



## ORJİNAL MAKALE / ORIGINAL ARTICLE

Balıkesir Sağlık Bilimleri Dergisi/ BAUN Sağ Bil Derg  
Balıkesir Health Sciences Journal / BAUN Health Sci J  
ISSN: 2146-9601- e ISSN: 2147-2238  
Doi: <https://doi.org/10.53424/balikesirsbd.1615505>



### The Reflections of Nursing Students, the Future COVID-19 Pandemic Warriors: A Qualitative Evaluation on Fear Appeal

Orhan ÇAKIR<sup>1</sup>, Aynur CETİNKAYA<sup>2</sup>

<sup>1</sup>Izmir Tinaztepe University, Vocational School of Health Services

<sup>2</sup>Manisa Celal Bayar University, Faculty of Health Sciences

*Geliş Tarihi / Received: 08.01.2025, Kabul Tarihi / Accepted: 11.02.2025*

#### ABSTRACT

**Aim:** The aim of this study is to determine what nursing students, the future health professionals, think about the concept of "COVID-19 Pandemic". **Material and Methods:** This qualitative study employed the Word Association Test (WAT) as a data collection tool to obtain the reflections regarding COVID-19 Pandemic among the first and the second-year students, and the concept of "COVID-19 Pandemic" was defined through face-to-face interviews carried out with the volunteering students (n=97). **Results:** Analysis of data collected from 97 nursing students regarding COVID-19 Pandemic yielded five main categories: Perceived threat assessment [frequency, f=144], coping response [f=134], mask/distance/cleaning [f=189], special connotations for COVID-19 disease [f=57], and restrictions/bans [f=45], based on the reflections that the term "COVID-19 Pandemic" evoked among the students. **Conclusion:** The qualitative assessment conducted in this study with nursing students may provide a different perspective on the handling of fear and threat perception through motivation. **Keywords:** COVID-19 Pandemic, Nursing Student, Theory.

### Geleceğin COVID-19 Pandemi Savaşçıları Hemşirelik Öğrencilerinin Düşünceleri: Korku Çekiciliği Üzerinden Nitel Bir Değerlendirme

#### ÖZ

**Amaç:** Bu çalışmanın amacı geleceğin sağlık profesyonelleri olan hemşirelik öğrencilerinin "COVID-19 Pandemisi" kavramı hakkında ne düşündüklerini belirlemektir. **Gereç ve Yöntemler:** Bu nitel araştırmada, 1. ve 2. sınıf öğrencilerinin COVID-19 Pandemisine ilişkin yansımalarını elde etmek amacıyla veri toplama aracı olarak Kelime İlişkilendirme Testi (WAT) kullanılmış ve "COVID-19 Pandemisi" kavramı yüz ifadeleri aracılığıyla tanımlanmıştır. Gönüllü öğrencilerle (n=97) yüz yüze görüşmeler yapıldı. **Bulgular:** 97 hemşirelik öğrencisinden COVID-19 Pandemisine ilişkin toplanan verilerin analizi sonucunda beş ana kategori ortaya çıktı: Algılanan tehdit değerlendirmesi [frekans, f=144], başa çıkma tepkisi [f=134], maske/mesafe/temizlik [f=189], "COVID-19 Pandemisi" teriminin öğrencilerde uyandırdığı yansılardan hareketle, COVID-19 hastalığına ilişkin özel çağrışımlar [f=57] ve kısıtlama/yasaklamalar [f=45] yapılmıştır. **Sonuç:** Bu çalışmada hemşirelik öğrencileriyle yapılan niteliksel değerlendirme, korku ve tehdit algısının motivasyon yoluyla ele alınması konusunda farklı bir bakış açısı sağlayabilir.

**Anahtar Kelimeler:** COVID-19 Pandemisi, Hemşirelik Öğrencisi, Teori.

**Sorumlu Yazar / Corresponding Author:** Orhan ÇAKIR, İzmir Tinaztepe University, Vocational School of Health Services, İzmir, Türkiye.

**E-mail:** [orhan.cakir@tinaztepe.edu.tr](mailto:orhan.cakir@tinaztepe.edu.tr)

**Bu makaleye atıf yapmak için / Cite this article:** Çakir, O.& Cetinkaya, A. (2025). The reflections of nursing students, the future covid-19 pandemic warriors: a qualitative evaluation on fear appeal. *BAUN Health Sci J*, 14(1), 192-198. <https://doi.org/10.53424/balikesirsbd.1615505>



BAUN Health Sci J, OPEN ACCESS <https://dergipark.org.tr/tr/pub/balikesirsbd>

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## INTRODUCTION

The coronavirus disease 2019 (COVID-19) has caused great concern in the healthcare sector worldwide due to the high number of confirmed cases, while highlighting the crucial importance of the nursing profession for the healthcare system and humanity. Even on social media, nurses were portrayed as superheroes selflessly combating the COVID-19 pandemic (Williams, 2020). "In a study conducted on the experiences of nurses working in COVID-19 services, nurses stated: 'It was difficult, but our struggle to touch a life gave us great strength', which emerged as a personal statement." One particular study highlighted that nurses experienced professional satisfaction and motivation when they are on the front line of battle (Deliktas Demirci et al., 2021). It is said that nurses, with their unique knowledge and skills, can contribute to a more peaceful and equal future for everyone beyond healthcare, whether it's big issues like global warming or virus-borne diseases like the coronavirus (Catton, 2022).

So, what do nursing students who will be the ones to fight in case of another pandemic think? What are their experiences of the COVID-19 pandemic and observations on the battle fought against the disease so far?

### Overview of Protection Motivation Theory- (PMT)

For community-focused care, particularly in public health studies, theories and models are employed during the course of program planning to better understand and explain health behavior and to guide processes while identifying, developing, and implementing the related interventions. It has been stated that theories and models about individual, institutional and social changes will prove useful (Rootman et al., 2011). Therefore, using theories/models in research can contribute positively to the concept of health by asking questions with a broader perspective on factors affecting health and creating new options for prevention (Hovell et al., 2002). The Conservation Motivation Theory is a version and extension of the Health Belief Model, which incorporates various evaluation processes determined by research on coping with stress. Proposed to explain the effects of fear on attitudes and health behavior, the theory was developed by Ronald Rogers in 1975 to better understand how and why individuals respond to potential threats to their health and safety (Clubb & Hinkle, 2015). Rogers stated that while the use of threatening messages in advertisements and social marketing is widespread, research has not been able to fully reveal how this works, leading him to come up with his theory to understand the concept of fear appeal.

According to the theory, people initially examine the badness of an event publicised in the advertisements together with the probability of it happening to them, and then they measure to what extent they can fight

against the event and ultimately decide whether to change their corresponding behavior. In other words, when people receive a message containing a fear appeal, they do not change their attitude if the harm/fearsomeness of the events described is unbelievable or if the event seems far from being possible or if the suggested course of action is thought to be insufficient to cope with the threat. Rogers describes his theory as a motivational theory of fear appeal and attitude change towards protection. According to the model, individuals primarily cognitively evaluate the available information about the severity of a danger, they then evaluate the possibility of the emergence of the danger and then evaluate whether the fight with the behavior will eliminate the danger and if so, whether they will have the capacity to fight (Cakar, 2009).

### Objective

In this context, the aim of this study is to determine what nursing students who will become future health professionals soon think of the concept of "COVID-19 Pandemic."

## MATERIALS AND METHODS

### Setting and design

This study is a conceptual evaluation using the Word Association Test (WAT) to explore the attitudes of nursing students, who are likely to play a role in future pandemic response measures, towards the concept of the 'COVID-19 pandemic' that has been part of their lives for about two years. The Word Association Test (WAT) is a way typically utilized in psychology to discover an individual's internal world. The association test serves as an instrument for determining the relational meaning of a stimulus word or the connection between stimulus words. These institutions screen participants' verbal memories, notion patterns, emotional states, and persona traits (Deese, 1962). A qualitative research model was employed to examine nursing students' reflections on the concept of the 'COVID-19 Pandemic' in a practical and comprehensive manner. Qualitative studies, which allow in knowledge evaluations and perceptions, make use of diverse statistics series methods, along with observation, interviews, and record evaluation (Rees et al., 2002).

### Selection of participants

In our faculty, all nursing students at the time of research took classes (at least 2 hours) about the COVID-19 Pandemic and had the opportunity to observe COVID-19 patients in practice. To minimize bias in the study, only volunteers were included. The study was concluded upon reaching data saturation, which occurred when the participating students began to provide repetitive data (after 81 students). Written consent was directly obtained from all participants.

### Study sample (n=97)

Of the nursing students (n=97) participating in the study, 76 were female, 20 were male, and one of them did not wish to specify any gender. The student

population was between the ages of 18-22, 10 of whom were 18 years old, 30 were 19 years old, 31 were 20 years old, 18 were 21 years old, and 8 were 22 years old at the time of study. On the other hand, while most of them (n=60) lived with their parents-siblings/nuclear family, 20 lived at home with their friends, 10 lived alone, 7 lived with a single parent. 16 students expressed their income less than their expenses, while again 16 students expressed an income more than their expenses, and 65 expressed an income equal to their expenses. Among the nursing students, 8 stated that they had a chronic disease, 34 of them personally had COVID-19, while 54 had a family history of COVID-19, and 92 had COVID-19 disease in their circles.

#### Data collection tool and technique

The study used a single instrument and a single method for data collection. Specifically, WAT was used as a data collection technique and the concept of the 'COVID-19 Pandemic' was explored through face-to-face interviews with volunteer students. Participants were given an A4 sheet of paper and asked to write down the first three words that came to mind when they hear the term 'COVID-19 Pandemic', along with several sentences (e.g. experiences, descriptions, etc.) for each word.

To prevent the random assignment of terms, the students were instructed to write the term 'COVID-19 Pandemic' three times on their paper (Figure. 1). This approach aimed to ensure focus on the key concept, as the absence of repetition might lead participants to write unrelated words instead of staying aligned with the primary theme.

Code name of the participant (optional):	Participant no:
Age:	Main concept: Covid- 19 Pandemic
Gender:	
Family type:	
Perception of her family about her income:	
History of illness (chronic illness, Covid-19):	
1. Covid- 19 Pandemic:	
One word .....	
Sentence .....	
2. Covid- 19 Pandemic:	
One word .....	
Sentence .....	
3. Covid- 19 Pandemic:	
One word .....	
Sentence .....	

**Figure 1. Sample of the page format for the data collection tool.**

WAT was disclosed to study participants prior to administration. They were asked to write down the terms that came to mind about the key concept within 30 seconds, which was determined as the most

appropriate time period in previous academic studies (Elbi et al., 2019; Bahar et al., 1999).

Unlike other studies employing WAT, participants in this research were asked to write a few descriptive sentences for each word they listed. This approach aimed to capture more complex responses, and a deeper level of understanding compared to single-word answers.

These sentences were evaluated to determine whether they demonstrated understanding or revealed misunderstandings. Participants were given extra time to complete this part of the test, with the average data collection time being 3–4 minutes. The WAT was administered in Turkish, and the word-association norms of the participants' written responses were initially analyzed in this language. After completing the analysis in Turkish, the results were translated into English. To ensure the reliability of the translated data, a native English speaker was consulted.

#### Data analysis: creation of categories

The phrases and sentences supplied through individuals finishing the WAT had been sequentially numbered from 1 to 97 (as player notes) for analysis. The phrases associated with the idea of "COVID-19 Pandemic" had been alphabetically arranged, and their frequencies had been calculated. Two coders independently checked the answers, and a single code list was created based on the consistency of their coding. The coded responses were analyzed together with the words and sentences written by individuals were analyzed to identify five themes. The relationships among the 3 principal phrases and the sentences describing them had been additionally examined. The data obtained from the WAT was organized into word tables, and frequencies were calculated to show how often certain words were repeated in relation to the concept of the 'COVID-19 Pandemic.

The themes created in the analysis were obtained through inductive analysis. It was determined that the categories derived overlap with the concepts of Conservation Motivation Theory and were discussed from a theoretical perspective.

During the frequency calculations, the frequency numbers were higher in the data analysis because some participants repeated the same word multiple times (with some words being used three to seven times). Frequencies were determined by counting how often a word appeared in the sentences written by participants. In our analysis, not only the three primary words but also the additional words used to describe these main words within the sentences were included in the evaluation. The frequency numbers were denoted by the abbreviation "f".

#### Ethical considerations

Approval for the study was obtained from the Izmir Tınaztepe University Scientific Research and Publication Ethics Committee prior to its commencement (Date: 02/12/2021, Approval No: 30), as well as from the faculty where the research was

conducted. The study included only voluntary participants. Before the interviews, students were informed about the study's content and the intended use of the collected data. Written and verbal consents were obtained from all participants.

To ensure confidentiality, the real names of students who shared their views and any identifying information were kept private in adherence to ethical principles of privacy protection. Each participant was assigned a unique code for data recording and citation purposes. The term "participant" was abbreviated as "P," followed by the assigned code number. For instance, P9 represented Participant 9 in the study.

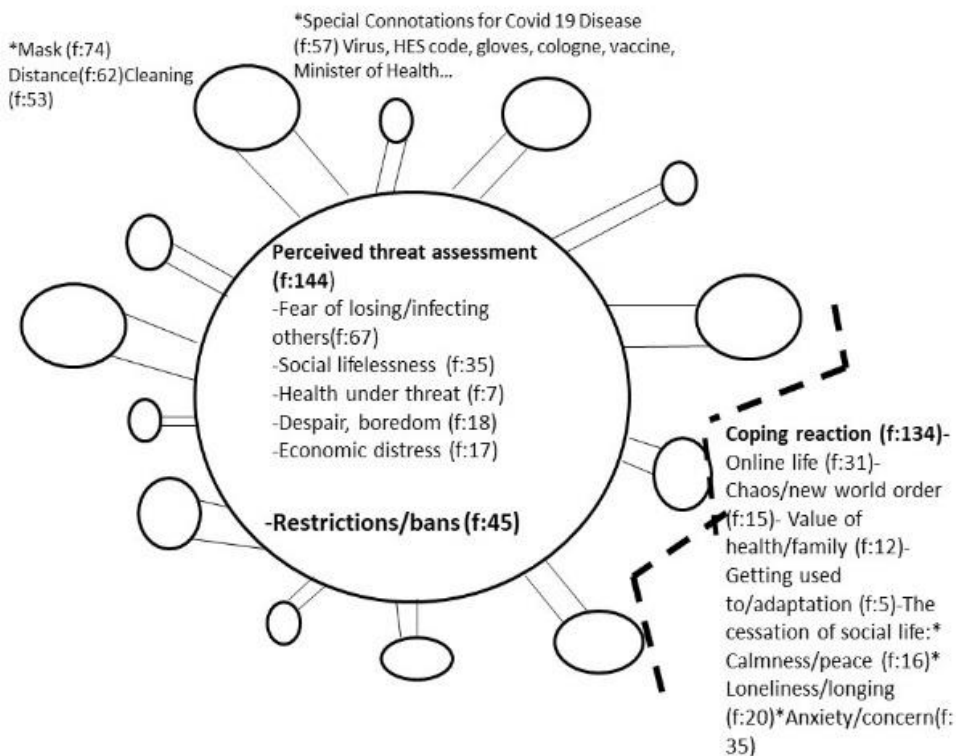
#### Trustworthiness

The quality criteria for qualitative research were based on credibility, confidence and confirmability in this study during the course of the data collection and data analysis process. Data analysis was done by means of hand coding method. While reporting qualitative research, the COREQ (Consolidated criteria for reporting qualitative research) checklist recommended in the literature was employed (Tong et al., 2007).

There are two (OÇ and AC) academicians in the field of public health nursing in the research team. OÇ works in the emergency room during the COVID-19 process and also lectures at the Faculty of Nursing. One of the researchers, AÇ, has a qualitative data analysis certificate. OÇ carried out the data collection process by interviewing the participants.

#### RESULTS

Analysis of the data collected on the COVID-19 Pandemic process obtained from 97 nursing students participating in the study yielded five main categories: The perceived threat assessment [f=144] is based on student reflections regarding the term "COVID-19 Pandemic" in terms of the coping response [f=134], mask/distance/cleaning [f=189], specific connotations for COVID-19 disease [f=57], and restrictions/bans [f=45]. It was determined that all female students (n=76) who participated in the study used more negative expressions (Figure. 2).



**Figure 2. Nursing students' perceptions of covid-19 through fear appeal: a qualitative evaluation based on Rogers' protection motivation theory**

#### Category 1. Perceived threat assessment (f=144)

Such words as "fear", "threat", "anxiety" and "panic" were used among the expressions that included the perceived threat assessment. This theme, cited 144 times by 97 participants, contained frequent emotional expressions. Under this category, the students expressed such specified sub-categories as being afraid of losing/infecting a loved one (f=67),

social lifelessness (f=35), health under threat (f=7), helplessness, boredom (f=18) and economic distress (f=17). Threat assessment, which is the basic concept in the Protection Motivation Theory, can be summarized as the fear of illness or injury which become predisposed to be triggered. Nursing students also expressed their perceptions of threat in different dimensions and forms. Some quotes are:

“COVID-19 Pandemic means health is in danger” (P 20, Female)

“Fear of coming into contact with people” (P 2, Female)

“I am worried about getting infected” (P 25, Male)

“State of panic at the slightest cough” (P 36, Female)

“I'm out of money” (P 12, Female)

“Unemployment, economic problems” (P 15, Male)

“Concerns for the future” (P 14, Female)

### **Category 2. Coping reaction (f=134)**

The perceived probability of success, that is, the perception that one's response will be effective in reducing the threat, is defined as the individual's ability to take preventive measures in addition to the self-efficacy perception in the Protection Motivation Theory. This theme, cited 134 times by 97 participants, contained positive and negative emotional expressions. Subcategories under this category can be listed as Subcategories under this category include online life (f=31), chaos/the new world order (f=15), the value of health/family (f=12), habituation/adaptation (f=5) and cessation of social life (f=8). While the phrase 'cessation of social life' is sometimes included in the positive coding of tranquilly/peace (f=16), it is also negatively coded as loneliness/desire (f=20) and anxiety/fear (f=35). “It was good for me to focus on myself” (P 22, Female)

“I spent more time with myself” (P 16, Male)

“I saw the majority withdraw to their own borders” (P 44, Female)

“I found peace in my inner world” (P 63, Female)

“A huge void, like it will never end” (P 14, Female)

“As we do not know what will happen when, being focused on the moment rather than the plan”

“Doing everything online” (P 57, Male)

“Every day is the same, I don't have the slightest expectation of a new day” (P 87, Female). **Category**

### **3. Restrictions/bans(f=45)**

This theme was cited 45 times by 97 participants. However, the striking point in the category is that the feeling of restrictions/bans can be effective in both threat assessment and coping response. “There was a time when I was restricted in terms of education, social life and goals” (P 89, Female)

“Simple things are luxurious” (P 37, Female).

### **Category 4. Mask/distance/cleaning (f=189)**

The term “COVID-19 Pandemic” elicited reactions reflecting the concept of pandemic. Responses from the participants highlighted the growing concepts associated with the pandemic in Category 4 and Category 5. As expected, the most frequently mentioned codes for the COVID-19 fight were: Mask (f=74) Distance/Distance (f=62) Cleaning (f=53)

### **Category 5. Special Connotations for COVID-19 Disease (f=57)**

The statements with COVID-19 diseases expressions included “virus”, “case”, “isolation/ quarantine”, “Minister of Health/Ministry of Health”, “Life Fits into Home (Hayat Eve Siğar) (HES) code”, “glove”, “cologne” and “vaccine”.

## **DISCUSSION**

In the qualitative study conducted to determine what nursing students, the future health professionals, think about the concept of "COVID-19 Pandemic", the focus of data analysis was seen to be centered upon perception of fear and threat. In Rogers' Protection Motivation Theory, protection motivation is determined by two assessment processes as threat assessment and coping assessment. Threat assessment is based on the assessment of perceptions of perceived vulnerability and perceived severity of a health threat, much like the Health Belief Model. In contrast, coping assessment focuses on the evaluation of behavioral strategies aimed at mitigating the threat, particularly by considering the role of cognitive processing time. Fear is the mediating variable between perceived susceptibility and perceived severity and threat assessment and is the incentive that causes protection motivation and health behaviors. Basically, these two assessment processes together result in either adaptive or maladaptive responses (Conner, 2010; Bashirian et al., 2019). Nursing students' thoughts and perceptions about COVID-19 also overlap with the fear appeal. When the studies on the subject in the literature are examined, it is possible to see similar results. In a study conducted with 7143 university students in order to determine the psychological effects of the COVID-19 pandemic on university students in China, it was stated that 24.9% of the students experienced anxiety due to reasons such as economic stress, the effects of quarantine on daily life, future employment uncertainty and prolongation of academic periods, similar to this study (Naser et al., 2020).

Again, according to another study, approximately 24.9% of nursing students experienced anxiety due to the COVID-19 pandemic, concerns about the possible effects of COVID-19 and quarantine process, higher levels of health anxiety and they also expressed that they were negatively affected by staying at home due to the pandemic, and as a result of this, they felt nervous and overwhelmed due to fear of infection and death (Huang et al., 2020; Okuyan et al., 2020). In the literature, it has been stated that proactive treatment of health anxiety with digital interventions may be required because such situations as excessive and unnecessary health care use may increase in the event that health anxiety prevails in society (Hedman et al., 2016). While nursing students experienced problems such as inability to cope with stress, financial inadequacy and anxiety due to financial inadequacy, increased workload at home and family problems affecting academic success, they also stated that restrictions and bans had some positive effects on developing a positive perspective on life, such as the self-development and strengthening of family relations, allocating enough time for oneself, increasing awareness, increasing hygiene, increasing struggle and motivation and spirituality (Yanik & Yesilcinar, 2021). The literature

review examples support the conceptual structure of Rogers' Conservation Motivation Theory as in this study.

#### Study limitations and strengths

In the study, which was designed with a data collection instrument in the form of WAT with open-ended questions, data collection process was continued until data saturation was reached. However, not using a pattern from qualitative research approaches can be considered as the most important limitation in the study. However, new generation data collection tools, aside from interviews and surveys, attract more attention for students. In this context, qualitative analysis was carried out within the framework of an inductive approach in the data analysis process.

#### CONCLUSION

As a result of the study, it was described that student nurses were affected adversely, physically and psychologically during the COVID-19 process, in addition to experiencing various personal and social problems, and they used a large amount of effective methods to cope with all these negativities. The focus of nursing students' perceptions of the concept of "COVID-19 Pandemic" is the perception of fear and threat. In order to improve and maintain the physical and mental health of students, it is recommended to closely monitor their support needs and to establish support systems. Thus, increasing the quality of life of nursing students can positively affect the management of the pandemic in the long run. It is recommended that effective coping methods be included in the nursing curricula and support from psychological counseling units of schools is also recommended.

Next question to arise is "What can facilitate the transformation of COVID-19 fears into health behavior in the form of protection motivation for nursing students who will fight/struggle when such threats occur in the future? and How can this be achieved?". New studies are needed to build the process in future pandemics.

#### Acknowledgement

The authors would like to extend their sincere thanks to anyone who contributed to this study.

#### Conflict of Interest

The author declare no potential conflicts of interest with respect to the research, authorship and/or publication of this article.

#### Author Contributions

**Plan, design:** OÇ, AÇ; **Material, methods and data collection:** OÇ, AÇ; **Data analysis and comments:** OÇ, AÇ; **Writing and corrections:** OÇ, AÇ.

#### Funding

None

#### Ethical Approval

Institution: Izmir Tinaztepe University Ethics Committee

Date: 02.12.2021

Approval no: 30

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