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RESEARCH ARTICLE / ARAŞTIRMA YAZISI

Investigation of the Psychological Resilience of Health Sciences Students in Terms of Some Variables in the COVID-19 Pandemic

Covid-19 Pandemisinde Sağlık Bilimleri Öğrencilerinin Psikolojik Dayanıklılıklarının Bazı Değişkenler Açısından İncelenmesi

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Abstract:

Psychological resilience is defined as the ability to recover from difficult life experiences or the ability to effectively deal with changes or disasters. The unexpectedly high rate of COVID-19 disease spread and quarantine policies can escalate stress levels and lead to emotional problems. It is crucial to equip health sciences students with proper knowledge, attitudes and behaviors on COVID-19, as they will serve in the frontlines of the campaign against the pandemic and proper training comes with resilience. This research, which aims to examine the psychological resilience of health sciences faculty students in the Covid-19 pandemic in terms of some variables, was carried out with 426 students studying at the Faculty of Health Sciences of a university located in the southeast region of Turkey. Personal Information Form, Coronavirus Information Form and the Adult Psychological Resilience Scale were used as data collection tools. After the analysis of normality, Student t Test, One way ANOVA ve Multiple Lineer Regresyon analyses were used, the means were given with standard deviations, and $p<0.05$ was accepted as statistically significant. More than half of the students (55.6%) were female, 93.9% were single and their mean age was 20.65±2.25 years. The nursing students got the lowest scale score, nutrition and dietetics students; the psychological endurance of singles, unemployed people, and those who constantly wash their hands and clean their surroundings were higher. It was concluded that the pandemic affected the resilience of health sciences faculty students in different ways, and that the resilience of students was above the average.

Keywords: Coronavirus, Covid-19, Pandemic, Psychological Resilience

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Öz:

Psikolojik dayanıklılık, zorlu yaşam deneyimlerinden kurtulma yeteneği, değişiklikler veya afetlerle etkin bir şekilde başa çıkma yeteneği olarak tanımlanır. COVID-19 pandemisinin beklenmedik seviyede yüksek yayılma oranı ve karantina politikaları, bireylerin stres seviyelerini artırabilir ve duygusal sorunlara yol açabilir. Sağlık bilimleri öğrencilerinin COVID-19 hakkında doğru bilgi, tutum ve davranışlarla donatılması, pandemiyle mücadelenin ön saflarında yer alacakları ve uygun eğitimin dayanıklılığı beraberinde getireceği için çok önemlidir. Sağlık bilimleri fakültesi öğrencilerinin Covid-19 pandemisindeki psikolojik dayanıklılıklarının bazı değişkenler açısından incelenmesinin amaçlandığı bu araştırma Türkiye'nin güneydoğu bölgesinde bulunan bir üniversitenin Sağlık Bilimleri Fakültesinde öğrenim gören 426 öğrenci ile gerçekleştirildi. Veri toplama aracı olarak Kişisel Bilgi Formu, Koronavirüs Bilgi Formu ve Yetişkin Psikolojik Dayanıklılık Ölçeği kullanıldı. Verilerin analizinde normal dağılıma uygunluk testleri, Student t Test, One way ANOVA ve Çoklu Regresyon analizi uygulandı ve $p<0,05$ istatistiksel olarak anlamlı kabul edildi. Öğrencilerin yarısından fazlası (%55,6) kız, %93,9'u bekar ve yaş ortalamaları 20,65±2,25 yıl idi. En yüksek ölçek puanını Beslenme ve Diyetetik bölümü öğrencilerinin en düşük ölçek puanını Hemşirelik bölümü öğrencilerinin aldığı; evlilerin, çalışmayanların, sürekli el yıkama ve etrafını temizleme davranışı gösterenlerin psikolojik dayanıklılıklarının daha yüksek olduğu bulundu. Pandeminin, Sağlık Bilimleri Fakültesi öğrencilerinin psikolojik dayanıklılıklarını farklı şekillerde etkilediği, öğrencilerin psikolojik dayanıklılıklarının ortalamanın üzerinde olduğu sonucuna varıldı.

Anahtar Kelimeler: Koronavirüs, Covid-19, Pandemi, Psikolojik Dayanıklılık, Sağlık Bilimleri Öğrencileri

Introduction

The coronavirus 2019 (COVID-19) pandemic, which first appeared in the world in Wuhan, China, spread to more than 200 countries in a matter of months with its high contagiousness (Papa et al., 2020; Sukut & Balık, 2021, Banerje, 2020). This situation has resulted in negative feelings such as fear, anxiety, and depression (Liu et al., 2020), as well as negatively affecting people's everyday lives (Brooks et al.,2020). Some traits of individuals make them stronger and allow them to adapt to these negative circumstances over time in the face of these experiences and negative emotional situations. The psychological resilience phenomenon, which requires people to take specific actions, effort, and time, and is a continuous process, is the most fundamental factor in achieving this harmony (Killgore et al., 2020; Kalkan et al., 2021).

Resilience is a term that generally refers to a process of success or adaptation (Abur, Gott, Hoare, 2016). In this context, psychological resilience is described as a person's ability to adapt to significant stressors such as trauma, threat, tragedy or family and relationship issues, serious health issues, and workplace and financial difficulties (Tusaie & Dyer, 2004). Psychological resilience, from another perspective, is also defined as the ability to recover from difficult life experiences or the ability to effectively deal with changes or disasters (Afek et al., 2021).

The unexpectedly high rate of COVID-19 disease spread and quarantine policies can escalate stress levels and lead to emotional problems (Naeem, Irfan, Javed, 2020). Countries that were aware of the situation during the previous Severe Acute Respiratory Syndrome (SARS) outbreak developed online platforms to offer psychological counseling services to family members and other people impacted by the epidemic, as well as procedures for psychological crisis interventions to make it easier to deal with the epidemic's public health effects (Duan & Zhu, 2020). According to studies, high levels of stress during SARS resulted in post-traumatic stress disorder (Cai et al., 2020), and depressive disorders are the most prevalent long-term psychological problem (Huang & Zhao, 2020). Causes such as the COVID-19 epidemic's detrimental effects on human health, the high number of fatal cases, and global quarantine practices raise depression and anxiety levels (Fardin, 2020) while also triggering a psychological crisis and increasing the risk of permanent psychological distress (Liu et al.,2020). Furthermore, the uncertainty and continuous nature of the threat in the COVID-19 outbreak in terms of duration may cause fear to become chronic and severe (Mertens et al., 2020).

The relationship between SARS, a former epidemic, and psychological resilience was investigated using the literature, and it was discovered that individuals with strong psychological resilience got more social support, were less anxious about SARS, and men had more psychological resilience than women (Bonanno et al., 2008). In general, resilience research focuses on stress (Cosco et al., 2016) and positive emotions (Chen, 2020). The studies on COVID-19 aimed to investigate the extent to which psychopathologies such as depression, anxiety, stress, trauma, fear, sleep problems affect both individuals affected by the epidemic, those who have the disease, and healthcare professionals (Liu et al., 2020; Cai et al., 2020; Huang & Zhao, 2020; Wang et al., 2020; Xu et al., 2020; Zhu et al., 2020; Yang et al., 2020).

In addition to society, it is necessary to know the state of basic studies on health sciences students' knowledge, attitudes, and behaviors regarding COVID-19, as they will be at the forefront of providing health care in the future. The years of university education are also the final phase of adolescence, which is one of the developmental phases during which people are most mentally turbulent, and which is also recognized as a social and biological transition phase. For young people, the physiological, mental, and social transitions that occur during this period are very overwhelming (Rivet et al., 2020; Leppink et al., 2016). Therefore, because the service they provide has an impact on both themselves and others' health, noticing the

problems and seeking solutions, in other words, psychological resilience behaviors are critical and prioritized in university students studying in the field of health.

This study aimed to investigate the psychological resilience of health sciences students in terms of certain variables in the COVID-19 pandemic.

Methods

Research type, population, and sample

This research, which was planned in a descriptive and cross-sectional type, was conducted between December 2020 and January 2021 in the Faculty of Health Sciences of a foundation university located in the Southeastern Anatolia region of Turkey. With reference to the study by Tönbül (Tönbül, 2020), the sample size was calculated before the data collection phase using G*Power-3.1.9.2. It was projected to perform a t-test in this study to assess the factors that affect the Resilience Scale for Adults (RSA) score averages, such as age, gender, and the introductory characteristics of the students, as well as to compare the mean score of scale in statistical analysis. Hereunder, the effect size of the study was set at 0.44, the alpha value at 0.05, and the theoretical power at 95%, and the sample of the study was determined as 268 students. Faculty of Health Sciences students (n=426) (Nursing, Nutrition and Dietetics, Physical Therapy and Rehabilitation) participated in the study, accounting for 54.26 percent of the total population.

Research questions

Q1: Is there a relationship between students' socio-demographic characteristics and their psychological resilience?

Q2: Is there a relationship between students' perceptions of COVID-19 pandemic and their psychological resilience?

Data collection tools

The data of the study were gathered via an online questionnaire that included the Personal Information Form, Coronavirus Pandemic Information Form all of which were developed following a literature review (Tönbül, 2020; Toktaş, 2019; Kımter, 2020).

Personal Information Form; developed by the researcher, included questions about the age, gender, education level, marital status, and employment status of the participants.

Coronavirus Pandemic Information Form; Questions to determine whether the participants have a chronic illness, how they get information about the coronavirus, the duration of social media use, the impact of the epidemic on daily life, and the emotional, cognitive, and behavioral effects of the pandemic after the epidemic were all included in the Coronavirus Information Form developed by the researcher (Fardin, 2020; Kımter, 2020; Arden et al., 2020). The Resilience Scale for Adults was also used in the last part of the questionnaire to determine the resilience levels of the students.

Resilience Scale for Adults (RSA); which was developed by Friborg et al. in 2005, was translated into Turkish by Basım and Çetin 2011 and its validity and reliability were assessed. The scale is made up of 33 questions and six sub-dimensions ("structural style" and "future perception" 4 items each; "family harmony", "self-perception", "social competence" 6 items each, and "social resources" 7 items). Evaluation of scale items was released as in the original study. By considering the five boxes, which were prepared to eliminate acquaintance bias and standing across the answers as the five-point Likert scale type, the evaluation can be performed in the desired manner. If it is desired to increase psychological resilience as the scores increase, the answer boxes should be evaluated as 1-2-3-4-5 from left to right. required. If this opinion is taken into account, in the scale; 1–3–4–8–11–12–13–14–15–16–23–24–25–27–31–33 will be reverse questions (if the scores decrease, psychological if it is desired to increase endurance; answer boxes 5-4-3-2-1 and reverse questions will then be evaluated as 2–5–6–7–9–10–17–18–19–20–21–22–26–28–29–30–32 There will be questions) (Basim and Çetin 2011; Çetin, Yeloglu and Basim, 2015). The study was carried out by choosing the option that psychological resilience increases as the scores increase. The minimum score of the scale is 33, and the maximum score is 165. The total Cronbach Alpha coefficient of the original scale was 0.86, and in this study it was determined as 0.90.

Statistical Analysis

The Statistical Package for the Social Sciences (SPSS) for Windows 22.0 software was used to perform statistical analysis of the data collected in the study in a computer environment. The "Shapiro-Wilk Test" was used to assess the conformity of the measurement values obtained during the analysis to the normal distribution. The descriptive statistics of continuous numerical variables were displayed using mean±standard deviation, while categorical variables were displayed using number (n) and percentage (%) When it comes to comparison of the mean scores of the scale; Student's t-test was used to compare the mean scores of the scale between two different groups, One Way ANOVA was used to compare three or more groups, and the Bonferroni correction was used to determine which group caused the difference. Regression analysis was used to identify predictors of nurses' workplace incivility. Multiple linear regression was conducted to analyze the strongly hypothetical relationships between the variables studied. According to the regression analysis, the most valid models were given in this study. The $p \leq 0.05$ level was considered statistically significant in statistical decisions.

Ethical considerations

Before beginning the study, the requisite approvals were obtained from the Non-Interventional Research Ethics Committee of the Faculty of Health Science (Date: 16.12.2020, Decision No: 2020/111). All of the students who would be involved in the study were briefed about it, their written or verbal consents were obtained, and notified that they could leave the study at any time. The study adhered to the ethical guidelines set out in the Declaration of Helsinki.

Results

More than half (55.6%) of the students in the study were female, 93.9% were single, and 88.7% were not employed. The mean age was 20.69±1.99 (Min: 18, Max: 36). Nursing students were 46.5% of the participants and 32.4% were first-year students (Table 1). Almost all (91.3%) of the students did not have a chronic disease.

Most of the students (87.3%) were not infected with coronavirus. According the impact of the pandemic on students' behavior, 62.2% of them constantly washing hands, and 39.2% of them were monitoring the news about pandemic through communication networks such as TV and radio (Table 1).

Table 1. Descriptive characteristics of students (n=426)

Descriptive Feature	**n**	**%**
Age (mean±sd=20.69±1.99, Min=18, Max=36)		
≤20	207	48.4
>20	219	51.6
Gender		
Female	237	55.6
Male	189	44.4
Marital Status		
Married	26	6.1
Single	400	93.9
Faculty Department		
Nutrition and Dietetics	113	26.5
Physical Therapy and Rehabilitation	115	27.0
Nursing	198	46.5
Year of Education		
1st year	138	32.4
2nd year	74	17.4
3rd year	81	19.0
4th year	133	31.2
Employment Status		
Working	39	9.2
Not working	378	88.7
Fired after the pandemic	9	2.1
Chronic Disease		
Yes	37	8.7
No	389	91.3
Infected with coronavirus		
Yes	54	12.7
No	372	87.3
Family member infected with coronavirus		
Yes	184	43.2
No	242	56.8
The impact of the pandemic on their behavior		
Didn't affect daily behavior	71	16.7
Constantly washing hands	265	62.2
Constantly following the news	78	18.3
Can not sleep	12	2.8
News source about the pandemic		
TV-Radio	167	39.2
Social Media	144	33.8
Official Organizations	115	27.0

The total mean score of the RSA was calculated as 120.27±17.31, and the subscale mean scores were 13.69±3.14 for Structured Style, 14.79±3.10 for Planned Future, 22.75±4.60 for Family Cohesion, 21.27±4.10 for Perception of the Self, 20.81±4.37 for Social Competence, and 26.79±5.24 for Social Resources (Table 2)

Table 2. Total mean scores of RSA and sub-dimensions of the scale

RSA Sub-Dimensions	**Mean±SD**	**Min.- Max.**
Structured Style	13.69±3.14	5-20
Planned Future	14.79±3.10	4-20
Family Cohesion	22.75±4.60	7-30
Perception of the Self	21.27±4.10	10-30
Social Competence	20.81±4.37	10-30
Social Resources	26.79±5.24	7-35
RSA Total Score	120.27±17.31	64-161

SD – Standard Deviation

There was statistically significant differences between the RSA total mean scores of the students and age, marital status, faculty department, employment status, and the impact of the pandemic on their behavior (p<0,05). RSA total mean score and Perception of Self sub-dimension score of married students' was found to be statistically higher than that of single students (t=9.061, p=0.03). Within the Faculty of Health Sciences, it was determined that the highest RSA total mean score belonged to the Nutrition and Dietetics students and the lowest RSA score belonged to the Nursing students (F=3.746, p=0.024). The students under 20 years of age had higher RSA total mean scores than students aged 20 and over (t=3.743, p<0.043). The students who were fired after the pandemic were found to have statistically lower total RSA, Perception of Future, Family Cohesion, Perception of Self and Social Resources sub-dimension scores than the working and not working students (F=6.068, P=0.003). There was a statistically significant difference between RSA total mean score anab the impact of the pandemic on their behavior (F=5.821, p=0.001) and that the difference was triggered by students suffering insomnia, according to the results of Bonferroni correction (Table 3).

Table 3. Comparison of the RSA mean scores by descriptive characteristics of students (n=426)

Characteristics	RSA Total Scores	Structural Style Scores	Perception of Future Scores	Family Cohesion Scores	Perception of Self Scores	Social Competence Scores	Social Resources Scores
Gender							
Female	120.63±16.86	13.75±3.11	14.77±3.11	22.75±4.52	21.27±4.11	20.83±4.28	27.17±4.85
Male	119.82±17.89	13.61±3.13	14.82±3.09	22.76±4.71	21.29±4.09	26.32±4.49	26.32±5.66
t, p	0.194, 0.660	0.009, 0.924	0.024, 0.876	0.932, 0.335	0.246, 0.620	0.338, 0.561	5.174, 0.082
Age							
≤20	120.40±16.36	13.76±3.11	14.69±3.05	22.54±4.52	21.54±3.91	20.90±4.24	26.87±4.57
>20	120.15±18.19	13.62±3.17	14.89±3.14	22.95±4.64	21.03±4.26	20.73±4.49	26.72±5.80
t, p	3.743, **0.043**	0.277, 0.599	0.742, 0.399	0.524, 0.470	3.272, 0.071	2.910, 0.089	13.996, **0.00**
Marital Status							
Maried	127.46±23.23	14.73±3.57	16.26±3.28	24.03±4.58	21.96±5.12	22.76±4.76	27.43±6.08
Single	119.80±16.77	13.62±3.10	14.70±3.06	22.67±4.60	21.23±4.02	20.69±4.32	26.75±5.18
t,p	9.061, **0.003**	1.811, 0.179	0.573, 0.449	0.090, 0.764	**5.986, 0.015**	0.694, 0.405	2.796, 0.095
Faculty Department							
Nutrition and Dietetics [a]	123.22±15.63	13.84±3.26	15.04±3.04	23.14±4.50	21.64±3.99	21.41±4.06	27.83±4.84
Physical Therapy andRehabilitation[b]	118.99±18.41	13.53±3.06	14.25±3.48	22.77±5.16	20.64±4.01	20.82±4.14	26.88±5.21
Nursing[c]	120.27±17.31	13.69±3.13	14.97±2.86	22.52±4.31	21.43±4.18	20.47±4.64	26.15±5.39
f, p	3.746**, 0.024 (a-b,c)**	0.277, 0.758	2.475, 0.085	0.644, 0.526	1.994, 0.137	1.673, 0.189	2.256, 0.106
Employment Status							
Working [a]	118.66±21.56	14.00±3.25	14.71±3.17	22.43±4.67	22.56±4.41	20.92±5.54	23.97±7.53
Not working[b]	120.89±16.70	13.70±3.14	14.88±3.05	22.88±4.56	21.20±4.06	20.87±4.25	27.20±4.84
Fired after the pandemic[c]	101.11±11.16	11.88±2.42	11.33±3.20	18.88±5.01	18.77±2.38	18.00±2.59	22.11±3.10
f, p	6.068, **0.003 (a-b-c)**	1.675, 0.189	5.924, **0.003 (c-a,b)**	3.442**, 0.033 (c-b,a)**	3.694, **0.026 (c-a,b)**	1.923, 0.147	10.859, **0.000**
Infected with coronavirus							
Yes	119.24±18.58	13.20±3.06	14.38±2.70	22.94±5.02	20.14±3.78	21.18±4.72	27.07±5.71
No	120.42±17.14	13.76±3.15	14.85±3.15	22.72±4.55	21.44±4.12	20.76±4.32	26.75±5.17
t, p	0.200, 0.655	1.239, 0.266	2.386, 0.123	0.432, 0.511	0.642, 0.423	0.926, 0.337	2.109, 0.147
Chronic Disease							
Yes	119.67±14.91	14.78±2.92	15.56±2.76	22.54±4.40	22.43±3.27	19.32±5.24	25.37±7.30
No	120.33±17.53	13.59±3.14	14.72±3.12	22.77±4.63	21.16±4.51	20.96±4.25	26.93±4.99
t, p	1.641, 0.201	0.238, 0.626	1.375, 0.242	0.022, 0.882	3.123, 0.074	6.053, **0.014**	6.762, **0.010**
The impact of the pandemic on their behavior	120.84±16.87	13.57±3.27	15.22±2.77	23.14±4.13	22.43±4.41	20.07±5.27	26.19±6.72
Didn't affect daily behavior[a]	121.61±16.66	13.91±3.13	14.92±3.16	22.89±4.56	21.36±3.88	21.12±4.00	27.22±4.67
Constantly washing hands [b]	118.08±18.16	13.43±2.84	14.25±2.78	22.50±5.00	20.39±4.19	20.71±4.69	26.82±5.05
Constantly following the news[c]	101.58±18.15	11.25±3.64	12.91±4.54	19.16±4.44	18.16±3.88	19.08±3.47	20.83±4.85
Can not sleep[d]	5.821, **0.001**	3.097, **0.027**	2.908, **0.034**	2.783, **0.041**	5.611, **0.001**	1.791, 0.148	6.300, **0.000**
f, p	**(d-a,b,c)**						

f= One Way Anova Test, t= Student's t-test; After post-hoc Bonferroni corrections; (c-a,b), variable marked "c" had statistically significance difference from variables marked "a" and "b". (d-a,b,c), variable marked "d" had statistically significance difference from variables marked "a","b" and "c"

Multiple linear regression analysis was done in order to explore the effect of descriptive characteristics of students on mean RSA toatal scores. In the model, factors significantly predicting mean total RSA score were "Marital Status = Single", "Faculty Department = Nursing", "Employment Status = Working", "Employment Status = Not working", "The impact of the pandemic on their behavior = Did not effect my behaviors", "The impact of the pandemic on their behavior = Washing hands", "The impact of the pandemic on their behavior = Constantly following the news" (respectively; p = 0.016, p<0.001, p = 0.004, p<0.001, p<0.001 p<0.001 p<0.001) , significance level of "f" value reveals the statistically significance of the model (F=5.369, p<0.001), (Adjusted R2 = 0.063 and Durbin Watson (DW) = 2.095) (Table 4).

Table 4. Evaluation of factors affecting the mean scores of RSA by linear multiple regression analysis

Depended variable	Independed Variables	ß	t	p	VIF	F	Model (p)	Adjusted R^2	DW
Resilience Scale for Adults	Constant	90.809	10.950	<0.001**		5.369	<0.001	0.063	2.095
	Marital Status=Single	-8,325	-2.422	0.016*	1.031				
	Faculty Department = Nursing	-16.490	-3.198	<0.001**	6.180				
	Employment Status = Working	18.115	2.904	0.004*	4.930				
	Employment Status = Not working	19.601	3.462	<0.001**	4.882				
	The impact of the pandemic on their behavior = Did not effect my behaviors	19.667	3,757	<0.001**	5.799				
	The impact of the pandemic on their behavior = Washing hands	20.369	4,105	<0.001**	8.819				
	The impact of the pandemic on their behavior = Constantly following the news	16.653	3.198	<0.001**	6.181				

DW = Durbin Watson, WIF = Variance Inflation Factor, ß = Beta, F *p<0,05 statistically significant values, ** p<0.001 statistically significant value.

Discussion

This study examining the psychological resilience of students who experienced a global catastrophe for the first time in their lives with the COVID-19 pandemic and who had to pursue their university education under unfamiliar circumstances due to the decisions taken and the practices enforced was completed with n=426 students.

Relying on the findings of the study, it was determined that the students' psychological resilience levels did not differ significantly based on their gender. This finding is in line with previous research results, which indicate that resilience does not differ based on gender (Işık & Çelik, 2020; Karal &Biçer, 2020; Bektaş & Özben, 2016; Parmaksız, 2019; Can & Cantez, 2018).

The psychological resilience levels of students under the age of 20 were found to be higher than those of students aged 20 and up in the study. There are studies on the impact of age on psychological resilience in the literature with varying outcomes. Different studies are reporting that the level of psychological resilience increases with age (Kımter, 2020); that the level of psychological resilience decreases with age (Karal & Biçer, 2020; Bektaş & Özben, 2016; Parmaksız, 2019; Can & Cantez, 2018; Çutuk et al., 2017); and that age does not affect the level of psychological resilience (Deniz, Çimen, Yüksel, 2020). Within the framework of the COVID-19 pandemic limitations applied in our country, it was decided to prohibit people under the age of 20 from leaving the house after a certain time and to provide education entirely online. Since this situation affects the social lives of people under the age of 20, it may have lowered their psychological resilience.

The psychological resilience of married students in the study was found to be higher than that of other students. In the regression analysis, it was found that being single had a negative effect on RSA. In relevant studies, such as our findings, there were significant differences observed in the psychological resilience levels of participants in favor of the married (Parmaksız, 2019), whereas in others, there was no significant difference in the psychological resilience levels of individuals according to the marital status variable (Karal & Biçer, 2020). It is possible to conclude that having a social support source, such as a spouse or partner, has an positive impact on psychological resilience.

When the students characteristics were compared with psychological resilience, it was found that students with chronic illnesses had lower scores in the sub-dimension of social competence and social resources. The social competence dimension is characterized as a dimension concerned with the individual's support from the environment (Çetin, Yeloglu, and Basim, 2015). Given that people with chronic illnesses have higher mortality and morbidity rates when infected with COVID-19 (Sandalcı, Uyaroğlu, Sain, 2020), it's reasonable to assume that these students' social competence and social resources are inadequate as a result of the pandemic. Less social support for students with chronic illnesses may suggest a risk factor effect. Individuals who are supported by their environment and have strong relationships with their environment have been seen to be more resilient psychologically (Kımter, 2020).

It was observed that the psychological resilience mean scores of the nursing students were the lowest among the students of the Faculty of Health Sciences in our study. In the regression analysis, it was found that being a nursing student affected RSA negatively. The fact that nursing department students, in comparison to students in Physiotherapy and Rehabilitation and Nutrition and Dietetics departments, have a higher level of awareness of the detrimental impact of traumatic life events such as the COVID-19 pandemic on mental wellbeing as a result of the classes they take as part of their curriculum, more of

them are currently working in health institutions, they are engaged in one-to-one contact with more patients could cause them to be more influenced by the pandemic's stress and have lower psychological resilience levels.

Significant differences were discovered in this study between the psychological resilience total mean score and sub-dimension mean scores concerning changing pandemic behaviors. In the regression analysis, it was found that sleeping disorder affects RSA negatively compared to other behavioral types. The psychological resilience scores of students who could not sleep due to pandemic concerns were found to be lower in the study. Participants in a similar study investigating the psychological resilience of people between the ages of 20 and 60 during the pandemic process have mentioned sleeping problems. As a consequence of these findings, it can be concluded that sleeping disorders have a negative impact on psychological resilience. Disruption in sleep continuity is widely seen in psychological problems (Tönbül, 2020). Furthermore, it is well known that following the coronavirus news adversely affects the level of psychological resilience (Karataş, 2020). As an explanation for this, it is possible to argue that news channels contain negative content, which raises people's anxiety levels.

Limitations of the Study

Since the study was undertaken in a single center and directed at the statements of the students, the findings cannot be applied to all university students or students enrolled at all health sciences faculties. This study only reflects the population in which it was carried out.

Conclusion

As a consequence, it was found that the COVID-19 pandemic and some characteristics of students affects psychological resilience of the students. During the pandemic, which has ravaged the whole world, millions of people have been infected, where millions of people have been infected and over a million people have died so far. Organizing workshops, seminars, and activities at regular intervals and frequently to improve students' psychological resilience can be highly beneficial in terms of collective mental wellbeing and the potential to respond to the current world order and lifestyle with the coronavirus all over the world without affecting mental health during this crucial time. Joint initiatives can be developed on the topic by informing other public and private institutions and organizations, local governments, and non-governmental organizations about the importance of the psychological resilience of people in the COVID-19 pandemic process. Peer nursing students can be brought together through social activities. Psychological follow-up is recommended for students who have been laid off during the pandemic, who are single, and who have sleep problems. Platforms can be created where they can share their concerns and experiences about the pandemic. In line with these results, it can be suggested to compare the results by conducting similar studies with larger sample groups and health science students studying in different regions.

Declarations

Ethics Approval and Consent to Participate
The study was started after receiving the required permissions from the Non-Interventional Research Ethics Committee (Date:16.12.2020, Decision No:2020/111), Faculty of Health Sciences, Hasan Kalyoncu University. We conducted according to the ethics guidelines set out in the Declaration of Helsinki. All the students participating in the study were informed about the study, their written/verbal consents were taken, and they were also informed that they could leave the study at any time.

Consent for Publication
Not applicable.

Availability of Data and Materials
Not applicable.

Competing Interests
The author declares that no competing interests in this manuscript.

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Authors' Contributions
Concept/Design: ED, BT, NO, BKD, NÖ, KP; Data collecting: ED, BKD; Data analysis and interpretation: ED, BT; Drafting manuscript: ED, BT; NÖ Critical revision of manuscript: BT, KP, NÖ; Final approval and accountability: ED, BT, NO, BKD, NÖ, KP; Supervision: BT, NO.

References

Aburn, G., Gott, M., & Hoare, K. (2016). What is resilience? An Integrative Review of the empirical literature. Journal of advanced nursing, 72(5), 980–1000. https://doi.org/10.1111/jan.12888

Afek, A., Ben-Avraham, R., Davidov, A., et al. (2021). Psychological Resilience, Mental Health, and Inhibitory Control Among Youth and Young Adults Under Stress. Front Psychiatry.11:608588. https://doi:10.3389/fpsyt.2020.608588

Arden, M.A., Chilcot, J. (2020). Health psychology and the coronavirus (COVID-19) global pandemic: A call for research. British journal of health psychology. 25(2), 231–232. https://doi.org/10.1111/bjhp.12414

Banerjee, D. (2020). The COVID-19 outbreak: crucial role the psychiatristscan play. Asian J Psychiatr.50:102014. https://doi.org/10.1016/j.ajp.2020

Bektaş, M., Özben, Ş. (2016). An Investigation Of The Psychologıcal Resilience Levels Of Married Individuals' In Terms Of Some Sociodemographıc Variables. Celal Bayar Universty Journal of Social Sciences. 14(1), 215-240 https://doi.org/10.18026/cbusos.16929

Basim, H. N., & Çetin, F. (2011). The reliability and validity of the Resilience Scale for Adults-Turkish Version. Turk Psikiyatri Derg. 22(2), 104. https://www.turkpsikiyatri.com/Data/UnpublishedArticles/hre129.pdf

Bonanno, G. A., Ho, S. M., Chan, J. C., Kwong, R. S., Cheung, C. K., Wong, C. P., & Wong, V. C. (2008). Psychological resilience and dysfunction among hospitalized survivors of the SARS epidemic in Hong Kong: a latent class approach. Health psychology: official journal of the Division of Health Psychology, American Psychological Association. 27(5), 659–667. https://doi.org/10.1037/0278-6133.27.5.659

Brooks, S. K., Webster, R. K., Smith, L. E., Woodland, L., Wessely, S., Greenberg, N., Rubin, G. J. (2020). The psychological impact of quarantine and how to reduce it: rapid review of the evidence. Lancet.395(10227): 912-920. https://doi:10.1016/S0140-6736(20)30460-8

Cai, H., Tu, B., Ma, J., Chen, L., Fu, L., Jiang, Y., & Zhuang, Q. (2020). Psychological Impact and Coping Strategies of Frontline Medical Staff in Hunan Between January and March 2020 During

the Outbreak of Coronavirus Disease 2019 (COVID‐19) in Hubei, China. Med Sci Monit. 26: e924171. https://doi.org/10.12659/MSM.924171

Can, M. ve Cantez, K. E. (2018). Investigation of Happiness, Resilience and Self Efficacy Levels in University Students. Aydın Journal of Humanity and Society.4(2): 61-76. Retrieved from https://dergipark.org.tr/tr/pub/aitdergi/issue/43705/536156

Çetin, F., Yeloglu, H.O., Basim, H.N. (2015). The Role of Big Five Personality on Predicting the Resilience: A Canonical Relation Analysis. Turkish Journal of Psychology. 30(75), 81-95. ISSN: 1300-4433

Chen, L.K. (2020). Older adults and COVID-19 pandemic: Resilience matters. Arch Gerontol Geriatr. 89:104124. https://doi:10.1016/j.archger.2020.104124

Cosco, T.D., Kaushal, A., Richards, M., Kuh, D., Stafford, M. (2016). Resilience measurement in later life: a systematic review and psychometric analysis. Health Qual Life Outcomes.14(16). https://doi:10.1186/s12955-016-0418-6

Çutuk, S., Beyleroğlu, M., Hazar, M., Akkuş Çutuk, Z. ve Bezci, Ş. (2017). The Investigation Of The Relationship Between Psychological Resilience Levels And Anxiety Levels Of Judo Athletes. Physical Education and Sport Sciences Journal.11(1), 109-117. Retrieved from https://dergipark.org.tr/tr/pub/bsd/issue/53472/711739

Deniz, S., Çimen, M. ve Yüksel, O. (2020). The Effect Of Resilience On The Job Stress: A Study On Hospital Employees. The Journal of Business Science (JOBS). 8(2), 351-370. https://doi.org/10.22139/jobs.741576

Duan, L., Zhu, G. (2020). Psychological interventions for people affected by the COVID-19 epidemic. Lancet Psychiatry. 7(4):300-302. https://doi:10.1016/S2215-0366(20)30073-0

Fardin, M.A.(2020). COVID-19 and Anxiety: A Review of Psychological Impacts of Infectious Disease Outbreaks. Arch Clin Infect Dis. Online ahead of Print; 15(COVID-19): e102779. https://dx.doi.org/10.5812/archcid.102779

Huang, Y. ve Zhao, N. (2020). Generalized anxiety disorder, depressive symptoms and sleep quality during COVID -19 epidemic in China: a web web-basedcross-sectionalsurvey. Psychiatry Research. 112954. ISSN 0165-1781 https://doi.org/10.1016/j.psychres.2020.112954

Işık, Y., Çelik, E. (2020). Investigation of Resilience in Adolescents with Regards to Ostracism, Social Anxiety Gender and Grade Level. OPUS International Journal of Society Researches. 16(27), 174-209. https://doi.org/10.26466/opus.642037

Kalkan Uğurlu, Y., Mataracı Değirmenci, D., Durgun, H., & Gök Uğur, H. (2021). The examination of the relationship between nursing students' depression, anxietyand stress levels and restrictive, emotional, and externaleating behaviors in COVID-19 social isolation process. Perspect Psychiatr Care. 57(2):507–516. https://doi.org/10.1111/ppc.12703516

Karal, E., Biçer, B.G. (2020). Examining The Effect Of Perceived Social Support On The Psychological Well-Being Of Individuals During The Epidemic Period. Individual and Society Journal of Social Science. 10(1), 129-156. https://doi.org/10.20493/birtop.726411

Karataş, Z. (2020). Social Impacts of COVID-19 Pandemic, Change and Empowerment. Turkish Journal of Social Work Research. 4(1), 3-15 Retrieved from https://dergipark.org.tr/tr/pub/tushad/issue/54680/722406

Killgore, W., Taylor, E. C., Cloonan, S. A., & Dailey, N. S. (2020). Psychological resilience during the COVID-19 lockdown. Psychiatry Res. 291:113216. https://doi:10.1016/j.psychres.2020.113216

Kımter, N. (2020). Examining the Psychological Resilience Levels of Individuals in the Days of Covid-19 in Terms of Some Variables. IBAD Journal of Social Sciences. Special Issue:574-605, https://doi.org/10.21733/ibad.805481

Leppink, E.W., Odlaug, B.L., Lust, K., Christenson,.G., Grant, J.E. (2016). The Young and the Stressed: Stress, Impulse Control, and Health in College Students. J Nerv Ment Dis. 204(12):931-938. https://doi:10.1097/NMD.0000000000000586

Liu, D., Ren, Y., Yan, F., Li, Y., Xu, X., Yu, X., Qu, W., Wang, Z., Tian, B., Yang, F., Yao, Y., Tan, Y., Jiang, R. ve Tan S. (2020). Psychological Impact and Predisposing Factors of the Coronavirus Disease 2019 (COVID-19) Pandemic on General Public in China. Available at SSRN: https://ssrn.com/abstract=3551415or http://dx.doi.org/10.2139/ssrn.3551415

Mertens, G., Gerritsen, L., Salemink, E., Engelhard, I.M. (2020). Fear of the coronavirus (COVID-19): Predictors in an online study conducted in March 2020. Journal of Anxiety Disorders. 3(74), 1-8. https://doi.org/10.1016/j.janxdis.2020.102258

Naeem, F., Irfan, M. ve Javed, A. (2020). Copingwith COVID-19: urgent need for building resilience through cognitive behaviour therapy. Khyber MedUniv Journal. 12(1):1-3. https://doi.org/10.35845/kmuj.2020.20194

Papa, S. M., Brundin, P., Fung, V., Kang, U. J., Burn, D. J., Colosimo, C., Chiang, H. L., Alcalay, R. N., Trenkwalder, C., & MDS-Scientific Issues Committee (2020). Impact of the COVID-19 Pandemic on Parkinson's Disease and Movement Disorders. Movement disorders: official journal of the Movement Disorder Society, 35(5), 711–715https://doi.org/10.1002/mds.28067

Parmaksız, İ. (2019). The Effects of Optimism, Altruism and Marital Status on the Psychological Resilience. Pamukkale Universty Journal of Education. 48: 285-302. https://doi.org/10.9779/pauefd.576186

Rivett, L., Sridhar, S., Sparkes, D., et al. (2020). Screening of healthcare workers for SARS-CoV-2 highlights the role of asymptomatic carriage in COVID-19 transmission. Elife. 9:e58728. https://doi:10.7554/eLife.58728

Sandalcı, B., Uyaroğlu, O.A., Sain, G. (2020). The Role, Importance and Recommendations of Chronic Diseases in COVID-19, Flora.25, 132-138. https://doi.org/10.5578/flora.69700

Sukut, O., Ayhan Balik, C.H. (2021). The impactof COVID-19 pandemic on people with severe mental illness. Perspect Psychiatr Care.57:953-956.

Toktas, S. (2019). Examining the Levels of Forgiveness and Psychological Resilience of Teacher Candidates. Journal of Education and Training Studies. 7(4), 241-249. https://doi.org/10.11114/jets.v7i4.4122

Tönbül, Ö. (2020). Investigation of thePsychological Resilience of Individuals Between the ages of 20-60 After the Coronary Virus (Covid-19) Epidemic in Terms of Some Variables. Humanistik Perspective. 2:159-174. Retrieved from https://dergipark.org.tr/tr/pub/hp/issue/54982/730460

Tusaie, K., & Dyer, J. (2004). Resilience: a historical review of the construct. Holist Nurs Pract.18(1): 3-10. https://doi.org/10.1097/00004650-200401000-00002

Wang, C., Pan, R., Wan, X., Tan, Y., Xu, L., Ho, C. S., & Ho, R. C. (2020). Immediate Psychological Responses and Associated Factors during the Initial Stage of the 2019 Coronavirus Disease (COVID-19) Epidemic among the General Population in China. International journal of environmental research and public health. 17(5), 1729. https://doi.org/10.3390/ijerph17051729

Xu, K., Cai, H., Shen, Y., Ni, Q., Chen, Y., Hu, S., Li, J., Wang, H., Yu, L., Huang, H., Qiu, Y., Wei, G., Fang, Q., Zhou, J., Sheng, J., Liang, T., & Li, L. (2020). Management of COVID-19: the Zhejiang experience. Journal of Zhejiang University (Medical sciences). 49(1), 147–157. https://doi.org/10.3785/j.issn.1008-9292.2020.02.02

Yang, L., Wu, D., Hou, Y., Wang, X., Dai, N., Wang, G., Yang, Q., Zhao, W., Lou, Z., Ji, Y. ve Ruan, L. (2020). Analysis of psychological state and clinical psychological intervention model of patients with COVID-19. MedRvix. https://doi.org/10.1101/2020.03.22.20040899

Zhu, Z., Xu, S., Wang, H., Med, M., Liu, Z., Wu. J., Li, G., Miao, J., Zhang, C., Yang, Y., Sun, W., Zhu, S., Fan, Y., Hu, J., Liu, J. veWang, W. (2020). COVID-19 in Wuhan: Immediate Psychological Impact on 5062 Health Workers. EClinical Medicine. 24. https://doi.org/10.1016/j.eclinm.2020.100443