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A Holistic Approach to Nursing Students' Changing Life and Anxiety in the Pandemic: A Descriptive Cross Sectional Study Utilizing Positive Psychotherapy

Hemşirelik Öğrencilerinin Pandemi Döneminde Değişen Yaşam ve Anksiyete Durumuna Bütüncül Bir Yaklaşım: Pozitif Psikoterapiyi Kullanan Tanımlayıcı Kesitsel Bir Çalışma

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ABSTRACT

The life balance model of positive psychotherapy states that human lives have four dimensions: body, achievement, relationships, and spirituality. When these dimensions are in balance, people are healthy and productive. This study aimed to determine the effects of the COVID-19 pandemic on nursing students' anxiety levels and life balance. This cross-sectional and descriptive study was conducted with 584 nursing students studying at 3 different universities in Turkey. The participants experienced significant changes in the life balance model's dimensions of achievement, body, relationships, and spirituality before and during the pandemic. The participants' anxiety increased with changes in these dimensions. Based on these results, it would be beneficial to support students in order to meet the needs in the life dimensions that students neglect. In addition, it is thought that the life balance model, which is being used for the first time in nursing, can be developed as a tool in the nursing practice.

Keywords: Pandemic, Positive psychotherapy, Life balance model, Anxiety, Nursing students

ÖZ

Pozitif psikoterapinin yaşam denge modeline göre insan yaşamının dört boyutu bulunmaktadır: beden, başarı, ilişkiler ve maneviyat. Bu boyutlar denge içinde olduğunda, insanlar sağlıklı ve üretkendir. Bu çalışmanın amacı, COVID-19 pandemisinin hemşirelik öğrencilerinin anksiyete düzeyleri ve yaşam dengesi üzerindeki etkisini belirlemektir. Kesitsel ve tanımlayıcı tipteki bu çalışma, Türkiye'de 3 farklı üniversitede öğrenim gören 584 hemşirelik öğrencisi ile gerçekleştirilmiştir. Katılımcılar, pandemi öncesi ve sırasında yaşam dengesi

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modelinin başarı, beden, ilişkiler ve maneviyat boyutlarında anlamlı değişiklikler yaşamışlardır. Bu boyutlardaki değişikliklerle birlikte katılımcıların anksiyeteleri artmıştır. Bu sonuçlara dayanarak öğrencilerin ihmal ettiği yaşam boyutlarındaki ihtiyaçların karşılanması için öğrencilere destek olunması yararlı olacaktır. Ayrıca hemşirelikte ilk kez kullanılan yaşam dengesi modelinin hemşirelik uygulamalarında bir araç olarak geliştirilebileceği düşünülmektedir.

Anahtar Sözcükler: Pandemi, Pozitif psikoterapi, Yaşam denge modeli, Anksiyete, Hemşirelik öğrencileri

INTRODUCTION

COVID-19 was first detected in China in 2019 and quickly spread to other parts of the world. The World Health Organization (WHO) categorized it as a pandemic in 2020 (Lai et al., 2020). COVID-19 has significantly and negatively affected human life. It has led to great fear because of its rapid spread, lethality and associated complications.

In addition to the ongoing search for treatments for COVID-19, social activities were restricted, and quarantines were applied in Turkey and the rest of the world to prevent its spread (Özdin & Bayrak Özdin, 2020). These protective measures have caused significant changes, which may be considered traumatic, in people's work, educational, social and inner lives (Ozamiz-Etxebarria et al., 2020). This new situation has increased people's anxiety and caused other stress-related psychological problems, such as loneliness, exhaustion, panic, depression, posttraumatic stress disorder, somatization and drug abuse, because it is constantly changing, causes loss of control, and involves uncertainties (Dubey et al., 2020; Naeem et al., 2020; Özdin & Bayrak Özdin, 2020; Qiu et al., 2020; Shigemura et al., 2020).

Positive psychotherapy (PPT) sees the difficulties experienced during the COVID-19 pandemic as conflict situations. PPT was developed under the leadership of Professor Nossrat Peseschkian at the end of the 1960s (Peseschkian, 1998). It is a resource-oriented approach that is intended to use people's personal and social resources to support therapeutic change (Walsh et al., 2017).

The life balance model is an effective and functional method of PPT. The life balance model claims that human lives have four dimensions: body/health, work/achievement, relationships and future/spirituality (Aypay & Ahmet, 2018; Dobiała & Winkler, 2016; Peseschkian, 2002; Sarı, 2015). These dimensions should be balanced for people to be healthy and productive. When conflicts occur, people direct their time and energy toward one of these dimensions to cope with these problems, and they tend to neglect the other dimensions (Karaaziz & Çakıcı, 2019; Sarı, 2015). Some people develop physical symptoms. Others pay attention to work/performance, avoid or engage in social interaction, or focus on spirituality and fantasies (Eryılmaz, 2020; Sarı, 2015). One of the purposes of PPT is to help balance these four dimensions (Eryılmaz, 2020) because doing so makes people healthy and productive (Aypay & Ahmet, 2018; Peseschkian, 2002; Sarı, 2015).

The lives of nursing students who are future health care professionals have significantly changed by the COVID-19 pandemic. Nursing students have experienced anxiety due to the suspension of universities, disconnection from their social circles, altered living environments, new and unusual forms of education, and uncertainties about the future and their health (Aslan & Pekince, 2020; Savitsky et al., 2020; Usher et al., 2020a).

This is one of the first studies in which PPT was used in the field of nursing. The life balance model evaluates the life of the individual in all its aspects and in a short time. This model is compatible with the holistic care philosophy of nursing. It was thought that determining how the behaviors of student nurses in the face of difficult events changed in the fields of success, body, relationship, and spirituality and how this change affected their anxiety levels would be useful in planning their studies on their mental health.

For this purpose, how the lives of student nurses changed during the pandemic process and the effect of the changing life balance on their anxiety levels was examined with the balance model of the PPT.

Research questions:

1. Do the participants' mean State Anxiety Inventory (SAI) scores vary with their sociodemographic characteristics?
2. Are there any differences in the energy levels that the participants invested in the dimensions of the life balance model before and during the pandemic?
3. Are there any relationships between the changes in the participants' energy scores in the dimensions of the life balance model before and during the pandemic and SAI scores?

METHODS

This descriptive study population consisted of nursing students in the faculties of health sciences at three universities in Turkey's Western Black Sea Region [Zonguldak Bülent Ecevit University (*n*=752), Düzce University (*n*=700) and Sakarya University (*n*=739) (total *N*=2191)]. No sampling method was used because there was an attempt to reach the entire population. The data were collected in May and June 2020 in the digital environment while face-to-face university education was suspended and only online education was being offered. In order to avoid repetitive data entry by the participants, the answers were limited to a single answer. The participants took approximately 10 min to complete the questionnaires.

The forms were sent to the participants using WhatsApp, Instagram, Facebook, and e-mail. The participants also received four reminder messages. A total of 648 students completed

the forms, but 64 students did not complete them (*n*=46) or did not complete them properly (*n*=18) and were thus excluded from the study. This study was completed with 584 students. Of the students in the sample, 32.2% (188) were from Düzce University, 29.3% (171) were from Sakarya University, and 38.5% (225) were from Zonguldak Bülent Ecevit University. Post hoc power analysis of the study was calculated using the G*Power 3.1.9.7 program (Faul et al., 2007). When the effect size was 0.77 and alpha 0.05, the power of the study was found to be 0.90. According to this power level, the sample size was found to be sufficient.

Data Collection Tools

The data were collected using a personal information form, the COVID-19 pandemic effects form developed by the researchers, and the SAI.

Personal Information Form: This form has 6 questions (age, gender, physical illness, mental illness, and acquaintance diagnosed with COVID-19) about the participants' sociodemographic characteristics and health conditions.

COVID-19 Pandemic Effects Form: This 8-item form was developed by the authors based on the life balance model of PPT. It is used to assess responses to conflicts in the dimensions of the life balance model (achievement, body, relationships, and spirituality). Each dimension score ranged from 1 to 10. The participants were asked to assess the time and energy that they had invested in each dimension. The scores indicated how much time or energy the participants invested in that dimension. The fact that the participants' scores were close in all dimensions was evaluated as an indicator of balance. A high score from one or more dimensions indicates that while avoiding conflict, the individual tends towards behaviors related to that dimension of life; a low score indicates that that dimension of life is neglected (Sarı, 2015). The participants were asked to assess each dimension before and during the pandemic as an indication of how much each dimension was affected by the pandemic. Expert opinion was also sought to provide the scope validity of the questionnaire.

State Anxiety Inventory (SAI): The SAI was developed by Spielberger et al. (1970) to determine individuals' state anxiety levels. It was adapted into Turkish by Öner and Lecompte (1985). It determines the levels of anxiety that individuals experience in a certain period of time. This four-point Likert-type scale included reverse-worded items. Total scores on the scale could range from 20 to 80. Higher scores indicate higher levels of anxiety, and lower scores indicate lower levels of anxiety (Öner, 2006). Cronbach's alpha value of the scale has been reported to be between 0.94 and 0.96, and Cronbach's alpha value for this research was 0.93.

Statistical Analysis

The data were analyzed using SPSS 22.0 software (SPSS Inc., Chicago, IL, USA). The Kolmogorov–Smirnov test was used to determine if the variables were normally distributed. The descriptive statistics are shown as the means±standard deviations, numbers, and percentages. The t test was used to compare two independent groups, and one-way ANOVA was used to compare three or more groups. The Wilcoxon signed-rank test was used to compare two dependent groups. Spearman's correlation coefficient was used to determine the relationship between groups. The threshold for statistical significance was $p<0.05$.

Ethical Considerations

Permissions for this research were obtained from Zonguldak Bülent Ecevit University's Human Research Ethics Committee (protocol number: 795), Zonguldak Bülent Ecevit University, Düzce University and Sakarya University. The participants were informed about the aim of the study through online communication channels and the data collection form. The students who agreed to participate in the study were included. This study was performed in line with the principles of the Declaration of Helsinki.

RESULTS

The participants' sociodemographic characteristics and SAI scores are shown in Table 1. Almost half (49.7%) of the participants were between the ages of 20–21, and 85.3% were women. The majority of the participants (96.7%) did not have any physical or mental illness (96.4%) and did not have an acquaintance diagnosed with COVID-19 (81.3%). Their mean SAI score was 45.08±10.58 (min: 20.00, max: 77.00). Statistically significant differences in SAI scores were caused by physical (p=0.01) and psychiatric illnesses (p=0.021). Mean SAI scores did not vary with age, gender or having an acquaintance diagnosed with COVID-19 (p>0.05).

Comparing the time and energy invested in the dimensions of the PPT life balance model before and during the pandemic, a statistically significant difference was found between achievement [before: 6.77±1.82, during: 4.38±2.46 (p<0.001)], body [before: 7.17±2.02, during: 4.64±2.32 (p<0.001)], relationships [before: 7.43±2.03, during: 5.05±2.44 (p<0.001)], and spirituality [before: 6.59±2.01, during: 6.24±2.40 (p=0.016)] (Table 2).

The changes in the dimension scores from life balance model before and during the pandemic are shown in Figure 1. The participants invested more energy in the dimensions of achievement, body and relationships before the pandemic and less energy in these dimensions during the pandemic. No marked change occurred in the spirituality dimension.

The relationships between the students' change scores of the energy invested in the dimensions of the life balance model before and during the pandemic and SAI scores are shown in Table 3. The participants' anxiety scores had a statistically significant, positive relationship with the change scores in the energy invested in the achievement (r=0.277 p<0.001), body (r=0.305 p<0.001), relationships (r=0.193 p<0.001), and spirituality (r=0.271 p<0.001) dimensions of the life balance model.

DISCUSSION

Protective measures taken to control contagious disease can cause fear, anxiety, and depression and can negatively affect individuals' mental health (Li et al., 2020; Wang et al., 2020).

Table 1: The Participants' Mean State Anxiety Inventory Scores by Sociodemographic Characteristics (n= 584)

Characteristics		SAI*		Statistics
	Number (%)	Mean	SD	F[1]/t[2]/p
Age				
18-19 years	133 (22.8)	43.56	10.17	F=2.153
20-21 years	290 (49.7)	45.85	10.11	p=0.117
22 years or older	161 (27.6)	44.9	11.63	
Gender				
Female	498 (85.3)	45.22	10.65	t=0.776
Male	86 (14.7)	44.26	10.19	p=0.438
Physical illness				
Yes	19 (3.3)	53.10	11.07	**t=3.387**
No	565 (96.7)	44.81	10.47	**p=0.001**
Mental illness				
Yes	21 (3.6)	50.33	12.95	**t=2.322**
No	563 (96.4)	44.88	10.45	**p=0.021**
Acquaintance diagnosed with COVID-19				
Yes	109 (18.7)	46.05	10.55	t=1.060
No	475 (81.3)	44.86	10.59	p=0.290

***SAI:** State Anxiety Inventory, [1] **F:** one-way ANOVA, [2] **t:** Student's t test.

Table 2: Comparison of Time and Energy Levels in the Dimensions of the Life Balance Model (Achievement, Body, Relationships, and Spirituality) Before and During the Pandemic

Dimensions of the Life Balance Model		Min	Max	Mean	SD	Median	IQR	Z[1]/p
Achievement	Before the pandemic	1	10	6.77	1.82	7.00	2.00	**Z=-15.340**
	During the pandemic	1	10	4.38	2.46	4.00	4.00	**p<0.001**
Body	Before the pandemic	1	10	7.17	2.02	8.00	3.00	**Z=15.365**
	During the pandemic	1	10	4.64	2.32	4.00	3.00	**p<0.001**
Relationships	Before the pandemic	1	10	7.43	2.03	8.00	3.00	**Z=-14.443**
	During the pandemic	1	10	5.05	2.44	5.00	4.00	**p<0.001**
Spirituality	Before the pandemic	1	10	6.59	2.01	7.00	3.00	**Z=-2.404**
	During the pandemic	1	10	6.24	2.40	7.00	3.00	**p=0.016**

[1] Wilcoxon signed-rank test, **IQR:** Interquartile Range.

Table 3: The Relationships Between the Participants' Change Scores of the Energy in the Dimensions of the Life Balance Model (Achievement, Body, Relationships, and Spirituality) and SAI Scores Before and During the Pandemic*

Dimensions of the Life Balance Model		SAI	Achievement	Body	Relationships	Spirituality
SAI[1]	r	1	**0.277****	**0.305****	**0.193****	**0.271****
	p		**0.001**	**0.001**	**0.001**	**0.001**
Achievement	r		1	**0.499****	**0.334****	**0.282****
	p			**0.001**	**0.001**	**0.001**
Body	r			1	**0.477****	**0.287****
	p				**0.001**	**0.001**
Relationships	r				1	**0.314****
	p					**0.001**
Spirituality	r					1
	p					

[1] **SAI:** State Anxiety Inventory, * Spearman's correlation coefficient, **Correlation is significant at <0.01.

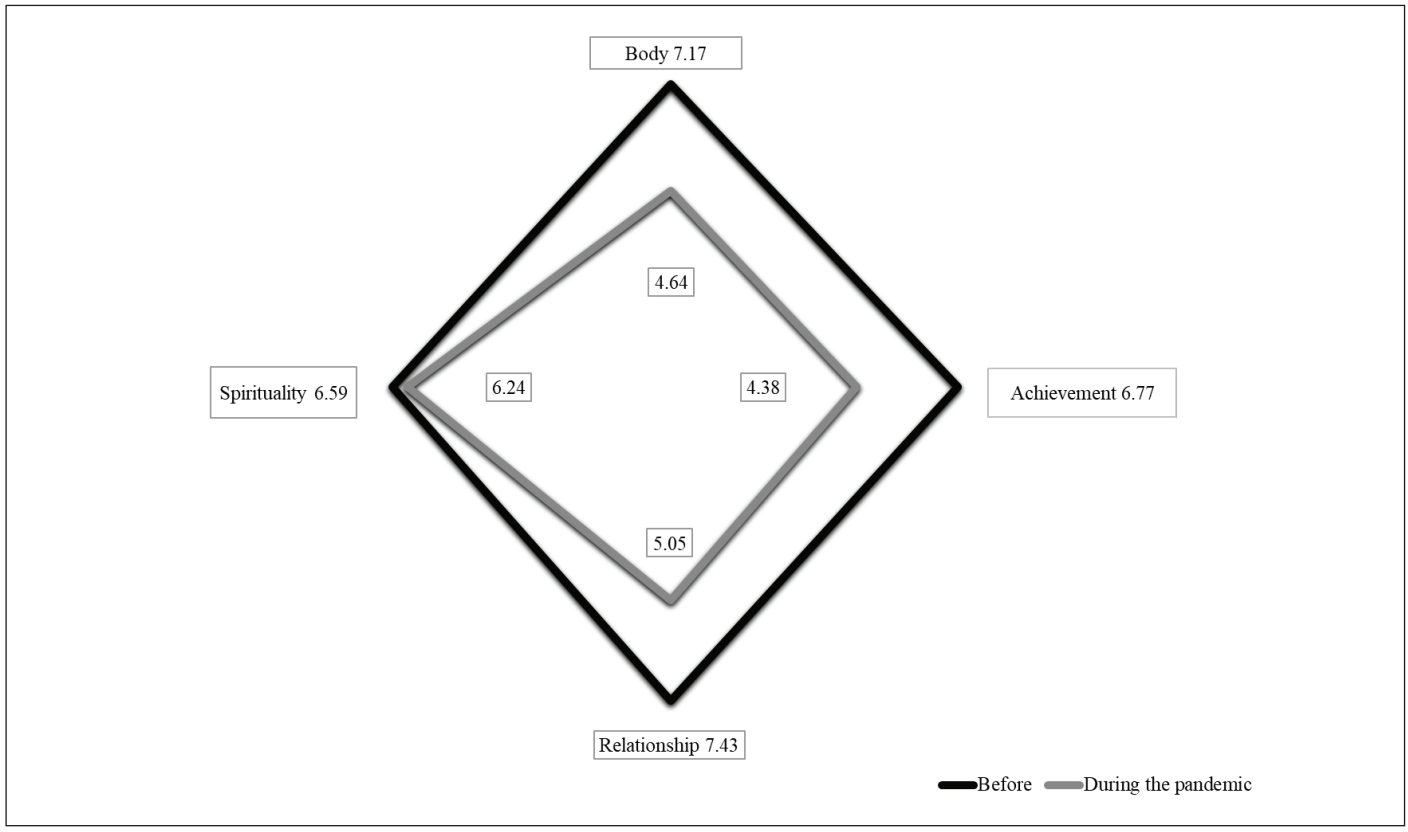

Figure 1: The changes in the life balance model of the participants before and during the pandemic.

Studies conducted during the COVID-19 pandemic have shown that societies have higher levels of anxiety and that students have also been significantly affected by it (Huang et al., 2020; Rehman et al., 2020; Sun et al., 2020; Xiong et al., 2020). Students have been found to have had different levels of anxiety one year before the pandemic and during the pandemic and the same levels of anxiety six months before the pandemic and during the pandemic (Elmer et al., 2020). Students' anxiety scores significantly decreased two weeks after initiation of quarantine (Li et al., 2020). The present study found that the nursing students' mean scale scores indicated moderate levels of anxiety. The data were collected two months after Turkey's universities shifted to online education. Being able to avoid the disease and adapt to this new situation may have affected this result.

Studies conducted to determine the effects of COVID-19 on mental health have reported that younger people below 40 years old were at higher risk (Wang et al., 2020; Xiong et al., 2020). Studies have found no differences in students' anxiety scores by age, as in the present study (Özdin & Bayrak Özdin, 2020; Savitsky et al., 2020). This may be due to the fact that the students in the present study were in a narrow age range.

Studies conducted during the COVID-19 pandemic have found that females were at higher risk of anxiety and other mental health problems (Huang et al., 2020; Özdin & Bayrak Özdin, 2020; Savitsky et al., 2020; Wang et al., 2020; Xiong et al., 2020) while one study conducted with nursing students found that male nursing students had higher anxiety scores (Sun et al., 2020). In the present study, however, students' anxiety scores were not affected by the gender variable. This result, which is different from other studies, suggests that staying at home due to pandemic conditions is compatible with women's gender roles and adapting better to domestic activities than men (Sürücü, 2021; Rodríguez-Larrad, 2021) has a positive effect on women's anxiety.

The present study found that the students with physical diseases had significantly higher anxiety scores. Studies have found that physical diseases negatively affect COVID-19 prognoses (Emami et al., 2020; Fang et al., 2020; Liu et al., 2020), are risk factors for mental health problems (Xiong et al., 2020), and increase anxiety levels (González-Sanguino et al., 2020; O'Neil et al. 2020; Özdin & Bayrak Özdin, 2020; Tasnim et al., 2021). In Turkey, special measures were taken for the elderly population and for individuals with chronic diseases during the pandemic. Warnings were frequently issued for these groups. Information and measures taken as a response to COVID-19 may have increased students' anxiety levels with physical diseases. In addition, due to the strict quarantine measures taken, students were obliged to postpone their health checks and treatments as it was thought that treating only emergency patients in hospitals and the uncertainty about the treatment process of the existing chronic disease may cause anxiety.

Anxiety accompanies psychiatric diseases and increases the sensitivity of psychiatric patients to anxiety (Mantar et al., 2011). Studies conducted during the COVID-19 pandemic have found that individuals with preexisting psychiatric problems have higher anxiety scores (Özdin & Bayrak Özdin, 2020), that individuals with anxiety are prone to depression and that individuals with depression are prone to anxiety (Wang et al., 2020; Xiong et al., 2020). The present study, like the relevant literature, found that students with psychiatric diseases had high anxiety levels. As it is known, individuals with psychiatric diseases are more sensitive to stressful life events than healthy individuals (Aksoy & Kelleci, 2016). When the environment undergoes significant changes, people perceive this situation as dangerous and experience anxiety (Usher et al., 2020b). It is thought that many compelling factors such as completely changing living conditions, fear of death, uncertainty about the future, change in education, being separated from friends, and social isolation during the pandemic process affect the stress coping skills of students with psychiatric diseases and increase their anxiety levels.

The present study found no differences in the anxiety scores of students who had acquaintances diagnosed with COVID-19. Unlike the present study, the literature indicates that individuals with acquaintances diagnosed with COVID-19 had higher anxiety levels (Özdin & Bayrak Özdin, 2020) and were more psychologically affected by the pandemic (González-Sanguino et al., 2020). Current information about the epidemiology and prognoses of COVID-19 suggests that it affects young people less (Li et al., 2020; Republic of Turkey Ministry of Health, 2020). Students' concerns about COVID-19 may have been reduced by the protective measures taken, especially in elderly populations, while the present study was being conducted.

Studies have shown that students have been significantly affected by the COVID-19 pandemic. A cohort study reported that students experienced more stress concerning their families, the health of their friends, the economy, and problems related to the future during the pandemic (Elmer et al., 2020). A study conducted with medical school students found that the COVID-19 pandemic affected students' physical, emotional, and psychological well-being and that their psychological well-being was worsened by the pandemic (Chandratre, 2020). As the present study has shown, the pandemic and the ensuing protective measures have affected all aspects of health.

According to the results of this study, the participants invested less energy and time in the achievement, body, relationships and spirituality dimensions during the pandemic. Studies conducted on the achievement during pandemic have shown that a large majority of students do not consider online education to be effective, have difficulties keeping up with their classes, and experience anxiety about graduating (Chandratre, 2020; Kürtüncü & Kurt, 2020). Being unfamiliar with online education and difficulties with adaptation, not having the necessary digital technology; problems in internet access, uncertainties about the education process, limited interaction with instructors and friends, the distraction of home life, and the fact that applied nursing education is given without a hospital and laboratory environment have affected students' belief and motivation in education (Chakraborty et al., 2020; Agu et al., 2021). This situation led to absenteeism from classes and not enough energy and time to be allocated to extracurricular activities. According to the balance model, the students moved away from the activities in the area of success in which they experienced stress.

The energy and time that the students spent meeting their body needs decreased due to the pandemic. A study conducted with nursing students found that while the time that students spare for physical activity from their bodily needs during the quarantine period decreased, disordered eating behavior increased. It was stated that the feelings of fear, anxiety, anger, and loneliness were effective in the eating behavior of the students (Özden & Parlar Kılıç, 2021). In another similar study, it was concluded that during the quarantine, the students did less physical activity, slept more, spent more time on the Internet, and had a healthier and low-fat diet with the ideal of being thinner and more beautiful. In this study, it is suggested that it would be useful to monitor students for body image deterioration in the future (Baceviciene & Jankauskiene, 2021). Studies show that quarantine conditions change the time and energy transferred to the body. It is seen that some students avoid positive behaviors towards physical health in the face of stress, while others tend to eat and sleep, which are behaviors of coping with stress.

The present study found that the students' relationships with their environments were diminished by the pandemic. A study conducted in Switzerland indicated that students isolated themselves during the pandemic, social spaces were restricted, functional social networks atrophied, and social integration was negatively affected (Elmer et al., 2020). One study found that students, especially in medical and health-related fields, have high levels of anxiety and stress and thus recommended that continuous visual communication be maintained with students and that special meetings be arranged for them to share their feelings and thoughts (Chandratre, 2020).

The COVID-19 pandemic also caused changes in the students' spiritual and semantic worlds. A study conducted with nursing students found that female students tended to use spirituality to cope with difficulties during the pandemic (Savitsky et al., 2020). In another study, which included a multicountry perspective on religiosity, the results supported the impact of nursing students' religiosity and spiritual coping on their quality of life (Felicilda-Reynaldo, 2019). Additionally, a study by Yıldırım et al. (2021) showed that religious coping positively affected meaning of life and loneliness during the COVID-19 pandemic**.** The dimension that changed the least in the present study was spirituality. It may be that the students' sense of belonging and worthiness increased because of their religious inclinations and through a rediscovery of the meaning of life as a coping strategy.

The present study found that students' anxiety increased as the difference between the time/energy they invested in the achievement, body, relationships, and spirituality dimensions

of the life balance model from before to during the pandemic increased. In other words, changes in the life balance model increased the students' levels of anxiety. Publications regarding the COVID-19 pandemic have indicated that the pandemic has led to similar results around the world. For example, restrictions due to the pandemic have affected physical, psychological, and social well-being in Nepal, where social and religious activities have been suspended, leading to fear and anxiety (Poudel & Subedi, 2020). Individuals who cannot meet their daily life needs have higher levels of stress and anxiety in India (Rehman et al., 2020). Religion and spiritual well-being are the most protective factors for mental health problems in Spain (Lucchetti Giancarlo, 2000), but being alone negatively affects anxiety and depression (González-Sanguino et al., 2020). DeRosset et al. (2021) found that negative religious coping was strongly positively associated with anxiety associated with COVID-19 in the USA and that spiritual well-being reduced anxiety and positively affected mental health according to a study conducted in Turkey (Kasapoğlu, 2020).

Study Limitations

One limitation of this study is that it was conducted with nursing students at three universities, so it cannot be generalized. Its results are limited to the time when it was conducted and the participants' responses to the data collection tools. In this study, the students were asked to retrospectively evaluate their prepandemic lives, and the students may not have been able to remember their previous lives with today's precision. Therefore, memory factors are considered another limitation of the study. This study was based on only the PPT life balance model.

CONCLUSION

The participants had moderate levels of anxiety, but those who had physical or psychiatric illnesses had higher anxiety levels. The participants experienced significant changes in the life balance dimensions of achievement, body, relationships, and spirituality during the pandemic. The participants' anxiety increased as changes in these dimensions increased.

Nursing care uses a holistic approach. This approach sees the individual as a whole with biological, social, psychological, spiritual, and psychological dimensions that are interrelated and interact with each other (Bayındır & Biçer, 2019; Zamanzadeh et al., 2015). Nursing's holistic approach complements PPT and its life balance model. It evaluates all aspects of individuals and provides concrete information about how to regain life balance. The present study found that students' anxiety increased because of changes in their routines and life balance due to the pandemic. It is beneficial to meet the needs of students in the four dimensions of the life balance model and to provide counseling services to reduce their anxiety and protect their mental health in these new and difficult conditions. In addition, the PPT and its life balance model can also determine the needs of individuals and be used to plan nursing interventions. Further research on this subject is needed.

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