey. Of 535 participants, 46.3% were female and 53.7% were male. While 14.4% of the participants were from Generation X, 55.4% were from Generation Y. The rate of Generation Z was 30.2%. The mean age of the sample was 31.97 years (SD= 9.03). Most participants were private-sector employees (71.8%). Alongside this, 68.8% of the participants were married and 30.2% were single. Finally, 39.4% of the participants were college graduates, 41.4% were primary school graduates and 19.2% were MSc graduates.

## Measures

The scale developed by Gica, Kavakli, Durduran and Ak (2020) was used to measure the COVID-19 threat perceptions of participants. The form consists of seven items in a 5-point Likert-type format ranging from strongly disagree (1) to strongly agree (5). The researchers reported the Cronbach's Alpha reliability score of the scale as 0.75. Also, we controlled for the demographic variables such as age (continuous variable) of generation X, Y and Z; gender (1= male; 2= female); marital status (1= married; 2= single); employment sector (1= public, 2= private) and; education level (primary school, high school, undergraduate, and Master's degree).

## Data Analytic Approach

We used SPSS and LISREL statistical programs for data analysis. Confirmatory factor analysis (CFA), correlation analysis, independent samples t-test and one-way ANOVA were applied to the data. CFA was performed on the measurement tool. According to the results, the single factor structure of the scale was validated and the required goodness-of-fit values were achieved ($X^2$/df= 55.14/13; RMSEA= 0.78; GFI= 0.97; CFI= 0.98; NFI= 0.97; NNFI= 0.96; IFI= 0.98). Also, the Cronbach's Alpha reliability score of the scale was calculated as 0.82.

## Results

The COVID-19 pandemic is constantly worsening all over the world and also in Turkey. The descriptive statistics that summarize the responses of the participants to the statements about the perceived threat of COVID-19 are presented in Table 1.

Table 1

*Descriptive Statistics of Perceived Threat of COVID-19 Form (n= 535)*

| Items | Mean | Std. Er. | Median | Mode | Std. Dev. | Var. | Sw. | Kur. |
|---|---|---|---|---|---|---|---|---|
| The possibility of contaminati-on (IT1) | 3.37 | 0.056 | 4.00 | 4.0 | 1.31 | 1.72 | -0.45 | -0.99 |
| The possibility of killing (IT2) | 3.30 | 0.053 | 3.00 | 3.0 | 1.24 | 1.54 | -0.14 | -1.05 |
| Economic reasons (IT3) | 3.47 | 0.052 | 4.00 | 4.0 | 1.21 | 1.47 | -0.39 | -0.91 |
| Social media, news and con-tent (IT4) | 3.43 | 0.051 | 4.00 | 4.0 | 1.18 | 1.39 | -0.35 | -0.84 |
| The purpose of biological attack (IT5) | 3.53 | 0.052 | 4.00 | 4.0 | 1.21 | 1.47 | -0.49 | -0.71 |
| Unhappiness (IT6) | 2.77 | 0.049 | 2.00 | 2.0 | 1.14 | 1.31 | 0.17 | -0.80 |
| Despair (IT7) | 2.63 | 0.051 | 2.00 | 2.0 | 1.19 | 1.43 | 0.36 | -0.70 |
| Perceived CO-VID-19 Threat | 3.21 | 0.036 | 3.28 | 3.7 | 0.84 | 0.71 | -0.19 | -0.43 |

*IT= Consisting of seven items and one structural dimension, each statement in the Perceived Threat of COVID1-19 Form refers to the*

*related content.*

According to the results, shown in Table 1, the item that the participants mainly agreed on concerning the perceived threat of COVID-19 was that the virus was produced for a biological attack (x̄= 3.53; SS= 1.21). The least agreed item was that they do not lose hope during the pandemic period (x̄= 2.63; SS= 1.21).

The results of Pearson correlation between independent variables (gender, age, employment sector, marital status and education level) and the dependent variable (perceived threat of COVID-19) presented in Table 2 show a significant positive correlation between the COVID-19 threat perception and gender (r= 0.119, p<0.01). The relationship between the COVID-19 threat perception and age is positive and significant (r= 0.116, p<0.01). However, the relationship between the COVID-19 threat perception and the employment sector is negative and significant. Finally, a significant and positive correlation was found between the COVID-19 threat perception and marital status (r= 0.123, p<0.01). On the other hand, no significant relationship between the participants' level of education and the perceived threat of COVID-19 was found.

Table 2

*Correlation Matrix*

| | Variables | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|
| 1 | Perceived COVID-19 threat | - | | | | |
| 2 | Gender | 0.119** | - | | | |
| 3 | Age | 0.116** | 0.023 | - | | |
| 4 | Employment Sector | -0.105* | -0.142** | -0.299** | - | |
| 5 | Marital Status | 0.123** | 0.057 | 0.411** | -0.088* | - |
| 6 | Education | 0.024 | 0.050 | 0.343** | -0.379** | 0.060 |

*N= 535; **p<0.01; *p<0.05.*

In this study we used the independent samples t-test and one-way analysis of variance (ANOVA). The results obtained from the t-test are as follows (Table 3):

Table 3

*Independent Sample t-Test Results*

| Variables | N | Mean | Std. Dev. | df | t | Sig. | Levene's test | |
|---|---|---|---|---|---|---|---|---|
| **Gender** | | | | | | | F | p |
| Female | 248 | 2.67 | 0.84 | 533 | -2.774 | 0.006 | 0.319 | 0.573 |
| Male | 287 | 2.87 | 0.83 | | | | | |
| **Marital Status** | | | | | | | F | p |
| Single | 166 | 2.62 | 0.83 | 541 | -2.852 | 0.005 | 0.612 | 0.435 |
| Married | 369 | 2.85 | 0.84 | | | | | |
| **Employment Sector** | | | | | | | F | p |
| Public | 151 | 2.92 | 0.82 | 534 | 2.471 | 0.014 | 0.272 | 0.602 |
| Private | 385 | 2.72 | 0.84 | | | | | |

Table 3 reveals that a significant difference exists in the perceived threat of COVID-19 between female and male participants (t (533) = -2.774, p<0.05). The finding indicates that male participants (x̄= 2.87; SS= 0.83) are perceive higher levels of COVID-19 threat than female participants (x̄= 2.67; SS= 0.84). Furthermore, there is a significant difference between single and married respondents in terms of the perceived threat of COVID-19 (t (541) = -2.852, p<0.05). The result shows that married employees (x̄= 2.85; SS= 0.84) perceive higher levels of COVID-19 threat than single employees (x̄= 2.62; SS= 0.83). Finally, it was determined that the perceived threat of COVID-19 among public sector employees was higher than private-sector employees (t (534) = 2.471, p<0.05).

Table 4

*Results of One-way analysis of variance (ANOVA) regarding the perceived threat of COVID-19 between Generations X, Y, and Z*

| Variables | | N | Mean | Std. Dev. | | Sum of Squares | df | F | Sig. |
|---|---|---|---|---|---|---|---|---|---|
| | X | 77 | 2.90 | 0.88 | BG | 5.681 | 3 | 4.023 | 0.018 |
| Generations | Y | 297 | 2.83 | 0.84 | WG | 375.616 | 532 | | |
| | Z | 161 | 2.63 | 0.80 | Total | 381.298 | | | |
| | Total | 535 | 2.78 | 0.84 | | | | | |

*N= 535; BG= Between Groups; WG= Within Groups; *p<0.05.*

Table 4 summarizes whether there is a significant difference in the threat perceptions of COVID-19 among Generations X, Y, and Z. The age groups of the employees were classified as being Generation X, Y, or Z, and a statistically significant difference was found in the COVID-19 threat perception levels of the employees of Generations X, Y, and Z (F= 4.203; p<0.05). The Tukey-HSD method, one of the multiple comparison analyzes, was used to determine if particular generations were responsible for the significant difference. The results obtained are shown in Table 5.

Table 5

*Results of the Multiple Comparisons (Tukey-HSD)*

| Generation | Generations | Mean Difference | Std. Error | Sig. | %95 Confidence Interval | |
|---|---|---|---|---|---|---|
| | | | | | Lower Bound | Upper Bound |
| X | Y | 0.07 | 0.10 | 0.782 | -0.180 | 0.324 |
| | Z | 0.27* | 0.11 | 0.048 | -0.001 | 0.549 |
| Y | X | -0.07 | 0.10 | 0.782 | -0.324 | 0.180 |
| | Z | 0.20* | 0.08 | 0.036 | -0.010 | 0.396 |
| Z | Y | -0.20* | 0.08 | 0.036 | -0.396 | -0.10 |
| | X | -0.27* | 0.11 | 0.048 | -0.549 | -0.01 |

*N= 535; Dependent Variable: Perceived COVID-19 Threat; *p<0.05.*

According to the results presented in Table 5, a significant difference exists in the perceptions of the threat of COVID-19 only between Generation Z and other generations. The results of Tukey-HSD showed that there was a statistically significant difference in COVID-19 threat perception between participants from Generation Z and Generation X in favor of Gen Z (MD = -0.27; SE= 0.11). Similarly, our analysis showed that the threat perception was statistically significant between participants from Generation Z and Generation Y in favor of Gen Z (MD = -0.20; SE= 0.08).

## Conclusion

Researchers have drawn attention to the various discussions about generation studies. First of all, the term *generation* cannot be accepted strictly identical for all members who are born on a particular date and grow up in the same environment. Culture, personality and other related characteristics can also create important differences in individuals' choices and decisions based on the generation to which he/she belongs. Another discussion related to generation-oriented investigations highlights the age differences among the members of the sample groups. While expecting objective assessments by the participants, younger individuals can react with more excitement than the older ones. It can be assumed that the older participants were more excited at the beginning of their careers (Kolnhofer-Derecskei et al., 2017, p. 109; Twenge et al., 2010, p. 1118). Nevertheless, generation studies in the literature present a deep insight into the job market and human capital. Since the term *generation* defines particular groups of human being with similar attitudes, habits and behaviors, it can be accepted that significant results might be acquired from generation studies.

The current study was conducted to analyze how public and private sector employees in Turkey have been affected by the COVID-19 pandemic period and whether there is a statistically significant difference in COVID-19 threat perception levels between generations. According to the results, generation Z employees were found to perceive fewer threats from the virus during the COVID-19 pandemic compared to Generation X and Generation Y employees. Accordingly, our finding indicating that Gen Z exhibits less anxiety regarding the threat of COVID-19 compared to other generations can be considered congruous to the statements of Andrea et al. (2016, p. 93) suggesting Gen Z is not afraid of continuous change.

In this regard, it is assumed that younger people would be less affected by the COVID-19 pandemic. However, the argument that the "younger generation are not afraid of change" needs to be argued when it comes to the coronavirus. Although, older people who are suffering from medical difficulties such as asthma and patients with weakened immune systems are more vulnerable, in fact, people of all ages are similarly affected by the virus (World Health Organization, n.d.).

Analysis of the demographic variables indicates that there are statistically significant differences in COVID-19 threat perceptions based on participants' gender, marital status and employment sector (public or private). Male employees experience more threat perceptions of the virus than female employees and married employees experience more threat perceptions than single ones. Therefore, it can be assumed that male employees are concerned more about being obliged to tackle the effects of the pandemic more than female employees. This finding is not congruous to the study of Morioka (2014, p. 110) who investigates the risk perceptions among Japanese workers about the explosion of the Fukushima power plant. The findings related to the marital status of the employees can be interpreted as married employees have to care for family members' economic and psychological well-being against the effects of the pandemic, besides their own well-being.

Furthermore, we found that public sector employees have higher perceptions of virus threats than private-sector employees. Obviously, it can be said that the public sector employees work and live in a certain routine, while private-sector employees live in a more dynamic business environment. Therefore, it can be stated that private sector employees feel more confident regarding coping with unsteady work conditions and they can feel psychologically prepared for changes or fluctuations in the business environment. It can be assumed that public sector workers are more apprehensive about dealing with major changes. All these results coincide with the results of another study of Bostan et al. (2020, p. 6) who conducted extensive research in Turkey.

Economic, psychological, and sociological dimensions of the COVID-19 pandemic have great importance for individuals, organizations, and communities, although it is generally discussed in the field of health sciences. In the field of business management, there is a limited

number of studies measuring employees' levels of the COVID-19 threat perception and addressing their relationships with various variables (Aguinis et al., 2020; Manuel and Herron, 2020; Vaziri et al., 2020; Verma & Gustafsson, 2020). In the current study, to contribute to the literature, we investigated whether there is a significant difference in the perceived threat of COVID-19 according to certain demographic characteristics of public and private sector employees in Turkey. As a suggestion for future studies, investigating the enhancive and assuasive factors or the consequences of the threat perception of COVID-19 might provide a broader perspective on the global risks.

Since it is thought that employees' perceptions of COVID-19-related threats will have negative repercussions at both the organizational and social levels, it can be suggested that organizations need to make sure employees feel safe, at least in terms of their impact at the economic and organizational level. In addition, although it is thought that the effect of the virus may vary depending on age, the World Health Organization states that individuals of all ages can be affected in the same way. For this reason, we recommend providing various development activities such as training and seminars for employees at the organizational level so that employees may make realistic assessments about the pandemic period.

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