

## Original Article

## Multiple Mediation Role of Emotion Management and Burnout on the Relationship between Cognitive Flexibility and Turnover Intention among Clinical Nurses

**Sehrinaz Polat, PhD, RN**

Associate Professor, Istanbul University Nursing Faculty, Istanbul University, Istanbul, Turkey

**Coskun Hamit, PhD**

Professor, Department of Psychology, Faculty of Arts and Science, Bolu Abant İzzet Baysal University, Bolu, Turkey

**Nazmiye Yildirim, PhD, RN**

Professor, Department of Psychiatric and Mental Health Nursing, College of Nursing, Faculty of Health Sciences, Bolu Abant İzzet Baysal University, Bolu, Turkey

**Correspondence:** Sehrinaz Polat, PhD, RN, 1 Istanbul University Nursing Faculty, Istanbul University, Istanbul, Turkey E-mail: polats@istanbul.edu.tr sehrinaz.polat@gmail.com

**The study was carried out at:** Istanbul University, Faculty of Nursing, Fatih, Istanbul, Turkey, E-mail: polats@istanbul.edu.tr

**Acknowledgements:** The authors would like to thank participants for their cooperation.

### Abstract

**Background:** Worldwide, turnover intention in nurses is at the alarming rate. Although there are studies that will guide in reducing the turnover intention, the mediating relationships between the variables or the underlying mechanisms are not fully known.

**Aim:** For this purpose, this study examined how cognitive flexibility, emotion management, and burnout affect turnover intention.

**Methodology:** This is a cross-sectional study design involving 341 clinical nurses in Turkey. Descriptive analysis, Pearson correlation, and Hierarchical multiple linear regression analysis, and the SPSS macro-PROCESS (model 6) for testing a sequential mediating model were used.

**Results:** There was a strong positive correlation between turnover intention and burnout, a weak negative correlation between turnover intention and cognitive flexibility, and a moderate negative correlation between turnover intention and emotion management ( $p \leq .01$ ). Emotion management and burnout, which are significant variables, together explained 31% of the variance in turnover intention. Emotion management and burnout mediated the relationship between cognitive flexibility and turnover intention.

**Conclusion:** Interventions to reduce turnover intention in nurses may include improving emotion management skills, increasing cognitive flexibility, and preventing burnout.

**Key Words:** Burnout, cognitive flexibility, emotion management, nursing, turnover intention

### Introduction and Background

Nurse turnover is a current, serious, and global problem. It is predicted that there will be a shortage of 5.7 million

nurses by 2030 (World Health Organization, 2020). Some scholars have frequently emphasized negative impact such as a decrease in patient care quality and patient satisfaction, an increase in

morbidity and mortality rates, increase in economic costs (Antwi & Bowblis, 2018; Brücher & Deufert, 2019; Chegini et al., 2019; Hayes et al., 2012; Li & Jones, 2013; Van der Heijden et

al., 2019). In the literature, the turnover intention is considered rather than actual turnover behavior among nurses. In addition, nurses' turnover intention is highly correlated with actual turnover behavior among nurses (Chegini et al., 2019; Wong & Cheng, 2019).

The turnover intention, the probability of employees leaving the job within a certain period (Liu et al., 2018), starting with one's reactions to the negative aspects of organizations (Takase, 2010), is defined as a multi-stage process that includes cognitive, emotional, and behavioral components. Burnout has been reported as one of the strongest predictors of turnover intention in recent years (Halter et al., 2017; Pang et al., 2020). Besides, burnout is a substantial occupational hazard as a negative psychological experience beyond the intention to leave the job (Ahorsu et al., 2022; Halter et al., 2017). The highest level of burnout is evident in nurses and the prevalence of burnout is increasing in all healthcare professionals (Zhang et al., 2020).

As mentioned above, multiple factors affect high turnover intention. To reduce turnover intention, there is a need to elucidate the relationships and mediator mechanisms between psychological variables other than burnout. In this regard, we hypothesized that nurses' high cognitive flexibility and their ability to regulate or manage their emotions might reduce the level of burnout and intention to leave the job.

Cognitive flexibility is defined as the ability to adjust one's behavior appropriately and efficiently according to the changing environment (Dajani & Uddin, 2015). Dennis and Vander Wal (2010) have defined three basic areas of cognitive flexibility; (i) the tendency to perceive difficult situations as controllable, (ii) the ability to perceive that there are possible alternatives to situations and human behaviors that occur in life, (iii) the ability to produce multiple solutions to solve difficult situations. Ionescu (2012) has stated that cognitive flexibility is an important tool that enables people to perform complex tasks such as multitasking and finding new solutions to changing demands, with potential benefits in promoting efficient problem solving and creativity. Those with high cognitive flexibility evaluate different options more carefully in the decision-making process (Dajani & Uddin, 2015; Yildiz & Eldeleklioglu, 2021). Nurses with high cognitive flexibility are also more flexible in coping and can change ineffective strategies more

easily (Kruczek et al., 2020). Nurses with high cognitive flexibility can develop more alternative solutions. This situation may have an effect that decreases or increases the intention of nurses to leave work.

In the field of nursing, it is essential to consider emotions (Lee & Jang, 2019). Emotions play an important role in the care process (Jiménez-Herrera, 2020). Nurses are in direct and long-term contact with patients and their relatives who have intense emotional reactions such as uncertainty, anxiety, pain, and grief. While taking care of patients, families or colleagues, nurses encounter numerous situations that push them to experience multiple emotions (Lee & Jang, 2020). For this reason, nurses should have the skills to manage their emotions. The process of managing emotions is accepted as the emotional maturity of the individual in the process of being aware of emotions, recognizing, directing, and using emotions effectively (Jackson-Koku & Grime, 2019). The ability to manage emotions expressed in our study is based on Lewis (1993a, 1993b)'s theoretical explanations about managing emotions. From a developmental-cognitive point of view, he explains his ability to manage emotions with a) noticing physiological reactions, b) labeling emotions c) verbally and behaviorally expressing emotions d) coping processes related to emotions. He also states that individual and cultural factors are important (Lewis, 1993a; Lewis, 1993b). For this reason, the assessment tool developed in our own country was chosen. The scale focuses on the respondent's emotion management skills, including expressing emotions verbally, showing emotions as they are, controlling negative bodily reactions, coping with emotions and anger management (Cecen, 2006).

Despite the emphasis in recent years that cognitive flexibility and emotion management can be learned, how these variables affect burnout and turnover intention together is still not known. It may be a more realistic goal to find the mediator variable that significantly affects the relationship between the independent-dependent variable, instead of only revealing the relationship between dependent-independent variables. The research findings of Uddin (2021) showed that knowing the relationship between two variables and changing a related variable to change a feature may cause other problems. Given this reason, we have suggested that determining the other variables that play a crucial role in the relationship between the two variables can produce more

effective results in understanding the nature of the relationship and developing intervention programs.

Considering the above-mentioned issues, we examined nurses' turnover intention from a psychological point of view. We aimed to

investigate the relationship between cognitive flexibility, emotion management, burnout and turnover intention among clinical nurses and the mediating role of emotion management and burnout in this relationship. The model of the research is presented in Figure 1.

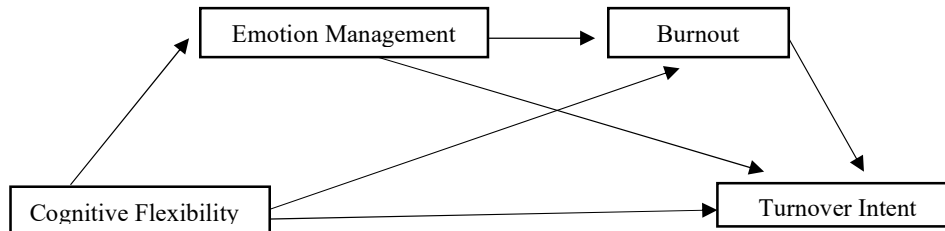


Figure 1. Hypothetical model of the research

Specifically, our hypotheses were that turnover intention would be negatively associated with cognitive flexibility (Hypothesis 1), emotion management (Hypothesis 2) but positively associated with burnout (Hypothesis 3). Emotion management (Hypothesis 4) and burnout (Hypothesis 5) would play a mediator role in the relationship between turnover intention and cognitive flexibility.

## Methods

**Study design and participants:** This study was conducted with a convenience sample of nurses from a tertiary university hospital in a metropolitan city (Istanbul) between March-May 2020. The hospital had a total of 1302 beds and 853 nurses. The minimum sample size was calculated as 266 with the 5% error, and 95% confidence level. The inclusion criteria included clinical nurses who gave direct care to patients and voluntarily agreed to participate in the study. A questionnaire form was sent to all nurses who met these criteria. This study was carried out with 341 nurses.

**Data collection and instruments:** The study was approved by the Istanbul University Istanbul Faculty of Medicine Clinical Research Ethics Committee (institution numbered 2020/10). All respondents provided informed consent prior to participating in the study. Based on online data collection, a link to the online survey was sent via e-mail to the nurses who met the criteria of the study. In the e-mail, all participants were

informed that the research was anonymous and voluntary, and they shall participate if they were interested. Since it is obligatory to answer all questions in the online survey, the data were filled in completely. The names or identities of the online surveyed participants were not requested.

**Personal Demographical Form.** In the Personal Demographic Form included age, gender, marital status, and questions about professional characteristics including education status, working time in the profession, the service in which he/she worked, shift and the duration of work in the current service.

**Intention to Leave the Job Scale** was developed by Mobley et al. (1978) to measure the self-evaluation the intention of employees to stay at work or leave. The scale is a five-point Likert-style scale that examines intention to leave the job in one dimension, with a total of three items (1=strongly disagree, 5=strongly agree). The validity and reliability study were conducted in our country by Orucu and Ozafarlioglu (2013). The Cronbach's Alpha value was 0.90 in that study and 0.85 in our study.

**Burnout Measure-Short Version (BMS)**, adapted by Pines (2005), is a 10-item, seven-point (1=Never, 7=Always) one-dimensional scale assessing the level of occupational burnout of a person. The validity and reliability study were conducted by Capri (2013) in our country. In the study by Capri (2013), the Cronbach's Alpha value was 0.91, while it was 0.85 in our study.

*Cognitive Flexibility Inventory (CFI)* developed by Dennis and Vander Wal (2010) was to measure the cognitive flexibility levels of individuals in the face of events and situations. Specifically, job flexibility is not evaluated in this scale. Consisting of 20 items with a 5-point Likert-type scale (1=Not at all suitable, 5=Completely Appropriate), the scale had three different types of scores: total cognitive flexibility score, alternatives and control sub-dimension score. The validity and reliability study of the Turkish version was done by Sapmaz and Dogan (2013). The Cronbach's alpha reliability coefficient was 0.90 for the whole scale, 0.90 for the alternatives sub-dimension, and 0.84 for the control sub-dimension. In our study, Cronbach's alpha values were 0.90, 0.94, and 0.74, respectively.

*Emotion Management Skills Inventory (EMSI)* was developed by Cecen (2006) in line with Lewis's (1993a, 1993b) theoretical explanations of managing emotions. There were 28 items in the scale, 20 of them were negative and 8 of them were positive statements. It is evaluated with a 5-point Likert-type (1=Not suitable for me at all-5=Completely suitable for me). That the negatively worded items were reverse scored. A higher total score indicates a better emotion management. In the EMSI factor analysis, which was developed in Turkish culture, whose reliability and validity was carried out, five subscales were determined, namely verbal expression of emotions, showing emotion, controlling negative physical reactions, coping, and anger management. The reliability coefficient was 0.81 for the total score at three-week intervals, for subscales that was 0.79, 0.77, 0.75, 0.73, 0.74, respectively. In our study, it was found as 0.89, 0.79, 0.77, 0.70, 0.71, 0.70, respectively.

**Ethical declaration:** The study was approved by the Istanbul University Istanbul Faculty of Medicine Clinical Research Ethics Committee (institution numbered 2020/10).

**Data analysis:** All analyses were done using SPSS-22 (IBM Corp., Armonk, NY, USA), and statistical significance was set at a p-value < 0.05. Turnover intention and the Skewness and Kurtosis values of cognitive flexibility, emotion management, and burnout measurements varied between 1.2 and 1.03, indicating a normal distribution of all data (Tabachnick & Fidell, 2013). Except for the normality test, when tolerance index, VIF index, and conditional index were checked for linear regression analysis, it was

seen that there was no collinearity problem between the variables. As descriptive statistics, numbers and percentages or means, standard deviations, minimum and maximum scores were calculated according to the data type. Pearson correlation analyses of the 11 variables (Turnover Intention, cognitive flexibility, sub-scales, emotion management, and sub-scales and burnout) were conducted (See Table 2). Then hierarchical regression analyses were conducted on the burnout scores, emotion management, cognitive flexibility total score, and the turnover intention of nurses using total scores. Finally, we conducted mediation analyses with Hayes PROCESS Macro version 4 (Model 6) to test a theoretical model of the relationships between turnover intent, cognitive flexibility, emotion management, and burnout (Hayes, 2013). The effect of significant partial mediators was also tested with the Sobel test (Preacher & Leonardelli, 2016).

## Results

The mean age of the nurses participating in the study was  $34.64 \pm 8.63$  (range 20-58) years, and 70.1% were in the Y generation. The vast majority (87.1%) were women, and 53.4% were married. Approximately 80% of them had a bachelor's degree and their nursing period was  $12.64 \pm 8.92$  (range 1-38) years. Of nurses, 39.3% of the nurses worked in the in-patient service for an average of  $8.90 \pm 7.91$  years (range 1-38) and 66% of them worked in alternating between day and night shifts (Table 1). The descriptive information of the variables and the correlations between the variables are shown in Table 2.

## Regression Analysis

Several hierarchical multiple regression models were tested to explore the predictive power of burnout, the cognitive flexibility, emotion management on turnover intention in total scores (Table 3). One of the reasons for using the total score is that the correlations of the subscales are close to each other. The other is the large number of subscales. This leads to the need for more sampling. The power of the regression analysis decreased when many subscales were included in the analysis. In addition, there is a lack of research on a similar topic in the literature.

As seen from the discussions in this article, cognitive flexibility scores were taken as predictor variable and turnover intention result variable. In the first model, cognitive flexibility significantly

( $\beta = -.26$ ) predicted turnover intention ( $B = -.74$ ,  $se = .015$ ,  $t = -4.85$ ,  $p = .0001$ ,  $R^2 = .07$ ,  $\Delta R^2 = .06$   $F(1.339) = 23.58$ ,  $p = .0001$ ). In the second model, when emotion management scores were added, cognitive flexibility no longer significantly ( $\beta = .12$ ) predicted turnover intention, ( $B = .03$ ,  $se = .02$ ,  $t = 1.59$ ,  $p = .12$ ). On the other hand, emotion management scores ( $\beta = -.51$ ) predicted turnover intention, ( $B = -.12$ ,  $se = .02$ ,  $t = -7.02$ ,  $p = .0001$ ,  $R^2 = .18$ ,  $\Delta R^2 = .18$   $F(1.338) = 49.33$ ,  $p = .0001$ ). In the third model, cognitive flexibility ( $\beta = -.069$ ) did not predict turnover intention ( $B = -.02$ ,  $Se = .02$ ,  $t = -.92$ ,  $p = .33$ ). On the other hand, it was observed that the predictive power of emotion management scores ( $\beta = -.20$ ) decreased, but was still significant, ( $B = -.05$ ,  $se = .02$ ,  $t = -2.57$ ,  $p = .01$ ). Burnout added to the model predicted significantly ( $\beta = .42$ ) turnover intention, and this model explained 31% of the variance,  $B = 1.10$ ,  $se = .14$ ,  $t = 7.88$ ,  $p = .0001$ ,  $R^2 = .31$ ,  $\Delta R^2 = .31$   $F(1.337) = 62.08$ ,  $p = .0001$ ).

### Mediation analyses

The hierarchical regression analysis showed that the cognitive flexibility-turnover relationship was mediated first by emotion management and then by burnout. Double mediation was tested with the Hayes Process macro-Model 6. This model explained 54% of the total variance ( $R^2 = .54$ ,  $MSE = 97.087$ ,  $F(1.339) = 389.47$ ,  $p = .0001$ ). In this model, cognitive flexibility ( $\beta = .73$ ) predicts emotion management ( $a_1 = .92$ ,  $sa = .05$ ,  $t_{(339)} = 19.74$ ,  $p = .00001$ ,  $LLCI = .828$ ,  $ULCI = 1.01$  (CI 95 %). While cognitive flexibility ( $\beta = -.10$ ) predicts burnout negatively, it transformed the relationship from negative to zero and then positive ( $\beta = .44$ ) through emotion management ( $a_2 = .05$ ,  $S_{a2} = .008$ ,  $t_{(338)} = 6.47$ ,  $p = .00001$ ,  $LLCI = .03$ ,  $ULCI = .06$ ). In addition, emotion management negatively predicted burnout ( $\beta = -.74$ ) ( $d_{21} = .06$ ,  $S_{d21} = .006$ ,  $t_{(338)} = -10.83$ ,  $p = .00001$ ,  $LLCI = -.08$ ,  $ULCI = -.05$ ).

Concerning the prediction of turnover, emotion management negatively predicted turnover intention ( $\beta = -.42$ ) initially, then this relationship ( $\beta = -.20$ ) decreased when burnout was added to the model ( $b_1 = .05$ ,  $S_{b1} = .02$ ,  $t_{(337)} = -2.57$ ,  $p = .01$ ,  $LLCI = -.08$ ,  $ULCI = -.01$ ).

Also, burnout ( $\beta = .42$ ) positively predicted turnover intention, ( $b_2 = 1.10$ ,  $S_{b2} = .14$ ,  $t_{(337)} = 7.877$ ,  $p = .00001$ ,  $LLCI = .83$ ,  $ULCI = 1.37$ ). When two mediator variables were added to the model, the predictive power of cognitive flexibility initially ( $\beta = -.25$ ) dropped to zero ( $\beta = -.07$ ). This showed that emotion management and burnout were the full mediators in this relationship. In the model, the total effect of cognitive flexibility was significant ( $E = -.07$ ,  $Se = .02$ ,  $LLCI = -.10$ ,  $ULCI = -.04$ ), but the direct effect was not significant ( $E = -.02$ ,  $Se = .02$ ,  $LLCI = -.06$ ,  $ULCI = .02$ ).

Concerning the indirect effects of variables, the indirect effect of cognitive flexibility was significant, ( $E = -.05$ ,  $BootSE = .02$ ,  $BootLLCI = -.09$ ,  $BootULCI = -.02$ ).

The indirect effect of cognitive flexibility  $\rightarrow$  emotion management  $\rightarrow$  turnover intention was also significant, ( $E = -.04$ ,  $BootSE = .02$ ,  $BootLLCI = -.08$ ,  $BootULCI = -.005$ ). In addition, the indirect effect of Cognitive flexibility  $\rightarrow$  burnout  $\rightarrow$  turnover intention was significant, ( $E = .05$ ,  $BootSE = .01$ ,  $BootLLCI = .03$ ,  $BootULCI = .08$ ). Moreover, the indirect effect of cognitive flexibility  $\rightarrow$  emotion management  $\rightarrow$  burnout  $\rightarrow$  turnover intention was significant, ( $E = -.06$ ,  $BootSE = .01$ ,  $BootLLCI = -.09$ ,  $BootULCI = -.04$ ).

When the fully standardized  $E$  coefficients of these models were examined, one easily could see that 1) the mediating effect of emotion management on the cognitive flexibility  $\rightarrow$  emotion management  $\rightarrow$  turnover intention relationship ( $E = -.15$ ) had moderate power, 2) the burnout mediation effect on the cognitive flexibility  $\rightarrow$  burnout  $\rightarrow$  turnover intention relationship ( $E = -.18$ ) had moderate power and 3) Co-mediation effect of emotion management and burnout variables ( $E = -.23$ ) in the relationship between cognitive flexibility  $\rightarrow$  emotion management  $\rightarrow$  burnout  $\rightarrow$  turnover intention was close to strong level or power. Figure 2 illustrated a conceptual diagram of the mediation models.

**Table 1. Participants' Characteristics (N = 341)**

Characteristics	Response	Mean	SD (range)
Age (years)		34.64	8.63 (20-58)
Years of nursing		12.64	8.92 (1-38)
Years of working in current department		8.90	7.91 (1-38)
		n	%
Generation	X generation (58-40 years)	102	29.9
	Y generation (39-20 years)	239	70.1
Gender	Female	297	87.1
	Male	44	12.9
Marital status	Marriage	182	53.4
	Single	159	46.6
Education	Health vocational high school	18	5.3
	Associate degree	14	4.1
	Bachelor degree	272	79.8
	Master	37	10.9
Current department working	In-patient services	134	39.3
	Intensive care unit	108	31.7
	Operating room	54	15.8
	Emergency services	45	13.2
Shift	Daytime only shift	116	34
	Alternating between day and	225	66
	Night shifts		

**Table 2. Means, Standard Deviations, Range and Correlations of Turnover Intention, Burnout, Subscales of Cognitive Flexibility and Emotion Management Skills.**

	Mean	SD	Range	1	2	3	3.1	3.2	4	4.1	4.2	4.3	4.4
1. Turnover intention total score	7.01	3.34	3-15	-									
2. Burnout total score	3.72	1.26	1-7	.51**	-								
3. Cognitive flexibility total score	73.81	11.47	50-100	-.26**	-.10	-							
3.1. Alternatives	49.40	8.20	33-65	-.17**	.005	.92**	-						
3.2. Control	24.41	5.08	11-35	-.30**	-.23**	.77**	.46**	-					
4. Emotion management skills total score	95.60	14.42	56-136	-.42**	-.42**	.73**	.57**	.73**	-				
4.1. Verbal expression of emotions	24.28	5.15	10-35	-.31**	-.34**	.58**	.42**	.64**	.85**	-			
4.2. Showing emotion	21.44	4.32	8-30	-.46**	-.40**	.56**	.39**	.63**	.85**	.78**	-		
4.3. Controlling negative physical reactions	11.43	3.10	4-20	-.21**	-.39**	.19**	.07	.30**	.55**	.41**	.33**	-	
4.4. Coping	13.80	2.75	8-20	-.22**	-.22**	.66**	.64**	.47**	.63**	.29**	.34**	.23**	-
4.5. Anger management	10.54	2.54	3-15	-.44**	-.34**	.53**	.43**	.51**	.72**	.45**	.58**	.33**	.54**

\*\* p ≤ .01.

**Table 3. Hierarchical Multiple Regression Analysis Summary For Psychological Variables Predicting Turnover Intention**

Model	Psychological Variables	B	SE	β	t	p	Zero-order	Partial	Part	Tolerance	VIF*
1	Constant	12.495	1.143		10.928	.000					
	Cognitive flexibility	-.074	.015	-.255	-4.855	.000	-.26	-.26	-.26	1.000	1.000

$R^2 = .065, \Delta R^2 = .062 F(1,339) = 23.58, p = .0001$

2	Constant	15.745	1.165		13.510	.000					
	Cognitive flexibility	.033	.021	.115	1.595	.112	-.26	.09	.08	.465	2.149
	Emotion management	-.117	.017	-.506	-7.023	.000	-.42	-.36	-.35	.465	2.149
$R^2 = .18, \Delta R^2 = .12 F(1,338) = 49.33, p = .0001$											
3	Constant	8.779	1.390		6.315	.000					
	Cognitive flexibility	-.020	.020	-.069	-.982	.327	-.26	-.05	-.04	.414	2.415
	Emotion management	-.046	.018	-.198	-2.572	.011	-.42	-.14	-.12	.345	2.896
	Burnout	1.102	.140	.416	7.879	.000	.51	.39	.36	.735	1.361
$R^2 = .31, \Delta R^2 = .31 F(1,337) = 62.08, p = .0001$											

\*Variance Inflation Factor/VIF



## Discussion

This study aimed to examine nurses' turnover intention from a psychological perspective (cognitive flexibility, emotion management, and burnout). The findings showed that the psychological variables were related to turnover intention, and emotion management skill and burnout played a full mediator role in the relationship between the cognitive flexibility-turnover intention.

The finding concerning the hypothesized relationship between turnover intention and cognitive flexibility (Hypothesis 1) showed a negative relationship. Also, cognitive flexibility significantly predicted turnover intention in the first model. This finding may mean that nurses with more cognitive flexibility have less turnover intention. While individuals with high cognitive flexibility can easily and spontaneously make changes, those with low cognitive flexibility have difficulty in making changes (Cox, 1980). However, we should state that the effect of cognitive flexibility on reducing turnover intention is weak, and when emotion management was included in the analysis in the second model in the regression analysis, cognitive flexibility no longer predicted turnover intention. This result may be due to the deterioration of cognitive flexibility in depleted individuals. We could not find any study in the literature that simultaneously evaluated the relationship between cognitive flexibility, turnover intention, and emotion management. In studies, as seen in our study, there is a significant relationship between cognitive flexibility and emotional regulation (Cutuk, 2021; Gabrys et al., 2018) and emotional management and turnover intention (Al-Hamdan et al., 2020; Trivellas et al., 2013).

A negative relationship was found between turnover intention and emotion management and its subcomponents (Hypothesis 2) and the regression analysis, in the second model, showed that emotion management alone predicted turnover intention. The ability to show emotions requires being able to empathize emotionally, seeing and taking into account the subtle differences between people's emotions, recognizing and correctly evaluating their own and other individuals' motives, and being able to respond appropriately to the behaviors and emotions of individuals in parallel with changing living conditions (Poskey, 2006; Güney et al.,

2015). It seems crucial that nurses use this skill in their relations with their patients. Although emotion management is necessary for every emotion, the place of anger emotion in emotion management was also emphasized by Goleman (1995).

The psychological variable that has the greatest influence on turnover intention is burnout. As expected, a strong positive relationship between turnover intention and burnout was evident (Hypothesis 3). This finding was consistent with the findings of previous studies (Halter et al., 2017; Hayes et al., 2012; Pang et al., 2020; Van der Heijden et al., 2019). In our study, it was seen that cognitive flexibility did not significantly predict turnover intention after adding burnout to the analysis in the third step. In addition, the predictive power of emotion management on intention to leave decreased significantly. In a similar vein, a study conducted on nurses working in a university hospital did indicate that the direct effect of emotional regulation on the intention to leave was not significant; however, it had a decreasing effect on the intention to leave through burnout (Hong & Lee, 2016). More recent research, explaining the burnout levels of emergency room nurses, demonstrated that emotion regulation was negatively correlated with exhaustion (Salvarani et al., 2019). Nurses who have more difficulty in emotion regulation at work experience higher levels of emotional exhaustion after work, as well as higher levels of fatigue and negative affect at home at night (Blanco-Donoso et al., 2016). Despite the strong negative relationship between emotion management and burnout, it did not show a strong effect in reducing turnover intention.

Lastly, the results of our study showed that emotion management (Hypothesis 4) and burnout (Hypothesis 5) fully mediated the cognitive flexibility-turnover relationship. This model explained 54% of the total variance. Cognitive flexibility significantly affected turnover intention through emotion management and burnout. As cognitive flexibility's effect on turnover intention was mediated by emotion management and burnout, nurse support programs should aim to increase nurses' cognitive flexibility and emotion management strategies.

**Limitations:** The collection of data for this study was started eleven days before the start of the coronavirus 2019 (COVID-19) epidemic in

Turkey. During the pandemic period, various concerns, such as participating in the study or being assigned to the COVID-19 units after being assigned to care for coronavirus patients were evident. This may be both a strength of the study and a confounding factor affecting the results.

**Conclusion:** This study contributes the knowledge about the psychologic factors that predict the turnover intention of nurses and thus leaving the job, which is one of the crucial problems of today, which contributes to the nurse shortage. The current findings draw attention to the psychological factors that affect nurses' intention to leave and the importance of finding the mediator variables (emotion management and burnout). Considering the findings for the relationships among the cognitive flexibility, emotion management, and burnout can have the potential for beneficial programs aiming to decrease nurses' turnover intention.

## References

- Ahorsu D K, Lin C Y, Marznaki Z H & Pakpour A H. (2022) The association between fear of COVID-19 and mental health: The mediating roles of burnout and job stress among emergency nursing staff. *Nursing Open* 9(2): 1147-1154.
- Al-Hamdan Z M, Muhsen A, Alhamdan M, Rayan A, Banyhamdan K & Bawadi H. (2020) Emotional intelligence and intent to stay among nurses employed in Jordanian hospitals. *Journal of Nursing Management* 28(2): 351–358.
- Antwi Y A & Bowblis R. (2018) The impact of nurse turnover on quality of care and mortality in nursing homes: Evidence from the great recession. *American Journal of Health Economics* 4(2): 131-163.
- Blanco-Donoso L M, Garrosa E, Demerouti E & Moreno-Jiménez B. (2016) Job resources and recovery experiences to face difficulties in emotion regulation at work: A diary study among nurses. *International Journal of Stress Management*. doi:10.1037/str0000023
- Brücher B L & Deufert D. (2019) German nursing shortage in hospitals—Homemade by Profititis? *4open* 2(3): 1-16. doi:10.1051/fopen/2019007
- Chegini Z, Asghari Jafarabadi M & Kakemam E. (2019) Occupational stress, quality of working life and turnover intention amongst nurses. *Nursing in Critical Care* 24(5): 283-289.
- Cox K S. (1980) *The effects of second-language study on the cognitive flexibility of freshman university students* [Unpublished doctoral dissertation]. The Ohio State University.
- Cutuk Z A. (2021) Mediating role of emotion regulation processes in the relationship between cognitive flexibility and intolerance to uncertainty. *Journal of Educational Sciences & Psychology* 11(2): 150-161.
- Capri B. (2013) The Turkish adaptation of the Burnout Measure-Short Version (BMS) and Couple Burnout Measure-Short Version (CBMS) and the relationship between career and couple burnout based on psychoanalytic existential perspective. *Educational Sciences: Theory & Practice* 13(3): 1393-1418.
- Cecen A R. (2006) Validity and reliability studies of the Emotions Management Skills Scale. *Turkish Psychological Counseling and Guidance Journal* 3(26): 101-113.
- Dajani D R & Uddin L Q. (2015) Demystifying cognitive flexibility: Implications for clinical and developmental neuroscience. *Trends in Neurosciences* 38(9): 571–578.
- Dennis J P & Vander Wal J S. (2010) The cognitive flexibility inventory: Instrument development and estimates of reliability and validity. *Cognitive Therapy and Research* 34(3): 241-253. doi:10.1007/s10608-009-9276-4.
- Gabrys R L, Tabri N, Anisman H & Matheson K. (2018) Cognitive control and flexibility in the context of stress and depressive symptoms: The cognitive control and flexibility questionnaire. *Frontiers in psychology* 9, 2219. doi:10.3389/fpsyg.2018.02219
- Goleman D. (1995) *Emotional intelligence*, Bantam, New York.
- Güney T, Taşkıran E & Özkul E. (2015) The effect of employee's emotions management skills upon organizational citizenship behaviour: A research on employees of Sabiha Gökçen Airport. *Balikesir University the Journal of Social Sciences Institute* 18(34): 99-132.
- Halter M, Boiko O, Pelone F, Beighton C, Harris R, Gale J, Gourlay S & Drennan V. (2017) The determinants and consequences of adult nursing staff turnover: A systematic review of systematic reviews. *BMC Health Services Research* 17(1): 824. doi:10.1186/s12913-017-2707-0
- Hayes A F. (2013) *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. Guilford Press, New York.
- Hayes L J, O'Brien-Pallas L, Duffield C, Shamian J, Buchan J, Hughes F, Laschinger H K & North N. (2012) Nurse turnover: A literature review - an update. *International Journal of Nursing Studies* 49(7): 887–905.
- Hong E & Lee Y S. (2016) The mediating effect of emotional intelligence between emotional labour, job stress, burnout and nurses' turnover intention. *International Journal of Nursing Practice* 22(6): 625–632. doi:10.1111/ijn.12493
- Ionescu T. (2012) Exploring the nature of cognitive flexibility. *New Ideas Psychol.* 30(2): 190–200.
- Jackson-Koku G, & Grime P. (2019) Emotion regulation and burnout in doctors: A systematic

- review. *Occupational Medicine* (Oxford, England) 69(1): 9–21.
- Jiménez-Herrera M F, Llauradó-Serra M, Acebedo-Urdiales S, Bazo-Hernández L, Font-Jiménez I & Axelsson C. (2020) Emotions and feelings in critical and emergency caring situations: A qualitative study. *BMC Nursing* 19(1): 1-10.
- Kruczek A, Basinska M A & Janicka M. (2020) Cognitive flexibility and flexibility in coping in nurses - the moderating role of age, seniority and the sense of stress. *International Journal of Occupational Medicine and Environmental Health* 33(4): 507–521.
- Lee M & Jang K S. (2020) Nurses' emotions, emotional labor, and job satisfaction. *International Journal of Workplace Health Management* 13(1): 16-31.
- Lewis M. (1993a) The emergence of human emotions. In: Lewis M. & Haviland M J. (Editors) *Handbook of Emotions*. The Guilford Press, New York, 223-237.
- Lewis M. (1993b) Self-conscious emotions: Embarrassment, pride, shame and guilt. In: Lewis M. & Haviland M. J. (Editors) *Handbook of Emotions*. The Guilford Press, New York, 563-575.
- Li Y & Jones C B. (2013) A literature review of nursing turnover costs. *Journal of Nursing Management* 21(3): 405–418.
- Liu W, Zhao S, Shi L, Zhang Z, Liu X, Li L, Duan X, Li G, Lou F, Jia X, Fan L, Sun T & Ni X. (2013) Workplace violence, job satisfaction, burnout, perceived organizational support and their effects on turnover intention among Chinese nurses in tertiary hospitals: a cross-sectional study. *BMJ Open* 8(6): e019525. doi:10.1136/bmjopen-2017-019525
- Mobley W H, Horner S O & Hollingsworth A T. (1978) An evaluation of precursors of hospital employee turnover. *The Journal of Applied Psychology* 63(4): 408–414.
- Orucu E & Ozafsarlioglu S. (2013) The influence of organizational justice on the turnover intention: A study in the Republic of South Africa. *Mustafa Kemal Üniversitesi Sosyal Bilimler Enstitüsü Dergisi* 10(23): 335-358. Retrieved February 6, 2022, from <https://dergipark.org.tr/tr/pub/mkusbed/issue/19550/208187>
- Pang Y, Dan H, Jung H, Bae N & Kim O. (2020) Depressive symptoms, professional quality of life and turnover intention in Korean nurses. *International nursing review* 67(3): 387–94.
- Pines A M. (2005) The burnout measure short version (BMS). *International Journal of Stress Management* 12: 78–88.
- Poskey M. (2006) The importance of emotional intelligence in the workplace. Why it matters more than personality. Retrieved February 17, 2022, from <https://www.emerald.com/insight/content/doi/10.1108/09596111211258900/full/pdf?title=emotional-intelligence-and-emotional-labor-acting-strategies-among-frontline-hotel-employees>
- Salvarani V, Rampoldi G, Ardenghi S, Bani M, Blasi P, Ausili D, Di Mauro S & Strepparava M G. (2019) Protecting emergency room nurses from burnout: The role of dispositional mindfulness, emotion regulation and empathy. *Journal of Nursing Management* 27(4): 765–774.
- Sapmaz F & Dogan T. (2013) Assessment of cognitive flexibility: Reliability and validity studies of Turkish version of the Cognitive Flexibility Inventory. *Ankara University Journal of Faculty of Educational Sciences* 46(1): 143-162.
- Tabachnick B G & Fidell L S. (2013) *Using multivariate statistics* (6th ed.). Upper Saddle River, NJ: Pearson Education.
- Takase M. (2010) A concept analysis of turnover intention: implications for nursing management. *Collegian* 17(1): 3–12.
- Trivellas P, Gerogiannis V & Svarna S. (2013) Exploring workplace implications of Emotional Intelligence (WLEIS) in hospitals: Job satisfaction and turnover Intentions. *Procedia-Social and Behavioral Sciences* 73: 701–709.
- Uddin L Q. (2021) Cognitive and behavioral flexibility: neural mechanisms and clinical considerations. *Nature Reviews, Neuroscience* 2021, 1–13. Advance online publication. doi:10.1038/s41583-021-00428-w
- Van der Heijden B, Brown Mahoney C & Xu Y. (2019) Impact of job demands and resources on nurses' burnout and occupational turnover intention towards an age-moderated mediation model for the nursing profession. *International Journal of Environmental Research and Public Health* 16(11): 2011. doi:10.3390/ijerph16112011
- Wong K F E & Cheng C. (2019) The turnover intention-behaviour link: A culture-moderated meta-analysis. *Journal of Management Studies* 57(6): 1174-1216.
- World Health Organization (2020) *State of the world's nursing 2020: Investing in education, jobs and leadership*. World Health Organization Retrieved February 6, 2022, from <https://apps.who.int/iris/handle/10665/331677>
- Yildiz M & Eldeleklioglu J. (2021) The Relationship between decision-making and intolerance to uncertainty, cognitive flexibility and happiness. *Eurasian Journal of Educational Research* 91: 39-60.
- Zhang X J, Song Y, Jiang T, Ding N & Shi T Y. (2020) Interventions to reduce burnout of physicians and nurses: An overview of systematic reviews and meta-analyses. *Medicine* 99(26): e20992. doi:10.1097/MD.0000000000002092