

# The effect of macro-control and organizational support perception on nurses and physicians intention to quit during the COVID-19 pandemic

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## Abstract

**Aim:** The aim of this study is to determine the effect of organizational support and COVID-19 macro-control perception levels on intention to quit in physicians and nurses.

**Background:** During the pandemic process, healthcare workers faced great health risks and workloads. Many health workers are considering quitting their job.

**Method:** A cross-sectional and explanatory research. The sample of the study consisted of 300 nurses and 73 physicians. To collect data, COVID-19 perception of macro-control, perceived organizational support, and intention to quit scales were used. Structural equation modeling was used.

**Results:** COVID-19 macro-control perception and perceived organizational support have a negative effect on the intention to quit. The perceived organizational support has a partial mediating role, on the COVID-19 macro-control perception and the intention to quit.

**Conclusion:** This study demonstrated that the macro measures taken against the pandemic and the organizational support received by the nurses and physicians, who are the main actors in the fight against the epidemic, negatively affected their intention to leave.

**Implications for nursing practice and clinical relevance:** To reduce the intention to quit health workers during the COVID-19 pandemic, scientific-based macro-control measures should be taken, and organizational support should be provided.

## KEYWORDS

COVID-19 pandemic, intent to quit job, macro-control perception, perceived organizational support

## INTRODUCTION

Healthcare providers who are at the forefront of the fight against the disease are at high risk of infection for themselves, their families, and others they come into contact with (Sperling, 2021). As the coronavirus cases increase, healthcare workers are one of the occupational groups with the highest risk of being infected (Koh, 2020). Therefore, there is a need to ensure that healthcare workers

feel safe during global health crises such as the pandemic (Ashley et al., 2021).

Severe Acute Respiratory Syndrome Coronavirus 2 - SARS-CoV-2 (COVID-19) is a deadly coronavirus disease that emerged in China in late 2019, transmitted by human-to-human contact, spread worldwide in a short period of 3 months, and was recognized as a pandemic by the World Health Organization (WHO) in March 2020 (World Health Organization, 2020). The pandemic has caused the



health of many people and their relatives around the world to feel threatened (Domínguez-Salas et al., 2021). The COVID-19 pandemic threatens a sense of personal control. In case of a lack of personal control, people try to overcome this deficiency either by increasing their personal efforts (primary control) or by seeking external control resources (secondary control) (Wnuk et al., 2020). In this context, the perception of macro-control is related to people's beliefs about the effectiveness of the measures taken at the institutional, national or global level (Çırakoğlu, 2011). The measures taken by individuals to deal with this threat alone are not enough. Therefore, people expect local and global practitioners to take control of the situation and ensure their safety. Macro-control measures to be taken during the COVID-19 pandemic period are determined and implemented by the World Health Organization, governments and the Ministry of Health. In parallel with the World Health Organization's statements that reducing the impact of COVID-19 should be the first priority of governments, many countries were taking macro-measures. These measures are wearing masks, travel restrictions, curfews, distance education, flexible working, quarantine practices, and widespread vaccination (Wnuk et al., 2020).

In studies conducted so far on the intention to quit, both individual and organizational factors have been emphasized (Liu et al., 2018; McCarthy et al., 2007; Mumu et al., 2021; Wika et al., 2019). Tabur et al. (2022) determined that the COVID-19 pandemic increased the intention to leave work, especially among doctors and nurses in Turkey. It was found that the more severe their anxiety about work pressure and burnout due to COVID-19, the more health professionals consider leaving their jobs (Tabur et al., 2022). Considering that even before the COVID-19 Pandemic, there were problems with stress, burnout and quitting among nurses. The COVID 19 outbreak may have exacerbated such problems. Therefore, the impact of the COVID-19 pandemic on nurses' turnover and turnover intentions warrants further investigation (Falatah, 2021). Sperling (2021) concluded that nurses did not show any intention to leave the profession despite the perceived risk, stress and feelings of insufficient support and protection due to COVID-19 in Israel, but nurses sought a supportive climate for their needs and ethical concerns. Filipino nurses were found to experience high levels of COVID-19-related discrimination and that intention to leave their jobs and even nursing was related to this and to coronaphobia (De Los Santos & Labrague, 2021; Fronda & Labrague, 2022; Labrague et al., 2021). Among frontline Egyptian nurses working during the pandemic, increased workload, dealing with death, stigmatization, occupational stress and exposure, and the risk of infection were the greatest stressors (Said & El-Shafei, 2020). Similarly, work stress and anger related to COVID-19 had a significant impact on Pakistani nurses' intention to leave your jobs (Shah et al., 2021).

In a study by Pförtner et al. (2021), it was revealed that the intention to leave the profession of healthcare professionals working in outpatient and inpatient nursing and palliative care facilities in Germany increased significantly due to the COVID-19 pandemic. In the study conducted in Japan by Ohue et al. (2021), it was concluded that the increase in the number of patients with COVID-19 increased the anxiety of nurses who care for COVID-19 patients and affected

their intention to resign. Crowe et al. (2022) found that Canadian nurses experienced high levels of burnout, depression, anxiety and stress during the COVID-19 period, and at the same time, more than 20% wanted to leave their jobs in Canada. Jang et al. (2021) found out that hospital workers in the early stages of the coronavirus epidemic in South Korea developed an intention to leave their jobs when they could not individually control their perceived stress and fear. Iranian nurses working with COVID-19 patients had high perceived risk of developing the virus and high levels of job stress, both of which were associated with intention to leave work (Mirzaei et al., 2021). It is apparent that worldwide, nurses and other providers are suffering due to working during the pandemic and that this may impact their desire to continue working.

There are a lot of research related to effects the psychological issues on intention to quit in health personnel. However, there was little research investigating the relationship among organizational support, macro-control perception in COVID-19 and intention to quit in physicians, nurses and other health professionals. Our study could demonstrate that the macro-measures taken against the pandemic and the organizational support received by the nurses and physicians in COVID-19, who are the main actors in the fight against the epidemic, negatively affected their intention to leave. The aim of this study is to determine the effect of macro-control measures and organizational support during the COVID-19 pandemic on intention to quit of healthcare professionals. In addition, the mediating effect of the perceived organizational support and the COVID-19 macro-control perception on the intention to quit was also examined.

This study is important in terms of addressing the psychological and occupational effects of the epidemic on nurses and physicians. It can be thought that this research tries to deal with the negative effects of COVID-19, which is a global issue, on nurses and physicians from a different perspective. Although the organizational behavior issues of the COVID-19 epidemic have been examined at many points, in this study, examining the effects of macro-measures against the epidemic and organizational behavior on the intention to leave may contribute to the literature. Because there is limited research on the effect of epidemic measures on intention to leave. This research is important in that it covers physicians and nurses. It can be said that our study can contribute to the organizational behavior literature of nursing and medicine during epidemic periods.

## METHODS

### Research design

This cross-sectional study used online survey methodology.

### Participants

The study population involved nurses and physicians who work at state hospitals during the COVID-19 pandemic in Turkey,

nationwide. The convenience sampling method was used. An on-line questionnaire created in the Google form was sent to 557 nurses and 243 physicians via e-mail and WhatsApp. Participants needed approximately 5–7 minutes to complete the questionnaire. Power analysis was performed to determine the adequacy of the sample size. The G Power 3.1.9.6 program was used to calculate the sample size. Wen et al. (2018) examined the research on doctors, and the expected confidence intervals (CI) of the intention to leave scale were determined, and the CI was calculated as  $\alpha = 0.05$ , the power of the test ( $1 - \beta$ ) 0.95, effect size  $d_z = 0.3717421$  and the sample size was 51 doctors. As a result of the research, the power of the test was found to be 99%. Takase et al. (2006) examined the research on nurses and determined the expected CI of the scale of intention to quit, and the CI was calculated as  $\alpha = 0.05$ , the power of the test ( $1 - \beta$ ) 0.95, effect size  $d_z = 0.1627907$  and the sample size was 110 nurses. As a result of the research, the power of the test was found to be 99%. Research data were collected from a total of 373 participants that were 300 nurses and 73 physicians, between November 6 and December 31, 2020. The overall response rate was 46.6%, 53.86% in nurses and 30.04% in physicians.

## Data collection tools

Research data were collected through a questionnaire. The questionnaire form consisted of COVID-19 perception of macro-control, perceived organizational support, and intention to quit scales, as well as questions about the demographic characteristics of the participants (gender, age, profession, and working time in the profession). All the scales used in the study were prepared in 5-point Likert type (1 = I do not agree at all, 5 = I totally agree).

## COVID-19 macro-control perception scale

The macro-control perception is about the participant's beliefs about the effectiveness of the measures taken at the institutional and national levels during the pandemic. The macro-control perception scale in Turkish was developed by Çırakoğlu (2011) for the H1N1 virus. In the original version of the scale, the  $\alpha$  coefficient was found to be 0.83 (Çırakoğlu, 2011). In the study conducted by Geniş et al., (2020), it was shown that the macro-perception of the control scale has validity and reliability. The scale has been adopted by the researchers as three items for COVID-19.

## Perceived organizational support scale

The perceived organizational support scale, which was developed by Eisenberger et al. (Eisenberger et al., 1986) and abbreviated as 10 items by Armstrong-Stassen and Ursel (Armstrong-Stassen & Ursel, 2009) was used to determine the level of organizational support perceived

by employees. Turkish validity and reliability of the perceived organizational support scale was performed by Akkoc et al. The Cronbach alpha coefficient of the Turkish version of the scale was found to be 0.93 (Akkoc et al., 2012). Akduman and Hatipoğlu (2020) was determined that the perceived organizational support scale is a reliable and valid scale with its 10 items and one-dimensional structure in Turkey. This scale was determined as the valid and high reliable scale in many studies conducted in Turkey and other countries (Akduman & Hatipoğlu, 2020; Akkoç et al., 2012; Chen et al., 2009; Lai et al., 2022; Rozdi et al., 2017; Worley et al., 2009).

## Intention to quit scale

The intention to quit scale developed by Landau and Hammer (Landau & Hammer, 1986). Landau and Hammer's intention to quit scale consists of three items and one dimension. Items of this scale included: "I feel I may change my job within 2-3 years," "I often think about quitting my job," and "I want to find a new job if possible." The scale has high reliability (Cronbach  $\alpha > 0.70$ ). This scale can be accepted as an internationally valid scale that measures the intention to leave work of many sector personnel, including healthcare workers. Previous studies found reliabilities for this scale ranging from 0.80 to 0.89 for this construct (Anand et al., 2022; Bauer et al., 2006; Kim et al., 2017; Lazarova & Caligiuri, 2002; Martin & Kaufman, 2013; Zeytinoglu et al., 2007). Intention to quit scale has shown good reliability in recent studies in Turkey (Yildiz, 2018).

## Validity and reliability

Exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) results regarding the validity and reliability of the scales used in the study, and average variance extracted (AVE), composite reliability (CR), and Cronbach's alpha (Cronbach  $\alpha$ ) values were examined. EFA was conducted for the scales of organizational support, macro-control perception, and intention to quit the job used in the research (Table 1). Since Kaiser-Meyer-Olkin sampling adequacy (0.879) and Bartlett's test of sphericity ( $p = 0.000$ ;  $p < 0.05$ ), the data set was found to be suitable for factor analysis. Since the factor load of the fourth statement in the organizational support scale was lower than 0.30, it was excluded from the analysis. As a result of EFA, organizational support consists of nine items, intention to quit the job three items, and macro-control perception consists of three items. The factor loads of the items in the scales vary between 0.675 and 0.890. As a result of EFA, the total explanation rate of the scales is 69.829. AVE, CR, and Cronbach  $\alpha$  values of the scales, respectively, were 0.60, 0.93, and 0.85 for organizational support; 0.72, 0.89, 90 for intent to quit and 0.73, 0.89, and 0.85 for macro-control. Since the AVE values of the scales were 0.50, CR and Cronbach  $\alpha$  values were higher than 0.70, it was concluded that the scale was reliable (Hair et al., 2014).

**TABLE 1** Exploratory factor analysis, average variance extracted (AVE), composite reliability (CR), and Cronbach  $\alpha$  results of the scales used in the study

| Items                                   | Organi-<br>zational<br>support | Intent<br>to quit | Macro-<br>control | AVE  | CR   | Cronbach<br>$\alpha$ |
|---|--------------------------------|-------------------|-------------------|------|------|----------------------|
| OS5                                     | 0.859                          |                   |                   | 0.60 | 0.93 | 0.85                 |
| OS7                                     | 0.831                          |                   |                   |      |      |                      |
| OS3                                     | 0.809                          |                   |                   |      |      |                      |
| OS8                                     | 0.805                          |                   |                   |      |      |                      |
| OS9                                     | 0.777                          |                   |                   |      |      |                      |
| OS10                                    | 0.751                          |                   |                   |      |      |                      |
| OS2                                     | 0.748                          |                   |                   |      |      |                      |
| OS1                                     | 0.722                          |                   |                   |      |      |                      |
| OS6                                     | 0.675                          |                   |                   |      |      |                      |
| IQ2                                     |                                | 0.860             |                   | 0.72 | 0.89 | 0.90                 |
| IQ3                                     |                                | 0.856             |                   |      |      |                      |
| IQ1                                     |                                | 0.834             |                   |      |      |                      |
| MC2                                     |                                |                   | 0.890             | 0.73 | 0.89 | 85                   |
| MC1                                     |                                |                   | 0.883             |      |      |                      |
| MC3                                     |                                |                   | 0.786             |      |      |                      |
| Eigenvalues                             | 6.725                          | 2.048             | 1.701             |      |      |                      |
| Total variance<br>Explained<br>(69.829) | 44.835                         | 13.654            | 11.341            |      |      |                      |

Note: Kaiser–Meyer–Olkin = 0.879; Bartlett's test of sphericity  $p = 0.000$ ;  $p < 0.05$ ; Approx. Chi-square = 3.825,851.

**TABLE 2** Confirmatory factor analysis actual, acceptable, and goodness-of-fit values

| Fit measure | Actual fit | Acceptable fit | Good<br>fit |
|-------------|------------|----------------|-------------|
| $\chi^2/df$ | 2.334      | $\leq 3$       | $\leq 2$    |
| GFI         | 0.939      | $\geq 0.90$    | $\geq 0.95$ |
| AGFI        | 0.913      | $\geq 0.85$    | $\geq 0.90$ |
| CFI         | 0.970      | $\geq 0.95$    | $\geq 0.97$ |
| NFI         | 0.949      | $\geq 0.90$    | $\geq 0.95$ |
| RMSEA       | 0.060      | $\leq 8$       | $\leq 5$    |
| SRMR        | 0.0394     | $\leq 10$      | $\leq 5$    |

According to the CFA result, goodness-of-fit index ( $\chi^2/df = 2.334$ , GFI = 0.939, AGFI = 0.913, CFI = 0.970, NFI = 0.949, RMSEA = 0.060, SRMR = 0.0394) are within acceptable limits (Schermelele-Engel et al., 2003). According to the results of EFA, CFA, AVE, CR, and Cronbach's  $\alpha$  analyses, the scales used in the study were found to be valid and reliable measurement tools (Tables 1 and 2).

## Statistical analysis

Statistical Package for Social Sciences (SPSS) version 26.0 and Analysis of Moment Structures (AMOS) version 26.0 programs were

used to analyze the research data. Frequency analysis was used to summarize the demographic characteristics of the participants, and SPSS was used to determine Cronbach's alpha coefficient and EFA. AMOS was used for CFA. And structural equation modeling (SEM) in AMOS 26.0 software was used to test hypotheses. The COVID-19 macro-control perception as an independent variable and the perceived organizational support as mediating variable, and the intention to quit as a dependent variable were taken in the SEM. The mediation effect was also evaluated by bootstrap results. The bootstrap estimates were based on 200 bootstrap samples. The bootstrap estimate was considered to be significant when the CI did not contain zero. Student t-test and one-way ANOVA test were used for comparison between groups. In the evaluation of the findings, a significance level of  $<0.05$  and a 95% CI were accepted.

## Ethical considerations

Ethical permission was obtained from Uşak University Social and Human Sciences Scientific Research and Publication Ethics Committee for this study (Date: 05.11.2020 and number: 2020/124). Research permission was obtained from the Turkish Ministry of Health. Before the data collection phase, all participants were informed that the data to be collected within the scope of the study will be used only for scientific purposes and their names will be kept confidential. The informed consents of the participants, who stated that they participated in the study voluntarily, were obtained online again before starting the online survey.

## RESULTS

As shown in Table 3, 79.4% of the healthcare professionals participating in the study were women, 41.0% were in the 40–49 age group, 80.4% were nurses, and 37.2% had more than 20 years of professional experience. The age of the respondents ranged from 21 to 60 and the average was  $38.4 \pm 9.15$  years. Service periods in the profession varied between 1 and 40 years, and the average service period was  $16.6 \pm 9.82$  years. Of the nurses participating in the research, 88.3% were women, 46% were between the ages of 40–49, and 35.3% had 21 years or more of experience. On the other hand, 57.5% of the participating doctors were male, 34.2% were 50 years and older, and 45.2% had 21 years or more of experience. Mean scale scores of research instruments differed by job (nurse vs. physician). However, these differences were not significant.

The min-max, average, standard deviation, skewness, and kurtosis values related to the variables of the study are presented in Table 4. The mean score of the participants in COVID-19 macro-control scale was  $2.52 \pm 0.88$ , in perceived organizational support scale was  $2.58 \pm 0.86$ , and an intent to quit questionnaire was  $2.70 \pm 1.17$ . The cut-off points for 5-point Likert-type scales ( $4/5 = 0.80$ ) were used in the evaluation of the averages. Accordingly, the averages between 1.00 and 1.79 were accepted as "very low," 1.80–2.59 as "low,"

TABLE 3 Descriptive characteristics of the participants

| Characteristics   | Categories | Nurse |      | Doctor |      | Total |      |
|---|------------|-------|------|--------|------|-------|------|
|   |            | N     | %    | N      | %    | N     | %    |
| Gender  | Female     | 265   | 88.3 | 31     | 42.5 | 296   | 79.4 |
|   | Male       | 35    | 11.7 | 42     | 57.5 | 77    | 20.6 |
| Age groups (year)<br>(min: 21, max: 60,<br>$\bar{x}$ : 38.4 $\pm$ 9.15)                               | 20–29      | 64    | 21.3 | 20     | 27.4 | 84    | 22.5 |
|   | 30–39      | 82    | 27.3 | 13     | 17.8 | 95    | 25.5 |
|   | 40–49      | 138   | 46.0 | 15     | 20.5 | 143   | 41.0 |
|   | $\geq 50$  | 16    | 5.3  | 25     | 34.2 | 41    | 11.0 |
| Length of service in<br>the profession<br>(year)<br>(min: 1, max: 40,<br>$\bar{x}$ : 16.6 $\pm$ 9.82) | 1–10       | 90    | 30.0 | 26     | 35.6 | 116   | 31.1 |
|   | 11–20      | 104   | 34.7 | 14     | 19.2 | 118   | 31.6 |
|   | $\geq 21$  | 106   | 35.3 | 33     | 45.2 | 139   | 37.3 |
| Total   |            | 300   | 100  | 73     | 100  | 373   | 100  |

TABLE 4 Descriptive statistics of the scales

| Scales/ dimensions                | n   | Min-max | Mean | SD   |
|-----------------------------------|-----|---------|------|------|
| COVID-19 macro-control perception | 373 | 1–5     | 2.52 | 0.88 |
| Perceived organizational support  | 373 | 1–4.90  | 2.58 | 0.86 |
| Intention to quit                 | 373 | 1–5     | 2.70 | 1.17 |

2.60–3.39 as “medium,” 3.40–4.19 as “high” and 4.20–5.00 as “very high.” Accordingly, it can be said that the participants' perception of COVID-19 macro-control and perceived organizational support levels were “low,” and their intention to quit was medium.

Table 5 shows the comparison of research scales by descriptive features. We found that the COVID-19 macro-control perception differs in terms of age and working year in the profession. It can be said that as the age and the number of years of working in the profession increase, the macro-control perception of COVID-19 also increases. In addition, it was concluded that organizational support and intention to leave the job did not differ significantly according to gender, age, occupation and number of years worked in the occupation in our study. This study revealed that nurses and physicians did not differ significantly on perceived macro-control perception, organizational support, and intention to leave the job.

Since the factor load of the fourth item (0.473) in the scale of perceived organizational support was  $<0.5$ , it was excluded from the model. In line with the amendment proposals and after assigning the covariance between E4-e5 and e10-e11, the acceptable goodness-of-fit values of the structural equation model were reached. According to the results obtained in the structural model, chi-square statistics ( $\chi^2 = 202.645$ ) and goodness-of-fit index ( $df = 85$ ,  $\chi^2/df = 2.384$ , GFI = 0.934, AGFI = 0.907, CFI = 0.969, NFI = 0.948, RMSEA = 0.061, SRMR = 0.0408) appear to be within acceptable limits (Schermelleh-Engel et al., 2003; see Table 6).

The standardized path coefficients of the relationships between the variables are given in Figure 1 and Table 7. Table 7 shows the

results of the SEM. High macro-control perception in COVID-19 has a statistically significant effect on less intention to quit in nurses and physicians ( $\beta = 0.356$ ;  $p < 0.001$ ). COVID-19 macro-control perception has a statistically significant effect on the organizational support perceptions of the participants ( $\beta = 0.363$ ,  $p < 0.001$ ). Perceived organizational support statistically significantly affected the intention to quit of the participants ( $\beta = -0.438$ ,  $p < 0.001$ ). Higher perceived organizational support may result in lower intention to quit in nurses and physicians. In addition, SEM was established to determine the mediating effect of perceived organizational support on the effect of the COVID-19 macro-control perception and the intention to quit in the nurses and physicians. According to the results of the SEM analysis, the perception of COVID-19 macro-control ( $\beta = -0.200$ ,  $p < 0.001$ ) and perceived organizational support ( $\beta = -0.367$ ,  $p < 0.001$ ) determined the less intention to quit in the nurses and physicians. COVID-19 macro-control perception and perceived organizational support variables explain 22.7% of the changes in the intention to quit in nurses and physicians ( $R^2 = 0.227$ ;  $p < 0.001$ ). While the effect of COVID-19 macro-control perception on the intention to quit alone was  $\beta = -0.331$  and  $p < 0.001$ , the effect decreased when the perceived organizational support variable was included in the model ( $\beta = -0.200$ ;  $p < 0.001$ ). This result shows that perceived organizational support has a partial mediating role in the effect of COVID-19 macro-control perception on intention to quit. This mediation effect was also supported by the results of bootstrapping that the indirect effect of the COVID-19 macro-control perception on intention to quit through organizational support ( $\beta = -0.164$ , 95% CI =  $-0.225$ ,  $-0.113$ ).

## DISCUSSION

This study determined the effect of organizational support and COVID-19 macro-control perception levels on intention to leave on physicians and nurses. Our study demonstrated that the macro-measures taken against the pandemic and the organizational support received by the healthcare workers, who are the main actors in the fight against the epidemic, negatively affected their intention to leave. The main result of our research has been determined that the intention to leave the job may decrease significantly as the level of macro-control at the national and institutional level and more organizational teaching is provided to physicians and nurses in the COVID-19 pandemic. Moreover, our study revealed that the mediating effect of perceived organizational support on the effect of the COVID-19 macro-control perception on the intention to quit of the nurses and physicians.

Many studies that can support the above basic conclusion of our research have been conducted in Turkey and other countries. Some previous research (Degen et al., 2015; Eder & Eisenberger, 2008; Gao et al., 2020; Islam et al., 2018; Kurtessis et al., 2017; Liu et al., 2018; Rabiul et al., 2021) concluded that the perceptions of organizational support and macro-control perceptions of healthcare workers decreased their intention to quit. Our study revealed

TABLE 5 Examination of the mean scores of the scales according to descriptive characteristics

|  |        | COVID-19 macro-control perception ( $\bar{x} \pm SD$ ) | Perceived organizational support ( $\bar{x} \pm SD$ ) | Intention to quit ( $\bar{x} \pm SD$ ) |
|--|--------|--|---|--|
| Gender                                     | Female | 2.48 ± 0.89  | 2.55 ± 0.85   | 2.68 ± 1.15                            |
|  | Male   | 2.64 ± 0.83  | 2.68 ± 0.91   | 2.80 ± 1.27                            |
|  | t      | -1.441   | -1.136  | -0.784                                 |
|  | p      | 0.150  | 0.257   | 0.434                                  |
| Profession                                 | Doctor | 2.65 ± 0.86  | 2.67 ± 0.92   | 2.58 ± 1.16                            |
|  | Nurse  | 2.48 ± 0.88  | 2.56 ± 0.85   | 2.73 ± 1.17                            |
|  | t      | 1.430  | 1.040   | -0.967                                 |
|  | p      | 0.153  | 0.299   | 0.334                                  |
| Age groups (year)                          | 20-29  | 2.26 ± 0.75  | 2.53 ± 0.89   | 2.71 ± 1.20                            |
|  | 30-39  | 2.56 ± 0.86  | 2.52 ± 0.83   | 2.69 ± 1.12                            |
|  | 40-49  | 2.58 ± 0.92  | 2.58 ± 0.86   | 2.78 ± 1.19                            |
|  | ≥50    | 2.70 ± 0.94  | 2.80 ± 0.86   | 2.36 ± 1.10                            |
|  | F      | 3.379  | 1.132   | 1.519                                  |
|  | p      | <b>0.018*</b>  | 0.336   | 0.209                                  |
| Length of service in the profession (year) | 1-10   | 2.32 ± 0.80  | 2.58 ± 0.89   | 2.82 ± 1.18                            |
|  | 11-20  | 2.70 ± 0.86  | 2.56 ± 0.83   | 2.53 ± 1.14                            |
|  | ≥21    | 2.53 ± 0.93  | 2.59 ± 0.87   | 2.75 ± 1.19                            |
|  | F      | 5.829  | 0.045   | 1.924                                  |
|  | p      | <b>0.003*</b>  | 0.956   | 0.148                                  |

\* $p < 0.05$  (bold).

TABLE 6 Actual, acceptable, and goodness-of-fit values for path analysis

| Fit measure | Actual fit | Acceptable fit | Good fit |
|-------------|------------|----------------|----------|
| $\chi^2/df$ | 2.384      | ≤3             | ≤2       |
| GFI         | 0.934      | ≥0.90          | ≥0.95    |
| AGFI        | 0.907      | ≥0.85          | ≥0.90    |
| CFI         | 0.969      | ≥0.95          | ≥0.97    |
| NFI         | 0.948      | ≥0.90          | ≥0.95    |
| RMSEA       | 0.061      | ≤8             | ≤5       |
| SRMR        | 0.0408     | ≤10            | ≤5       |

that perceived organizational support has a partial mediating role in the effect of the macro-control perception of the epidemic on the intention to quit. Muhammad et al. (2022) revealed that creating a safe climate in hospitals during the COVID-19 pandemic reduced turnover intention of public health personnel in Pakistan. Majeed et al. (2021) concluded that the risk of developing COVID-19 is high when institutional-level macro-control measures are not adequately taken for COVID-19 in hospitals, and high levels of turnover intention are reached in these cases. Tabur et al. (2022) determined that the COVID-19 pandemic increased the intention to leave work, especially among doctors and nurses in Turkey. As with our main results in our research, Sharif et al. (2022) concluded that as the perceived organizational support of nurses increases, job satisfaction increases and the intention to leave decreases. Li et al. (2020) found that perceived organizational support, job control, and job

satisfaction had positive predictive effects on low turnover intention in nurses. However, Sperling (2021) concluded that nurses did not show any intention to leave the profession despite the perceived risk, stress and feelings of insufficient support and protection due to COVID-19 in Israel.

In this study, we found COVID-19 macro-control perception and perceived organizational support levels of healthcare professionals to be "low" and their intention to leave to be "medium." Considering that the pandemic's working conditions of healthcare workers negatively affect their lives, their families, and colleagues, it is expected that their intention to leave will increase. Individuals feel the need for macro-control and organizational support when life is in danger for themselves, their families, and colleagues (Friesen et al., 2014; Landau et al., 2015). The insufficient personal control of individuals during the COVID-19 pandemic has brought organizational and macro-control needs to the fore. For this reason, the macro-control and organizational support needs of healthcare professionals who take an active part in the pandemic have increased. As in previous research (Degen et al., 2015; Eder & Eisenberger, 2008; Gao et al., 2020; Islam et al., 2018; Kurtessis et al., 2017; Liu et al., 2018; Rabiul et al., 2021), we found that the perceptions of organizational support and macro-control perceptions of healthcare workers decreased their intention to quit. The perceived organizational support has a partial mediating role in the effect of the macro-control perception of the epidemic on the intention to quit.

Individuals' perceptions of losing personal control increase their macro-control and organizational support needs (Friesen et al.,



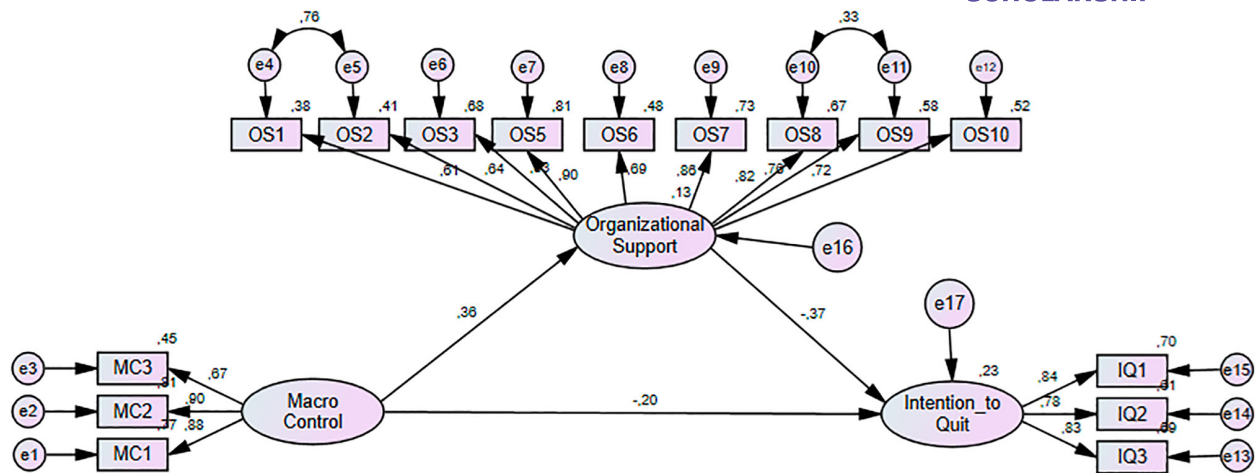


FIGURE 1 Structural equation modeling

TABLE 7 Structural equation modeling (SEM) results

|                                   | Organizational support |       |       |       | Intention to quit               |       |        |       |
|-----------------------------------|------------------------|-------|-------|-------|---------------------------------|-------|--------|-------|
|                                   | $\beta$                | S.E.  | C.R.  | p     | $\beta$                         | S.E.  | C.R.   | p     |
| COVID-19 macro-control perception |                        |       |       |       | -0.331                          | 0.072 | -5.657 | 0.000 |
| $R^2$                             |                        |       |       |       | 0.110                           |       |        |       |
| COVID-19 macro-control perception | 0.363                  | 0.048 | 6.067 | 0.000 |                                 |       |        |       |
| $R^2$                             | 0.132                  |       |       |       |                                 |       |        |       |
| Organizational support            |                        |       |       |       | -0.438                          | 0.096 | -6.980 | 0.000 |
| $R^2$                             |                        |       |       |       | 0.192                           |       |        |       |
| COVID-19 macro-control perception |                        |       |       |       | -0.200                          | 0.097 | -5.808 | 0.000 |
| Organizational support            |                        |       |       |       | -0.367                          | 0.072 | -3.407 | 0.000 |
| $R^2$                             |                        |       |       |       | 0.227                           |       |        |       |
| Indirect effect                   |                        |       |       |       | -0.164, 95% CI (-0.225, -0.113) |       |        |       |

2014). With perceived organizational support, it is expected that highly valued employees avoid behaviors that harm the organization such as unnecessary absenteeism, being late, and inefficient use of time at work (Eder & Eisenberger, 2008). Management policies that support employees can be expected to make an organization more attractive to employees, reduce personnel turnover, and at the same time increase its competitiveness in recruiting qualified employees. Conversely, when employees perceive a lack of organizational support, their intention to quit is likely to increase (Giao et al., 2020; Rabiul et al., 2021; Treglown et al., 2018).

## CONCLUSION

This study extends prior work on intention to leave by evaluating particular constructs which may impact nurse/physician job turnover during the coronavirus pandemic. This study suggests that strong macro-measures against the pandemic and organizational support promoting worker safety should enhance healthcare worker retention. Therefore, we can say that both organizational support

and macro-control perceptions are important for healthcare workers to cope with ongoing and future pandemics. In addition, within the scope of macro-control measures, many people and institutions have important roles to cope with the pandemic. Considering our research results, hospital administrations, nursing administrations, and country health system administrators and politicians should adequately provide macro-control measures to health personnel, especially physicians and nurses for COVID 19, keep organizational support high, and thus reduce the intention to leave work of healthcare personnel during the epidemic period. For example, governments, national and international health institutions determine the rules that individuals, organizations, and societies should follow, based on scientific data on the COVID-19 pandemic. Hospitals and other health care organizations take an active role in many activities such as providing education and information on the protection of individuals in the society from coronavirus, testing, diagnosis, and treatment of infected patients, meeting the needs of quarantined patients, and disseminating vaccination. Hospitals and healthcare workers are fighting the pandemic heroically. In conclusion, organizations also have an important role in the implementation of

macro-control measures. Therefore, it is logical that the perception of organizational support plays a mediating role in the effect of macro-control perception on the intention to quit. Our study presents theoretical and practical contributions to reduce the negative impact of COVID-19 pandemic on turnover intentions and intention to quit in health care professionals. The findings suggest that high perceived organizational support and effective macro-control measures in COVID-19 pandemic support act as helping resources that enable health professionals to experience more positive attitudes toward their job and organization.

## Implications for nursing practice and clinical relevance

We suggest that some measures should be taken to increase the nurses' macro-control perception in hard situations such as pandemics. For example, that can be providing the right information about the current situation, taking adequate safety measures (such as providing the necessary protective equipment, taking measures to prevent contamination from the work environment), providing psychological and social support. These measures can ensure the safety of the nurses in the work environment and contribute to the increase of their trust in their institutions and the decrease of their quit of jobs. Physicians and nurses always play a fundamental role in the fight against epidemics. Necessary organizational support should be provided to health personnel, especially physicians and nurses, in epidemics. By providing the necessary material and moral support, their intention to leave the job might be reduced. Higher organization support and effective macro control of COVID-19 may decrease the turnover intention among nurses and physicians. Less conducive working environment, lack organizational support and macro control epidemic measures the responsibility of the organization which has both direct and indirect effect on intention to quit of nurses especially during the COVID-19 pandemic.

## Limitations

This research has some limitations. First, the cross-sectional design of the study limits the interpretation of cause-and-effect relationships of results. The second one is the use of the convenience sampling method in the study. Hence, it is possible that across the country the intention of health workers to leave the job may be higher or lower. Online survey methodology was used in our study. Different—and perhaps more immediately useful—results may be obtained in studies using methods such as methods such as face-to-face, focus group, in-depth interview and delphi technique.

## Directions for future research

In this study, a quantitative approach was used to obtain perceptions of physicians and nurses related to turnover intention, macro-control

and organizational support. Collecting such data over time could offer a picture of changes in perceptions. In the future, other professional groups could be studied to gain broader understanding about the impact of the pandemic on the healthcare workforce. In addition, a qualitative approach might be used to obtain further insights. Today, COVID-19 studies have predominately been studied at national levels in terms of effects on healthcare personnel. There is a need for comparative research at the international level by conducting studies across many countries.

## CLINICAL RESOURCES

- COVID-19 Pandemic and Mental Health of Nurses: Impact on International Health Security. <https://www.intechopen.com/chapters/75095>
- The Effects of Personal and Organizational Resources on Work and Well-Being Outcomes among Turkish Nurses. <https://sciendo.com/pl/article/10.1515/joim-2016-0008>
- Toolkit on State Actions to Mitigate COVID-19 Prevalence in Nursing Homes. <https://www.cms.gov/files/document/covid-toolkit-states-mitigate-covid-19-nursing-homes.pdf>

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## CONFLICT OF INTEREST

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