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Research Article

The mediating role of task-related occupational anxiety in the relationship between stress-coping behaviours and crisis management skills: A study during the COVID-19 pandemic period

Stresle baş etme davranışları ile kriz yönetimi becerisi ilişkisinde göreve ilişkin mesleki kaygının aracı rolü: COVİD-19 pandemisi döneminde bir araştırma

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Abstract

The COVID-19 Pandemic has forced healthcare professionals worldwide to make and implement decisions under extreme pressure, which is naturally a source of stress and anxiety for all healthcare professionals. This study examined the mediating role of task-related occupational anxiety in the relationship between nurses' stress-coping behaviours and crisis management skills. The sample consists of nurses working in the Eastern Anatolia Region. Because the research was conducted within the scope of COVID-19 epidemic measures, the questionnaire was online, and 400 electronic questionnaires were analysed. According to the results obtained in the research, significant relationships were found between stress-coping behaviours, crisis management skills and task-related occupational anxiety, as well as between task-related occupational anxiety and crisis management skills. In addition, it has been determined that task-related occupational anxiety mediates the relationship between stress-coping behaviours and crisis management skills. The results are discussed in the axis of the research results in the related literature.

Keywords: Stress, Stress Management, Crisis, Crisis Management, Anxiety, Occupational Anxiety

Jel Codes: C91, I12

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Öz

COVİD-19 Pandemisi Dünya'nın her yerindeki sağlık çalışanlarını aşırı baskı altında karar almak ve uygulamak durumunda bırakmıştır ki yaşanan bu süreç doğal olarak bütün sağlık çalışanları için önemli bir stres ve kaygı kaynağıdır. Çalışmada stresle baş etme davranışları ile kriz yönetimi becerileri ilişkisinde göreve ilişkin mesleki kaygının aracılık rolü incelenmiştir. Örneklem Doğu Anadolu Bölgesinde görev alan hemşirelerden oluşmaktadır. Araştırmanın COVİD-19 salgın tedbirleri kapsamında yürütülmesi sebebiyle anket formu elektronik olarak gerçekleştirilmiş ve 400 elektronik anket analize tabi tutulmuştur. Araştırmada elde edilen sonuçlara göre stresle baş etme davranışları ile kriz yönetimi becerisi ve göreve ilişkin mesleki kaygı arasında; göreve ilişkin mesleki kaygı ile kriz yönetimi becerisi arasında anlamlı ilişkiler tespit edilmiştir. İlaveten, stresle baş etme davranışları ile kriz yönetimi becerisi arasındaki ilişkide göreve ilişkin mesleki kaygının da aracılık etkisi olduğu tespit edilmiştir. Sonuçlar, ilgili alan yazında gerçekleştirilmiş araştırma sonuçları ekseninde tartışılmıştır.

Anahtar Kelimeler: Stres, Stres Yönetimi, Kriz, Kriz Yönetimi, Kaygı, Mesleki Kaygı

Jel Kodları: C91, I12

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Introduction

The struggle between human beings and nature includes learned experiences on the one hand and unexpected events on the other. For example, the Coronavirus epidemic (COVID-19), acknowledged and announced as a pandemic by the World Health Organization (WHO) in March 2019, has spread rapidly globally, starting from China. The COVID-19 Pandemic has forced healthcare workers worldwide to make and implement decisions under extreme pressure. Some of these decisions can be listed as follows: Allocating insufficient medical resources to patients who need them equally and fairly; coping with excessive fatigue after long working hours with individual physical protective equipment; being able to help patients mentally; being exposed to the reaction and violence of the people affected by the epidemic, during the treatment; being able to balance patient, family and friend relationships (Greenberg, Docherty, Gnanapragasam, & Wessely, 2020). Although healthcare professionals are regarded as natural crisis managers, they are not naturally immune to psychological consequences such as stress, anxiety, worry, fear and helplessness due to the pressure that COVID-19 may create (Spoorthy, Pratapa, and Mahant, 2020).

So much so that, although the global epidemic seems to be at the forefront with its social and economic effects, its effects in terms of social psychology have not been studied sufficiently, and a full damage assessment has not been made yet. This issue will be more focused on as the number of research on psychological distress arising from the compulsions of healthcare professionals to work outside the usual routine, exposure to the virus and the anxiety of carrying the infection out of the hospital increases (Di Tella, Romeo, Benfante, & Castelli, 2020). Furthermore, nurses must respond efficiently and effectively to public calamities or emergencies. In other words, in the face of a disaster, they act as a health system leader rather than a health care professional (Chirico, Nucera, & Magnavita, 2021; Veenema et al., 2016). At this point, nurses' training and individual tendencies regarding crisis management, stress management and occupational anxiety are as important as daily routines' working conditions and risk factors.

Conceptual framework

Stress and stress-coping behaviour

Stress is a personal adaptive response to the uncertainty or importance of a perceived opportunity and demand situation. It is a dynamic emotional state that usually reflects a clash of demands and facts, is governed by individual differences, and has different meanings for different people. In other words, it results from a strong collision between an environmental stimulus and the individual's ability to respond (Matteson & Ivancevich, 1990). Individuals may have to face one or more stress levels simultaneously. The point is how we perceive and cope with stress, which we are familiar with, experience in different ways, and face to different degrees daily (Choudhury, 2013; Larson, 2004).

Stress-coping behaviours can be defined as the sum of the individual's constantly changing cognitive and behavioural efforts in paying or exceeding to manage the demands arising from the internal and external environment (Lazarus & Folkman, 1984). Dewe, O'Driscoll, and Cooper (2010) state that stress-coping behaviours are examined around three basic approaches. The first one considers coping with stress as a defence mechanism inherent in the individual, with an understanding fed by the psychodynamic tradition. The second approach considers coping with stress as a function of individual characteristics and the complexity that causes stress. Individual differences, especially personality, are significant. The third approach considers the concept not only through individual or environmental factors but as a process that appears in mutual interaction. Luthans and Avolio (2011) state that stress-coping behaviours should be carried out with different strategies at the individual and organizational levels. It is recommended to exercise to cope with individual stress, use various relaxation, behavioural self-control or cognitive therapy techniques, and develop a social network through human relations that will provide social support. At the organizational level, the distribution of roles, duties, and responsibilities should be carried out fairly for managers to continue their work lives with stress that employees can cope with. Here, the individual can cope with stress by staying optimistic, regardless of the source. This means that the individual can control the causes that feed stress in the inner world. The individual may try to solve the problem in a focused way by reinforcing positive personal judgments. The individual also can convey the stressful emotion by focusing on something or someone else. Finally, the individual may prefer to avoid an environment of uncertainty by distancing themselves in some way (Sheu, Lin, and Hwang, 2002; Karaca, Yıldırım, Ankaralı, Açıkgöz and Akkuş 2015). As a result, it should be noted that the role and responsibilities of healthcare professionals and professional, ethical responsibilities are high. This can put excessive pressure on them. It is not easy for them to resort to

methods of transfer and avoidance, and they are expected to remain optimistic and solve problems in general.

Crisis and crisis management

A crisis factually describes an unstable or important situation in which a decisive change is approaching (Colvell, 2018). Crisis management begins with being prepared (or risk reduction) in the face of any unexpected event at the organizational or societal level (Al-Dabbagh, 2020). The second stage is information management. Stakeholder negotiation, informing employees or the public, and keeping the necessary communication channels open is the stages of the mentioned information management process (Pearson & Clair, 1998). After collecting information about the crisis, the first decision-making phase is started. After the necessary amount of data about the crisis is collected, a decision level is reached. As things happen out of the ordinary at this stage, it triggers a new learning process. The crisis may require new methods specific to its nature (Bernhardsdóttir, 2015; Robert & Lajtha, 2002). The final stage is post-crisis assessment, damage or due diligence, and creating new projections for the future. A total evaluation of the expected results, the situations encountered and the outputs obtained should be made (Švarcová, Hošková-Mayerová, & Navratil, 2016; Robert & Lajtha, 2002). Ultimately, it is impossible to prevent the crisis altogether because it is impossible to control all internal or external factors.

On the other hand, considering the developments in both the health sector and the field of public health, the dynamic structure that emerges requires the existence of both a national and a universal action plan to manage the crises that occur in society (Bennett, 2012; Phillips, Neal, & Webb, 2017). Therefore, although organizing the pre-crisis period at the organizational level and evaluating the post-crisis period is among the primary responsibilities areas of the organization managers in the health sector, managing the crisis is the duty and responsibility of the health workers who are directly dealing with the crisis (Panos, Dafni, Kostas, & Zacharoula, 2009). In this sense, it should be noted that considering the pandemic process we had been through, the success of the pre-crisis period planning was directly proportional to the attitudes and behaviours of the healthcare professionals who had to respond to the urgent needs with limited resources during the pandemic process. For this reason, the crisis management skills of nurses during the crisis period were evaluated in this study.

Anxiety and occupational anxiety

Anxiety, which is a negative emotional reaction to excessive pressure as one of the main emotions of human beings, can be defined as anxiety about an objective danger (Ocaktan & Keklik, 2002). In other words, anxiety is a fear arising from the uncertainty of the source of the problem and danger (Uludağ, Taşdöven, & Dönmez, 2014). People with high anxiety levels are known to be inadequate in solving their personal and professional problems. As a result, they feel helpless, suffer from various physical illnesses, and lose their perception of social support. For this reason, excessive individual stress and high level of anxiety are issues that should be taken seriously (Özgüven, Soykan, Haran, & Gençöz, 2003).

A few points come to the fore in people's career planning: First, people want to make sure that their career choices are right for them, and second, they want to make sure that they do not miss a better option for the future (Steptoe-Warren, 2013). In this planning, occupational health and safety and future career goals can surpass wage expectations. In other words, people primarily want to perform professions where they feel happy, peaceful, and safe (Owen & Fitch, 2003). So much so that the psychological demands in the working environment and the inability to manage these demands by the employees cause increased work stress in that workplace. As stress becomes unbearable, it becomes both individual and Task-related occupational anxiety, reduces the individual's productivity, and prevents him from fulfilling the job requirements (Akanji, 2013). In addition, it should be noted that health science education is generally both physically and emotionally demanding. The pressure experienced by students studying in these fields can result in various behavioural and mental health disorders. Manageable pressure and stress can increase students' creativity and success. However, when carried to an intense level, it can cause negative consequences such as a decreased desire to learn, problems in human relations and attention deficits (Yeniçeri et al., 2007; Lee and Graham, 2001).

The relationship between stress coping behaviours, crisis management skills, and task-related occupational anxiety

Yıldırım, Karaca, Ankaralı, Açıkgöz, and Akkuş (2016)'s study on the stress experienced by nursing students determined that students experienced stress due to difficult course-exam success on the one hand, and difficult clinical tasks and duties on the other hand. According to Özsaban, Turan, and Hatice

(2019), there is a strong and significant relationship between the psychological resilience of nurses and their perceived social support. This situation reveals that nurses must cope with multidimensional stress, which may cause individual results according to the stress level. On the other hand, emphasizing the need to redesign nursing education globally, Veenema et al. (2016) implemented a nursing workshop with 14 specialists and 70 nurses as a disaster preparedness and response leader.

This study, which presents a new future vision for the nursing profession, is important in showing the level of expectation from nurses, especially in national and international emergencies. In addition, Baack and Alfred (2013) conducted a study showing the preparedness level of 620 nurses in case of any disaster. According to the results of the study, the majority of the nurses feel inadequate or insecure in terms of both mental and educational aspects in a crisis such as a disaster. Similarly, Baykal et al. (2020) investigated the crisis management experiences of nurse managers during the COVID-19 Pandemic in Turkey. After identifying the strengths and weaknesses of nurses in the fight against the epidemic, they emphasized the importance of preparing for the crisis to manage it. Indeed, the first and most important step in preventing any social crisis is the preparation phase. Because the main factor that will motivate to intervene in the crisis in every layer of society is the stage of preparation for the crisis. In order to manage the crisis moment appropriately, first of all, it is necessary to plan the crisis preparations correctly and to share this with all stakeholders (Hede, 2017; Schmidt et al., 2011).

Students studying in the field of nursing have to face a significant lifestyle change, such as a decrease in the quality of social life, sleep disorders, and inability to take time for themselves, along with the increasing course and workload from the first years of their education (Lee & Graham, 2001). This professional dedication can cause physical and mental problems in individuals away from emotional well-being. Kaya, Genç, Kaya, and Pehlivan (2007), who compared coping with stress between medical school students and health college students, revealed that health college students adopted passive coping styles such as helplessness and submission more. Sheu et al. (2002) found a significant relationship between stress level and professional knowledge in supportive nursing students, emphasizing that various social-behavioural responses are the most common stress response. Aslankoç, Öztürk, and Yıldırım (2001), in their study examining the relationship between midwives and nurses' occupational problems and anxiety, found that the majority of the sample group chose their profession voluntarily, but work-centred work instead of the patient caused occupational stress and anxiety.

Purpose of the research

In the literature, studies have been researched on the stress levels, coping behaviours and various anxiety states of medical school students, doctors, nurses, and nursing students. However, when the relevant literature is examined, it is seen that no study focused on stress, anxiety, and crisis together. This study investigates the crisis management skills of nurses during the COVID-19 Pandemic and the mediating role of task-related occupational anxiety in the relationship between stress-coping behaviours and crisis management skills. The research also sought answers to various research questions, including Has the COVID-19 Pandemic created professional regret in nurses? Do they think they received adequate crisis, emergency, and stress management training? Do they want to receive in-service training on crisis and emergency management in the institution they work for? How do stress and anxiety affect the ability to manage crises?

Method

Research model and hypotheses

In the model to be tested, the independent variable was stressing coping behaviours, the dependent variable was crisis management skills, and the mediating variable in the relationship between the two variables was occupational anxiety (Figure 1). The independent models have been tested according to Baron and Kenny's four mediation steps (1986).

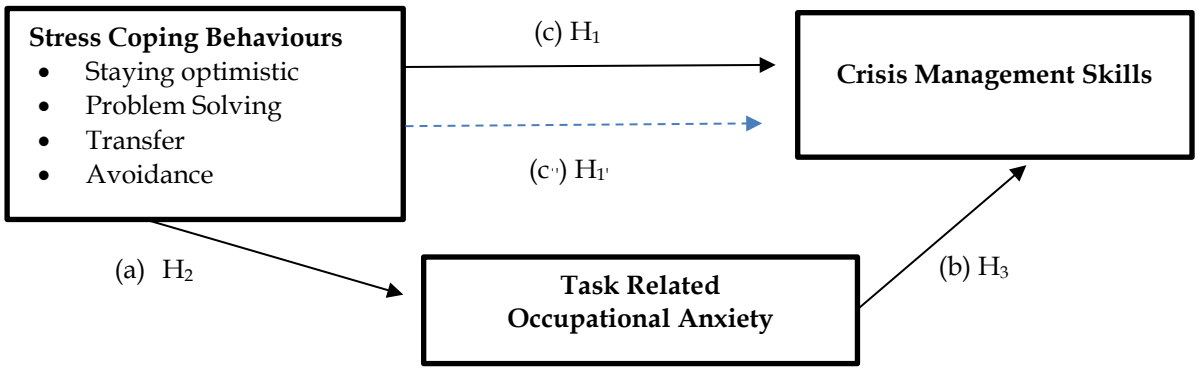

Figure 1: Model of the Study

As stated, the study has a unique value in investigating the mediating role of task-related occupational anxiety in the relationship between stress-coping behaviours and crisis management skills. Therefore, in light of the relationships above, the hypotheses of the study are as follows:

H_1: Stress-coping behaviours have a significant effect on crisis management skills.

H_{1a}: There is a significant relationship between staying optimistic ability and crisis management skills.

H_{1b}: There is a significant relationship between problem-solving ability and crisis management skills.

H_{1c}: There is a significant relationship between transfer ability and crisis management skills.

H_{1d}: There is a significant relationship between avoidance ability and crisis management skills.

H_2: Stress-coping behaviours have a significant effect on task-related occupational anxiety.

H_{2a}: A significant relationship exists between staying optimistic ability and task-related occupational anxiety.

H_{2b}: There is a significant relationship between problem-solving ability and task-related occupational anxiety.

H_{2c}: There is a significant relationship between transfer ability and task-related occupational anxiety.

H_{2d}: There is a significant relationship between avoidance ability and task-related occupational anxiety.

H_3: Task-related occupational anxiety has a significant effect on crisis management skills.

$H_{1'}$: Task-related occupational anxiety mediates the relationship between stress-coping behaviours and crisis management skills. The mediating effect of task-related occupational anxiety and the effect of stress-coping behaviours on crisis management skills either disappear or change significantly.

$H_{1'a}$: Task-related occupational anxiety mediates the relationship between staying optimistic ability and crisis management skills. With the mediating effect of task-related occupational anxiety, the effect of staying optimistic ability on crisis management skills either disappears or changes significantly.

$H^{1'}{}_b$: Task-related occupational anxiety mediates the relationship between problem-solving ability and crisis management skills. With the mediating effect of task-related occupational anxiety, the effect of problem-solving ability on crisis management skills either disappears or changes significantly.

$H_{1'c}$: Task-related occupational anxiety mediates the relationship between transfer ability and crisis management skills. With the mediating effect of task-related occupational anxiety, the effect of transfer ability on crisis management skills either disappears or changes significantly.

$H_{1'd}$: Task-related occupational anxiety mediates the relationship between avoidance ability and crisis management skills. With the mediating effect of task-related occupational anxiety, the effect of avoidance ability on crisis management skills either disappears or changes significantly.

Data collection instruments

The questionnaire technique was used in the research. In the first part of the questionnaire, there are statements about the participants' gender and the situation statements of finding the training on crisis management sufficient, their desire to receive in-service training, and the COVID-19 pandemic causing regret about the profession they chose.

Then, in the first section of the second part, the "Perceived Stress for Nursing Students Inventory" was used, which was developed by Sheu et al. (2002) and was adapted into Turkish by Karaca et al. (2015). The scale was developed for student/intern nurses, and the expressions were adapted to the nursing profession. In the second section of the questionnaire, 14 items in the Crisis Management Scale related to "Time of Crisis" were developed by Sayın (2008) to determine the attitudes toward crisis management. Again, the scale was developed for the school administrative staff, and the expressions were adapted to nursing. Finally, in the third section of the questionnaire, the "Task-Related Anxiety" subscale of the Occupational Anxiety Scale was developed by Cabı and Yalçınalp (2015) to determine occupational anxiety. Again, the scale was developed for the teaching profession, and the statements were adapted to nursing. The scales in the questionnaire are in five-point Likert type. Although they have been used in scientific research before, they will be used in the same questionnaire for the first time, as the application was made to Erzurum Technical University Scientific Ethics Committee. Approval was obtained with the decision number 2021/4-1. Subsequently, confirmatory and exploratory factor analyses were applied to the scales.

Research sample

The research population consists of nurses who are actively working as of 2020. The sample of the study consists of nurses working in the provinces of Bingöl, Elâzığ, Erzincan, Erzurum, Iğdır, Kars, Malatya and Van in the Eastern Anatolia Region. Sample selection was carried out using the cluster sampling method. Cluster sampling provides the opportunity to form clusters with the same characteristics and come together naturally, especially in cases where the universe is large and geographically widespread (Yağar and Dökme, 2018). In representing the universe, the clusters must be homogeneous within themselves and heterogeneous among themselves in selecting the cluster sample. (Basturk and Tastepe, 2013). As of the survey period, it was determined that 2800 nurses were actively working by contacting the state and public university hospitals in the provinces. With the help of the sample calculation engine (www.surveysystem.com), it was determined that at least 338 questionnaires should be collected at the 5 per cent confidence interval. Since the survey coincided with the pandemic, the relevant nurses were contacted directly through the institution. An electronic questionnaire was sent to the e-mail or phone numbers of the nurses who agreed to complete the survey. Since the balanced distribution of the provinces was observed, questionnaires were sent to between 150-200 nurses in each province, and 683 electronic questionnaires were collected in approximately six months. Since participation in the research is voluntary, no statement was required to be filled in the electronic questionnaire, questionnaires with missing information/answers were deemed invalid, and the research was carried out with the remaining 400 questionnaires.

Of the 400 nurses participating in the study, 65% were female, and 35% were male. Furthermore, 57.3% of the participants find the crisis, emergency and stress management training sufficient, and 84% want in-service training. In addition, 81% of the participants stated that they had no regrets about their profession due to the COVID-19 Pandemic. The demographic characteristics of the participants are shown in Table 1.

Table 1: Demographic Characteristics

Demographic Variable	Groups	n	%
Gender	Women	260	65,0
	Men	140	35,0
I believe I received adequate training in Crisis Management, Emergency Management and Stress Management	Yes	229	57,3
	No	171	42,8
I want to receive in-service training on crisis and emergency management in the institution where I will work.	Yes	336	84,0
	No	64	16,0
The COVID-19 Pandemic has caused me to regret my chosen profession	Yes	76	19,0
	No	324	81,0

Data analysis

SPSS 21.0 and AMOS 22.0 statistical programs were used to test the data. Within the scope of validity tests, confirmatory factor analysis and for reliability tests, item-total correlation and Cronbach Alpha

methods were used. In order to evaluate the consistency of the model fit, the used fit indices classified as "Chi-square statistics to degrees of freedom ratio" (X2/sd: <5 - <3), "statistical significance of individual parameter estimates" (t value), "fit indices based on residuals" (SRMR: ≤0, 08 - <0.05; GFI: ≤0.90 - <0.95), "fit indices based on the independent model" (NNFI: ≤0.90 -<0.95; CFI: ≤0.90 - <0, 95) and fit indices classified as "mean the square root of approximate errors (RMSEA: ≤0.10 - <0.08)" (Çokluk, Şekercioğlu, & Büyüköztürk, 2010). The Cronbach Alpha value used for reliability analysis is expected to be above 0.70. In addition, items with an item-total correlation of 0.30 and higher, in general, distinguish individuals well; It can be said that the items between 0.20-0.30 can be taken to the test when necessary (Büyüköztürk, 2011).

As a result, for the relationship between the variables to be tested within the scope of the research, the Pearson correlation; In order to determine the mediating effect of task-related occupational anxiety on the effect of stress coping behaviours on task-related crisis management skills, mediator variable path analysis was used within the scope of structural equation modelling.

Findings

Stress coping behaviours scale validity and reliability analysis findings

The findings obtained in the confirmatory factor analysis performed with the 19 items and 4-dimensional structure of the scale of coping with stress are given in Table 2. The factor loadings of 1 item (so4) from the staying optimistic dimension, 1 item (tr1) from the transfer dimension, three items from the problem-solving dimension (ps1, ps4, ps6) and 1 item from the avoidance dimension (av2) were not within the appropriate ranges; It has been determined that there are many and high correlations with other factors and requires many modifications.

As a result of the first CFA, a high correlation of 0.97 was observed between the transfer and avoidance dimensions. After the items were gradually removed from the analysis, CFA was repeated with the remaining 13 items. In the second CFA application, although the model fit indices reached the desired level, it was understood that the high correlation (0.97) between the transfer dimension and the avoidance dimension continued, so the items in two dimensions were combined as "transfer/avoidance". Depending on this situation, "transfer/avoidance" will be treated as a single sub-dimension in the continuation of the research. Therefore, the third CFA was carried out, and the achieved value findings are shown in Table 2.

Table 2: Model Fit Indices Obtained from Stress Coping Behaviours Scale CFA Analysis

Fit Indices	First Model* (19 items/ 4 dimensions)	Second Model* (13 items/ 4 dimensions)	Third Model* (13 items/ 3 dimensions)
X^2/sd	9,712	3,981	3,844
RMSEA	0,148	0,086	0,084
SRMR	-[1]	0,053	0,053
GFI	0,634	0,916	0,916
NNFI	0,716	0,934	0,937
CFI	0,757	0,950	0,950
Factor Loadings	0,03 / 0,91	0,43 / 0,91	0,45 / 0,91
Interdimensional Correlation	0,07 / 0,97	0,07 / 0,97	0,07 / 0,86

*: Covariance connections post [1]: Could not be calculated

In the scale consisting of three dimensions and 13 items, it was determined that the model fit indices reached the appropriate level without the need for any covariance connection, the item factor loads reached the desired level (>0.40), and the correlation between the dimensions was not excessively high (<0.90). The validity and reliability analysis coefficients of the 13-item and 3-dimensional structure of the stress coping scale are given in Table 3.

In Table 3, it is seen that the factor loadings of the dimensions are at the desired values (between 0.45 and 0.91), and the t values are significant (p<0.05). The variance values of the factors are between 0.20 and 0.83. The Cronbach Alpha coefficient for the scale was 0.86; The Cronbach Alpha coefficients of the sub-dimensions were 0.54 / 0.80 / 0.95, respectively, and the item-total correlation of the items in the scale was between 0.27 and 0.75 (>0.30). According to the results of the reliability and validity analysis, it was found that the stress coping scale is a valid and reliable scale with 13 items and a 3-dimensional structure.

Table 3: Validity and Reliability Results of the Stress Coping Behaviours Scale

Items/Dimensions	Std. β	t	R^2	r	α (0,86)
Staying optimistic					
SO1	0,45		0,20	0,29	**0,54**
SO2	0,48	6,24**	0,23	0,27	
SO3	0,66	7,13**	0,44	0,32	
Problem-Solving					
PS2	0,69		0,48	0,36	**0,80**
PS3	0,85	13,69**	0,72	0,33	
PS5	0,78	13,21**	0,61	0,29	
Transfer/ Avoidance					
TR2	0,65		0,42	0,64	
TR3	0,88	15,11**	0,77	0,70	
AV1	0,91	15,44**	0,83	0,75	
AV3	0,91	15,49**	0,83	0,74	**0,95**
AV4	0,77	13,62**	0,59	0,60	
AV5	0,90	15,41**	0,81	0,73	
AV6	0,91	15,48**	0,83	0,74	

r: Item-total correlation **p<0.01 α: Cronbach Alpha

Crisis management skills scale validity and reliability analysis findings

According to the CFA performed for the crisis management scale consisting of one dimension and 14 items, it was determined that the factor loads of four items (cm4, cm5, cm12, cm13) were not in the appropriate ranges and required many modifications as there were many correlations with other items. After the items mentioned above were removed gradually, the model fit indices in Table 4 were obtained by establishing a covariance connection only between cm2 and cm3.

Table 4: Model Fit Indices Obtained from Crisis Management Skills Scale CFA Analysis

Model Fit Indices	First Model* (14 item/one dimension)	Second Model* (10 item/one dimension)
X^2/sd	9,675	3,227
RMSEA	0,147	0,075
SRMR	0,085	0,030
GFI	0,758	0,948
NNFI	0,834	0,967
CFI	0,860	0,975
Factor Loadings	0,17 / 0,92	0,55 / 0,92

*: After covariance connections

The validity and reliability analysis findings regarding the one-dimension and 10-item structure of the crisis management skills scale are shown in Table 5.

Table 5: Crisis Management Skills Scale Validity and Reliability Findings

Items/Dimensions	Std. β	t	R^2	r	α
CM1	0,84		0,71	0,81	
CM2	0,55	11,90**	0,31	0,57	
CM3	0,66	14,90**	0,43	0,67	
CM6	0,89	23,62**	0,79	0,84	
CM7	0,86	22,42**	0,75	0,81	0,94
CM8	0,92	25,01**	0,84	0,86	
CM9	0,84	21,38**	0,71	0,80	
CM10	0,61	13,39**	0,37	0,61	
CM11	0,69	15,77**	0,47	0,69	
CM14	0,83	20,78**	0,68	0,79	

r: Item-total correlation **p<0.01 α: Cronbach Alpha

According to the results in Table 5, it is seen that the factor loads are within the required ranges (between 0.55 and 0.92), and the t values are significant (p<0.05). The variance values of the factors are between 0.31 and 0.84. The Cronbach Alpha coefficient of the scale was 0.94, and the item-total correlation of the items in the scale was between 0.57 and 0.86 (>0.30). Therefore, according to the results of the reliability

and validity analysis, it was found that the crisis management skills scale is a valid and reliable scale with its single dimension and 10-item structure.

Task-related occupational anxiety scale validity and reliability analysis findings

According to the CFA results for the one-dimensional and 13-item occupational anxiety scale, only two model fit indices (X2/sd, RMSEA) were not at appropriate levels, factor loads of all items were higher than 0.40, and there was no high correlation with other items. Therefore, it has been determined that there is a modification proposal consisting of a covariance connection. The findings are shown in Table 6.

Table 6: Model Fit Indices Obtained from Occupational Anxiety Scale CFA Analysis

Model Fit Indices	First Model* (13 item/one dimension)	Second Model* (13 item/one dimension)
X^2/sd	5,558	3,863
RMSEA	0,107	0,085
SRMR	0,038	0,032
GFI	0,873	0,911
NNFI	0,919	0,949
CFI	0,932	0,959
Factor Loading	0,57 / 0,88	0,58 / 0,87

*: After covariance connections

The validity and reliability analysis findings regarding the single dimension and 13-item structure of the task-related occupational anxiety scale are shown in Table 7.

Table 7: Validity and Reliability Results of the Task-Related Occupational Anxiety Scale

Items/Dimensions	Std. β	t	R^2	r	α
OA1	0,58		0,34	0,57	
OA2	0,79	12,10**	0,62	0,78	
OA3	0,79	12,03**	0,62	0,77	
OA4	0,82	12,35**	0,67	0,80	
OA5	0,80	12,12**	0,64	0,79	
OA6	0,81	12,25**	0,66	0,80	
OA7	0,83	12,45**	0,69	0,81	0,96
OA8	0,87	12,75**	0,76	0,85	
OA9	0,86	12,69**	0,74	0,84	
OA10	0,72	11,42**	0,52	0,71	
OA11	0,87	12,78**	0,76	0,85	
OA12	0,75	11,63**	0,56	0,74	
OA13	0,75	11,70**	0,56	0,74	

r: Item-total correlation **p<0.01 α: Cronbach Alpha

According to the results in Table 7, it is seen that the factor loads are within the appropriate ranges (between 0.58 and 0.87), and the t values are significant (p<0.05). The variance values of the factors range from 0.34 to 0.76. The Cronbach Alpha coefficient of the scale was 0.96, and the item-total correlation of the items in the scale was between 0.57 and 0.85 (>0.30). Therefore, according to the results of the reliability and validity analysis, it was found that the task-related occupational anxiety scale is a valid and reliable scale with a single dimension and 13-item structure.

Descriptive findings

The findings of the descriptive statistics of the scale scores are given in Table 8.

Table 8: Descriptive Findings

Scale	N	Min.	Max.	$\overline{X}$	SS	Skewness	Kurtosis
Staying Optimistic	400	1,00	4,00	2,06	0,76	0,65	-0,11
Problem-Solving	400	1,00	5,00	2,02	0,92	0,93	0,43
Transfer/ Avoidance	400	1,00	5,00	2,50	1,10	1,03	0,05
STRESS COPING BEHAVIOURS	400	1,00	4,32	2,53	0,66	-0,31	0,27
CRISIS MANAGEMENT SKILLS	400	1,00	5,00	3,34	0,98	-0,97	0,19
OCCUPATIONAL ANXIETY	400	1,00	5,00	3,34	1,03	-0,06	-1,02

According to Table 9, transfer/avoidance is the most frequently used (2.50±1.10) ability for stress-coping, which is in the "agree" range; it was determined that the least used ability was problem-solving (2.02±0.92), which is in the range of "disagree". Finally, it was determined that the participants' crisis management skills (3.34±0.98) and task-related occupational anxiety (3.34±1.03) scores were in the range of "undecided/no idea".

Research model findings

The results of the Pearson correlation analysis between the scale and sub-dimension scores are given in Table 9.

Table 9: Results of Correlation Analysis Between Variables

Items/Dimensions	2	3	4	5	6
1- Staying Optimistic	0,60**	-0,15**	0,65**	0,12*	-0,38**
2- Problem Solving	1	-0,08	0,74**	0,05	-0,28**
3- Transfer/ Avoidance		1	0,53**	0,72**	0,17**
4-STRESS COPING BEHAVIOURS			1	0,47**	-0,20**
5-CRISIS MANAGEMENT SKILLS				1	-0,43**
6-OCCUPATIONAL ANXIETY					1

**p<0,01

A positive and significant relationship between the staying optimistic ability (r=0.12; p<0.05) and crisis management skills, one of the independent variables of the research; A negative and significant relationship was found between transfer/avoidance (r=0.72; p<0.05) ability and crisis management skills (r=0.47; p<0.05) ability. In addition, there was a negative and significant relationship between the staying optimistic ability (r=-0.38; p<0.05), problem-solving (r=-0.28; p<0.05), and task-related occupational anxiety. Also, a positive and significant relationship was found between the transfer/avoidance (r=0.17; p<0.05) ability and task-related occupational anxiety. Also, a negative and significant relationship was found between the mediator variable of the study, task-related occupational anxiety, and crisis management skills (r=-0.43; p<0.05).

Structural equation model findings

Considering the steps of Baron and Kenny (1986), although there is no correlation between problem-solving ability and crisis management skills since latent and observed variables will be shown together in the structural equation model, the model test will be performed. As stress-coping behaviours are different abilities, the structural equation model in Figure 1 was established separately for four independent variables. The hypotheses of the mediator variable model were determined as follows:

The findings and hypothesis results of the model tests carried out by the steps of Baron & Kenny (1986) are given in Table 10.

Table 10: Mediator Variable Research Model

Independent Variable	**Road**	**Dependent Variable**	**H**	**Mediator Variable**	**DE**	**SBT**	**R^2_{EB}**
Staying Optimistic	→	Crisis Management Skills	H8 (H1')	Task-Related Occupational Anxiety	0,26	2,45**	0,11
X^2/sd=2,50		RMSEA=0,06	SRMR=0,07	GFI=0,89	NNFI=0,94	CFI=0,94	
Problem-Solving	→	Crisis Management Skills	H9 (H2')	Task-Related Occupational Anxiety	0,13	3,42**	0,04
X^2/sd=2,36		RMSEA=0,06	SRMR=0,05	GFI=0,89	NNFI=0,95	CFI=0,96	
Transfer/ Avoidance	→	Crisis Management Skills	H10 (H3')	Task-Related Occupational Anxiety	0,05	3,10**	0,02
X^2/sd=2,41		RMSEA=0,06	SRMR=0,06	GFI=0,86	NNFI=0,94	CFI=0,95	
STRESS COPING BEHAVİOURS	→	Crisis Management Skills	H10 (H3')	Task-Related Occupational Anxiety	0,19	3,51**	0,05
X^2/sd=3,74		RMSEA=0,08	SRMR=0,10	GFI=0,85	NNFI=0,90	CFI=0,91	

*: p<0.05 **: p<0.01 DE= Indirect effect size SBT= Sobel test statistic R2EB= Variance caused by indirect effect

$H_{1'}$: Task-related occupational anxiety mediates the relationship between stress-coping behaviours and crisis management skills (DE=0.19; SBT=3.51; p<0.05). With the mediating effect of task-related occupational anxiety, the effect of stress-coping behaviours on crisis management skills either disappears or changes significantly (5%).

H_{1a}: Task-related occupational anxiety mediates the relationship between staying optimistic and crisis management skills (DE=0.26; SBT=2.45; $p<0.05$). The mediating effect of task-related occupational anxiety and the effect of staying optimistic ability on crisis management skills either disappears or changes significantly (11%).

$H_{1'b}$: Task-related occupational anxiety mediates the relationship between problem-solving ability and crisis management skills (DE=0.13; SBT=3.42; $p<0.05$). The mediating effect of task-related occupational anxiety and the effect of problem-solving ability on crisis management skills disappear or show a significant change (4%).

$H^{1'c}$: Task-related occupational anxiety mediates the relationship between transfer/avoidance ability and crisis management skills (DE=0.05; SBT=3.10; $p<0.05$). With the mediating effect of task-related occupational anxiety, the effect of transfer/avoidance ability on crisis management skills disappears or changes significantly (2%).

The hypothesis test results obtained from the research are shown in Table 11.

Table 11: Hypothesis Test Results

No	Hypothesis	Status
H_1	There is a significant relationship between stress-coping behaviours and crisis management skills.	Accepted
H_{1a}	There is a significant relationship between staying optimistic ability and crisis management skills.	Accepted
H_{1b}	There is a significant relationship between problem-solving ability and crisis management skills.	***Rejected***
H_{1c}	There is a significant relationship between transfer/avoidance ability and crisis management skills.	Accepted
H_2	There is a significant relationship between stress-coping behaviours and task-related occupational anxiety.	Accepted
H_{2a}	There is a significant relationship between staying optimistic ability and task-related occupational anxiety.	Accepted
H_{2b}	There is a significant relationship between problem-solving ability and task-related occupational anxiety.	Accepted
H_{2c}	There is a significant relationship between transfer/avoidance ability and task-related occupational anxiety.	Accepted
H_3	There is a significant relationship between task-related occupational anxiety and crisis management skills.	Accepted
$H_{1'}$	Task-related occupational anxiety mediates the relationship between stress-coping behaviours and crisis management skills. However, the mediating effect of task-related occupational anxiety and the effect of stress-coping behaviours on crisis management skills disappears or changes significantly.	Accepted
$H_{1'a}$	Task-related occupational anxiety mediates the relationship between staying optimistic ability and crisis management skills. With the mediating effect of task-related occupational anxiety, the effect of staying optimistic ability on crisis management skills either disappears or changes significantly.	Accepted
$H_{1'b}$	Task-related occupational anxiety mediates the relationship between problem-solving ability and crisis-management skills. With the mediating effect of task-related occupational anxiety, the effect of problem-solving ability on crisis management skills either disappears or changes significantly.	Accepted
$H_{1'c}$	Task-related occupational anxiety mediates the relationship between transfer/avoidance ability and crisis management skills. With the mediating effect of task-related occupational anxiety, the effect of transfer/avoidance ability on crisis management skills either disappears or changes significantly.	Accepted

Discussion

The study examined the mediating role of task-related occupational anxiety in the relationship between stress-coping behaviours and crisis management skills of nurses, who are potential health system leaders. First of all, it should be noted that nurses are in the leading position to intervene and prevent any crisis, disaster or pandemic, including COVID-19, in all countries. This power stems from the longest and closest contact with patients (Buheji and Buhiad, 2020). The research was carried out during the COVID-19 Pandemic period when all health system stakeholders felt the pressure most intensely. Most of the nurses (81%) who participated in the research stated they had no regrets about their professional choice. In support of these results of the study, some valuable results were found in some studies that analyzed the opinions of student nurses while the Covid-19 Pandemic was going on: Although some students were worried about catching the virus and infecting their households, they preferred to contribute to clinical studies instead of staying at home (Mena-Tudela, González-Chordá, Andreu- Pejó, Mouzo-Bellés & Cervera-Gasch, 2021). The main motivation of some of them is being a health sector worker (Michno, Tan, Adelekan, Konczalik, & Woollard, 2021). Some of them declared that they are ready for duty, being aware of the responsibility of the nursing profession in the eyes of society (Lovrić, Farčić, Mikšić & Včev, 2020; Karaman, 2022). Another demographic result of the study

is that only half of the nurses (57.3%) find the training they have received on crisis, emergency and stress management sufficient, and the vast majority (84%) want to receive in-service training on these issues. Supporting these results, Aslan and Pekince (2020), who investigated the opinions of intern nurses in Turkey, concluded that COVID-19 causes moderate stress on interns for various reasons. Savitsky, Findling, Ereli, and Hendel (2020), who also investigated the COVID-19-related anxiety levels of nurses in Israel, similarly concluded that students experienced moderate anxiety. After all, the lack of information about crisis management can be considered a stress and anxiety factor, especially during a global crisis.

According to the results obtained in the research, there is a negative and significant relationship between the behaviours of coping with stress and crisis management skills. Accordingly, nurses will be successful in crisis management to the extent that they can cope with stress. The relationship between stress management and crisis management has not been directly examined in the literature. However, there are studies on the stress levels of intern nurses and nurses, their coping behaviours, related factors and their negative effects on the individual (Şahin & Durak, 1995; Temel, Bahar & Çuhadar, 2005). ; Laal and Aliramaie, 2010; Kim, 2014; Yıldırım et al., 2016; Ozsaban, Turan, & Hatice, 2019). These studies also support the results of the research. Stress, whether caused by the individual or the work environment, is not an acute or toxic condition that can be cured with treatment. Rather, it is a chronic condition that requires an understanding of the epidemiology or life history of the problem before exploring alternatives to prevention, prevention and intervention (Quick and Henderson, 2016). Dewe, O'Driscoll, and Cooper (2010) pointed out the role of identifying stressors (factors that cause stress) in coping with stress. The job, position, family and social relationships, career-related concerns, or other organizational and environmental factors can be stressors. They emphasized that uncertainty should be eliminated to cope with it.

According to another result obtained in the study, there is a negative and significant relationship between coping with stress and task-related occupational anxiety. This result is important regarding the outputs of the abovementioned uncertainty situation regarding the stressors. Because when the uncertainty in working conditions is evaluated as a stressor, it will form the basis of Task-related occupational anxiety. Yeniceri et al. (2007), in their research on medical students, emphasized that the Task-related occupational anxiety experienced at the graduation stage can be reflected in the post-graduation work efficiency and, therefore, it should be given importance. Indeed, managing a crisis in which every step taken and every breath taken from working conditions to human relations is taken in an extraordinary condition is only possible by making the process as clear as possible. This clarity can only be achieved by training and preparing for extraordinary situations. Peiro, Lorente, and Vera (2020) found that nurses needed transversal competencies in their study on the stress-coping behaviours of 403 nurses in Spain during the peak of COVID-19. Cross-skills for nursing are self-esteem, self-motivation, self-discipline, time management, decision-making, problem-solving, emotional intelligence and leadership skills, which are also clearly classified in crisis management skills (Montes-Berges, Castillo-Mayén, Rodríguez- Espartal, López-Zafra, and Augusto, 2011). In this sense, cross-skills will increase the individual's motivation to succeed and help.

According to another result obtained in the study, there is a negative and significant relationship between task-related occupational anxiety and crisis management skills. In other words, the task-related occupational anxiety motive of the person poses a serious problem regarding crisis management skills and may prevent the person from focusing on the crisis. When the relevant literature is examined, it is seen that the studies on occupational anxiety focus on four groups (policing, teaching, nursing and medical school students). In the studies mentioned above, findings show that task-related occupational anxiety indirectly affects crisis management skills negatively and supports the results of the research (Temel, Çelikkalp, Bilgiç, & Saraçoğlu, 2020; Zedda, & Ieraci, 2015; Uludağ, Taşdöven, & Dönmez, 2014; Cabı and Yalçınalp, 2013; Lee and Graham, 2001). In addition, different crises have their unique requirements. Although it is not expected from any individual to be prepared for all crises, it is expected from a health worker to be educated, equipped, and prepared for all crises (Panos, Dafni, Kostas, & Zacharoula, 2009).

Finally, the mediation role of task-related occupational anxiety was found in the relationship between stress-coping behaviours and crisis management skills. Accordingly, the mediating effect of task-related occupational anxiety and the effect of stress-coping behaviours on crisis management skills disappear or show a significant change. In light of the findings obtained from other hypotheses, this result can be interpreted as nurses' ability to manage a crisis when stressed because they experience task-related occupational anxiety. This result is not surprising in many respects. On the one hand, human and natural-induced crises and disasters expose almost all health workers, especially nurses, to constant

pressure for recovery (Quarantelli, 1988). On the other hand, however, it must be admitted that most nurses who work in public health, emergency and disaster situations, crisis management, etc., do not take part as decision-makers in social action plan meetings. In other words, neither the students, interns, nor the nurses on duty take part in the editing phase of the play in which they take the leading role (Baack & Alfred, 2013).

Conclusion, limitations and recommendations

The nursing profession, in general, is full of challenges. Working conditions and hours, lack of social life, and negative effects on family life are only some of these difficulties. Still, they are also causing stress and anxiety in an individual sense. It is also necessary to state that the study is limited to the participants working in hospitals in the provinces which can be interviewed and voluntarily participate in the period of COVID-19 restrictions. The COVID-19 Pandemic, which the world faced in 2020, has made many people think about their career choices and has led some to seek new jobs. The study reveals that most nurses do not regret their professional choices despite this global crisis, but they need in-service training on crisis management and stress management. It has been concluded that nurses can be successful in crisis management and task-related anxiety to the extent that they can cope with stress. At this point, considering that each additional course and educational content will make nursing education, which is not easy, more complicated, new research and studies can be done on what can be done on these issues. In addition, it can be said that there is a need for studies on crisis management skills, stress management, anxiety states, and levels of preparedness for possible future global crises on other actors of the health sector and other sector employees directly affected by the pandemic. Finally, comparative studies can also examine the psychosocial effects of the COVID-19 Pandemic, which caught the world unprepared in many respects on different segments of society. The findings can be used as a roadmap for possible future pandemics. In many ways, being prepared for a crisis is important regarding stress and anxiety management.

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