

## Evaluation of The Career Stress Levels of Students Studying in The Field of Health Sciences

Nesrin ÖZCAN<sup>1</sup>, Emre İŞÇİ<sup>2</sup>, Mehveç TARIM<sup>3</sup>

<b>ABSTRACT</b>	
<p><b>Corresponding Author</b> Nesrin ÖZCAN</p> <p><b>DOI</b> <a href="https://10.48121/jihsam.1309937">https://10.48121/jihsam.1309937</a></p> <p><b>Received</b> 05.06.2023</p> <p><b>Accepted</b> 16.06.2023</p> <p><b>Published Online</b> 23.10.2023</p> <p><b>Key Words</b> Career Stress, Health Sciences, Health Management, University Students, Vocational School of Health Sciences</p>	<p><i>The aim of this study is to determine the career stress levels and related factors of students who are about to graduate in the field of health sciences.</i></p> <p><i>The population of the study consists of final-year students studying in the departments of medicine, dentistry, pharmacy, and vocational schools in the field of health sciences of foundations and state universities operating in Istanbul (N=1900). The sample of the study was formed by 581 faculty students (State= 369, Foundation= 212) and 488 VSHS students (State= 359, Foundation= 129), and 56.26% (n=1069) of the population was reached.</i></p> <p><i>The research participants consisted of 32% male students (n=339) and 68% female students (n=730). The Mann-Whitney U Test was applied to determine the differentiation of the results of the Career Stress Scale according to gender, and it was observed that there was no significant difference other than 'Factor 2' (Employment Pressure) (p=0.000). In the conducted comparisons, significant differences were found in all three dimensions of career stress according to the field of study (p&lt;0.05). Occupations were analyzed in pairwise comparisons with the Man Whitney U Test. In paired comparisons; 'Employment Pressure' (p=0.001) and 'External Conflict' (p=0.003) between Dentistry and VSHS, 'Employment Pressure' (p=0.000) between Pharmacy and VSHS, 'Employment Pressure' (p=0.000) between Medicine and VSHS, 'Employment Pressure' (p=0.003) between Health Management and VSHS showed a significant difference. No differences were found in any dimension of career stress according to the ownership of the educational institution (p&gt;0.05).</i></p>

<sup>1</sup> Ph.D. nnesrinaydogan@gmail.com  
Orcid Number: <https://orcid.org/0000-0003-2832-1933>

<sup>2</sup> Assoc Prof. Faculty of Health Sciences, Health Management, Marmara University, emre.isci@marmara.edu.tr  
Orcid Number: <https://orcid.org/0000-0001-5299-4770>

<sup>3</sup> Prof. Dr., Faculty of Health Sciences, Health Management, Marmara University, mtarim@marmara.edu.tr  
Orcid Number: <https://orcid.org/0000-0002-3726-9439>

## 1. INTRODUCTION

Career is a process that is built from childhood, lasts throughout life, and includes progress, stagnation, and setbacks (Demircioğlu, 2023). According to Nordvik, the concept of career is a dynamic process that requires decision-making during the development process, which is formed by the interaction of experience and opportunities (Nordvik, 1996). Factors such as responsibilities, potential consequences of decisions, and reactions from the environment and family can cause stress in individuals during the career process. Since career decision-making is a complex process, individuals may experience stress during the stage of creating career plans (Aşık and Akgül, 2022).

Although stress is generally perceived as negative, it can cause positive results and individual development by contributing to the motivation, attention, skill and job responsiveness of the person. Some level of stress is required for enthusiasm, creativity and productivity, but high levels of stress have negative consequences (Rojas and Kleiner, 2000).

Career stress can be defined as the stress experienced by the individual while determining his career and during the development process of his career (Park and Han, 2017; Jang, 2020). According to the research conducted on university students in Korea, the sources of stress were defined as academic achievement, extracurricular responsibilities, friendship relationships, family issues, and career. Career stress has been identified as the top-ranked stressor among them (Choi et al., 2011; Kim, 2003). Factors that cause career stress can be listed as lack of information and indecision about career, family attitudes, environmental reactions, anxiety about finding a job, and uncertainty (Günay and Çelik, 2019). It can be said that students in health sciences experience stress in clinical practices such as relationships with faculty members, fear of making mistakes, clinical skills, relationships with patients, adapting to practice teams, tasks given outside of duty and authority, pressure of having good grades (Altıok and Üstün, 2013). According to a study conducted on nursing students in 2017, the causes of stress in the clinical field: Patients' inability to trust students, fear of making mistakes in practice, insistence of faculty members, test anxiety, lack of social activities at school, and the environment's prejudice towards nursing (Yılmaz et al., 2017).

During the education period, students are faced with the stated causes of stress and if they cannot manage their stress correctly, they may experience negative situations in their careers. Therefore, they may need support in stress management. It has been found in studies that career planning also reduces career stress (Rottinghaus et al., 2009).

According to a study conducted by Fouad et al. in 2006, students experience career decision-making difficulties

and psychological distress and need career counseling and career services. Although students need the services, only half of them are aware of the career services provided on their campus and only a small percentage of the students benefit from these services (Fouad, 2006).

One of the determinants affecting the life satisfaction of university students is the expectation of professional results (Yılmaz et al., 2020). It is the most natural right of every young person to find a job after completing their education, to use their skills in their own profession, to earn income and to establish and maintain their lives at the welfare level. It is known that with the increasing unemployment rates and the increase in the number of universities and the quotas of the departments in Turkey in recent years, young people in some departments have difficulties in employment. For example, in studies conducted with Health Management students, it was seen that the majority of students were worried about finding job after graduation and unemployment concerns were high (İlman et al., 2019). Another study conducted by Korkmazer at the Faculty of Health Sciences also supports that the unemployment anxiety of students studying in these departments is high (Korkmazer, 2020).

In a study conducted by Yılmaz et al. on the professional outcome expectation and life satisfaction of university students from different faculties, the faculty with the lowest department satisfaction and thinking that it is suitable for the department was determined as the Faculty of Health Sciences (Yılmaz, 2020). On the other hand, in the studies on the determination of professional desire in nursing students, it is concluded that most of the students choose the profession knowingly and willingly (Karadaş et al., 2017; Sönmez et al., 2018). Similar results emerge for the students of the Vocational School of Health Sciences (VSHS) (Gayef and Sarıkaya, 2012). One of the most important reasons why VSHS students choose their profession is their willingness to provide health services, but there are many factors that affect their decision to pursue a career in this field. The most important of these factors is their concern about finding a job in the industry. Anxiety about finding job strengthens the competition among students in the field of health (Turaç and Bayın Donar, 2017).

The willingness of university students to study is not the only factor in their career decisions, but it is decisive and important (Ancın and Ulucan, 2020). In a study conducted on the university students studying in different faculties, it was determined that the level of career stress decreased with the increase in the level of willingness to enter the department (Erdogan and İşsözen, 2022).

The effectiveness of all components in healthcare systems relies on a strong workforce. The workforce directly affects the quality and efficiency of the produced healthcare services. Therefore, the need for human resources should be clearly identified and planning should be made accordingly. Recently, it is predicted that there will be more graduates than needed in professions such as pharmacy due to the increasing number of faculties and quotas (Ministry of Health, 2014). On the other hand, it is known that there is a great need for nursing graduates and there are serious problems related to the number of nurses in private hospitals. Our students studying health sciences are very valuable and it is important that they participate effectively in the country's healthcare system and be free from future concerns and stress while performing their professions.

There are not many studies on the career stress of students studying in the field of health. In this study, it is aimed to obtain information about the career stresses and affecting factors of students studying in health sciences.

**2. MATERIALS AND METHOD**

In this study, the 'Career Stress Assessment Scale' was applied to the senior students of the School of Medicine, Dentistry, Pharmacy, Health Management and Vocational School of Health Sciences (VSHS) in order to determine the future expectations of the students who are about to graduate and their opinions about their careers. The research is designed as a cross-sectional and descriptive type. In order to conduct the research, ethical committee approval and permission were obtained from Marmara University Institute of Health Sciences on June 25, 2020.

*2.1. Research Questions*

The research questions are as follows:

Do students of health sciences experience career stress? In which dimensions and areas is the stress experienced?

Does career stress differ based on gender, the ownership of the institution of study, and the profession field of study?

*2.2. Working Group and Method*

Convenient sampling method was used as the sampling method in the research. The research was conducted by obtaining the necessary bureaucratic permissions, with the guidance of the relevant department deans, through online and face-to-face surveys from at least one state and one foundation university from each department. The population of the research was determined based on the number of students who will graduate from the relevant departments during the study period in the universities where the study will be conducted, using the data of the students placed by the Council of Higher

Education (YOK). The population of the study was calculated to be 1900; including students who entered Medicine, Dentistry, and Pharmacy faculties in 2015-2016, students who entered 4-year programs that graduate students in 4 years in 2016-2017, and students who entered associate degree programs in 2018-2019. The sample size was planned to be at least 320 students when the survey was applied with a margin of error of 5% and a confidence interval of 95% using the Raosoft program (raosoft.com.tr).

Participants in the study were informed about the purpose of the study and were encouraged to participate voluntarily and willingly. It has been stated to the participants that the survey consists of 20 questions and takes approximately 5 minutes to complete. Before starting the research, the students who will participate in the research were informed about the purpose and method of the research, the time they were asked to allocate for the research, and the fact that the participation was completely voluntary, and their permission was obtained. In the face-to-face application, after the students were informed about the research, the questionnaire form was distributed and collected by face-to-face interviews. In online applications, survey links were sent to the students through the relevant department professors or department secretaries, and a survey was conducted. In total, 581 (State=369, Foundation=212) in faculties, 488 (State: 359, Foundation: 129) in vocational schools; 1069 questionnaires were reached.

**Table 1: Participants' Descriptive Characteristics (N=1069)**

Characteristics		N	%
<b>Gender</b>	Male	339	31.7
	Female	730	68.3
<b>University Type</b>	State University	730	68.3
	Foundation	339	31.7
	University		
<b>Department</b>	Dentistry	198	18.5
	Pharmacy	165	15.4
	Medicine	116	10.9
	Health	102	9.5
	Management		
	VSHS	488	45.7

Surveys were conducted online for medicine students. In the initial applications, the desired numbers could not be reached, so surveys were conducted at two more universities, one state and one foundation. A survey link was sent to approximately 650 students via e-mail, 400 from state universities and 250 from foundation universities (Approximate values were given since the exact numbers for final year students by faculties could not be provided.). A total of 116 surveys were completed, 77 from state universities and 39 from foundation universities.

Surveys were conducted online for dentistry students. A survey link was sent to approximately 300 students via e-mail, 200 from a state university and 100 from a foundation university. A total of 198 surveys were completed, 134 from the state university and 64 from the foundation university.

Surveys were conducted face-to-face by the researcher in pharmacy departments. Out of 100 students at the state university, 98 were reached, while at the foundation university, approximately 100 students, 67 were reached. A total of 165 surveys were obtained.

A face-to-face survey was conducted for a total of 60 senior students in the Health Management Department at the state university. Since there were very few students in the Health Management Departments at foundation universities, surveys were conducted in four different foundation universities, two face-to-face and two online. In the face-to-face applications, 20 out of a total of 30 students in the departments were reached. In the online applications, 22 surveys were obtained from approximately 45 students. A total of 102 surveys were collected from health management students.

Surveys were conducted face-to-face by the respective instructors of each department for all senior students in the VSHS at the state university, and all of them were reached (N=359). Surveys were also delivered online to approximately 500 senior VSHS students at two foundation universities, and 129 surveys were obtained. In the online survey application, the system was set up in a way that any unanswered question would prevent the completion of the survey, so there were no invalid surveys. In face-to-face surveys, the researcher checked and received the surveys themselves, so any inappropriate surveys were immediately returned to the participants and, once they became valid, were collected again.

### 2.3. Career Stress Scale

The Career Stress Scale used in the research was developed by Choi et al. in 2011 in order to identify the sources of career stress and the difficulties experienced by Korean university students. A 5-point Likert rating (Strongly Agree=5, Agree=4, Neutral=3, Disagree=2, Strongly Disagree=1) was used in the scale consisting of 4 sub-dimensions and 20 items. There are no items that were reverse-scored in the scale. The high score obtained as a result of the survey indicates a high career stress level (maximum 100 points), and the low score indicates a low career stress level (at least 20 points). According to the mean and median values, a value close to 1 indicates low stress level, while a value close to 5 indicates high stress level. The median and mean values being 3 or above indicate that the stress level is increasing and tends towards the negative.

The Career Stress Scale was adapted into Turkish by Ozden and Sertel-Berk in 2017. In the original study,

Cronbach's alpha coefficients were calculated for internal consistency reliability, and they were found to be 0.83 for external conflict, 0.85 for job finding pressure, 0.89 for lack of knowledge, and 0.89 for career uncertainty. A four-factor structure was formed. In the Turkish adaptation study, Cronbach's Alpha coefficients were found to be 0.83 for external conflict, 0.86 for job pressure, 0.94 for lack of knowledge and career uncertainty, and a 3-factor structure was revealed (Ozden and Sertel-Berk, 2017).

### 2.4. Data Analysis

The data obtained from the research were transferred to the electronic environment and analyzes and evaluations were made by using the SPSS 11.5 statistical package program. Frequency tables, central and prevalence criteria, Mann-Whitney U Test and Kruskal-Wallis H Analysis were used in analyzes and evaluations. Compliance of the data with normal distribution was tested by Kolmogorov-Smirnov Test and Histogram, and it was determined that they were not suitable for normal distribution. The kurtosis and skewness values were determined to be above plus and minus 1.5, and the QQ plots were examined with central tendency and dispersion measures on the histograms, revealing that the data did not approximate a normal distribution. According to Tabachnik and Fidell, if the kurtosis and skewness values are not between negative 1.5 and positive 1.5, the distribution is not normal. For this reason, non-parametric hypothesis tests were used in our research. The statistical significance level was taken as 0.05 (Tabachnik and Fidell, 2013).

### Validity and Reliability

Validity and reliability analyses were conducted again for the scale used in the research due to its evaluation in a new group/sector, and since no structure was initially established for the scale, exploratory factor analysis was preferred. Exploratory factor analysis can be preferred for the validity of scales in a new group/sector compared to confirmatory factor analysis (Şencan, 2005; Büyüköztürk 2007; Çokluk et al, 2016). The Alpha value of Cronbach, which is the internal consistency analysis for the Career Stress Scale used in the research, was calculated as 0.93. Explanatory factor analysis was used for the validity of the Career Stress Scale used in the research. A coefficient of 0.940 was reached in the KMO Test, and the adequacy of the sample was found to be 'very good'. In the Bartlett Test, a p value of <0.05 was reached. Therefore, it was seen that the items were suitable for factor analysis. The scale explains 60.97% of the total variance and a three-factor structure emerged. Item 16 was removed from the scale as it was an overlapping item and factor analysis was performed again. In Factor 1 (Career Uncertainty and Lack of Knowledge) 18, 17, 19, 20, 11, 13, 5, 14, 3 items; items 10, 12, 7, 9, 6, 8 were included in Factor 2 (Employment Pressure) and items 1, 15, 2,

4 in Factor 3 (External Conflict). Varimax rotation is used in the rotation process.

**3. RESULTS**

The research participants consisted of 32% male students (n=339) and 68% female students (n=730). The Mann-Whitney U Test was applied to determine the differentiation of the results of the Career Stress

Scale according to gender, and it was observed that there was no significant difference other than 'Factor 2' (Employment Pressure) (MU=103662.500 p=0.000) . As a result of the test, it can be said that female students experience more stress than male students about the 'Employment Pressure'. Table 2 shows the results:

**Table 2: Comparison of Career Stress Scores by Gender**

	Gender	N	Median	MWU	p
<b>Career Uncertainty and Lack of Knowledge</b>	Male	339	2.33	116718	0.135
	Female	730	2.56		
<b>Employment Pressure</b>	Male	339	<b>3</b>	103662.5	<b>0</b>
	Female	730	<b>3.33</b>		
<b>External Conflict</b>	Male	339	2	117715	0.198
	Female	730	2		
<b>Career Stress Total</b>	Male	339	2.58	116059.5	0.102
	Female	730	2.63		

339 of the students participating in the research are from foundation universities and 730 of them are from state universities. The Mann-Whitney U Test was applied to determine the differentiation of the results of

the Career Stress Scale according to the 'type of university' and it was observed that there was no significant difference. The results are shown in Table 3.

**Table 3: Comparison of Career Stress Scores by University Type**

	University Type	N	Median	MWU	p
<b>Career Uncertainty and Lack of Knowledge</b>	State University	730	2.44	117015.5	0.152
	Foundation University	339	2.67		
<b>Employment Pressure</b>	State University	730	3.17	121457.5	0.627
	Foundation University	339	3.33		
<b>External Conflict</b>	State University	730	2	120480	0.486
	Foundation University	339	2		
<b>Career Stress Total</b>	State University	730	2.56	119695.5	0.39
	Foundation University	339	2.69		

The Kruskal-Wallis Test was applied to reveal the differences in the results of the Career Stress Scale between occupations and it was determined that there

was a significant difference in all factors except the general value.

**Table 4: Comparison of Career Stress Scores by Department**

	Department	N	Median	Chi-Square	p
<b>Career Uncertainty and Lack of Knowledge</b>	Dentistry	198	2.78	9.906	<b>0.042</b>
	Pharmacy	165	2.33		
	Medicine	116	2.72		
	Health Management	102	2.56		
	VSHS	488	2.33		
<b>Employment Pressure</b>	Dentistry	198	3.08	48.561	<b>0</b>
	Pharmacy	165	3		
	Medicine	116	2.67		
	Health Management	102	3		
	VSHS	488	3.5		
<b>External Conflict</b>	Dentistry	198	1.75	12.284	<b>0.015</b>
	Pharmacy	165	2		
	Medicine	116	2.25		
	Health Management	102	2		
	VSHS	488	2		
<b>Career Stress Total</b>	Dentistry	198	2.61	8.995	0.061
	Pharmacy	165	2.48		
	Medicine	116	2.57		
	Health Management	102	2.6		
	VSHS	488	2.72		

A Bonferroni correction was applied to determine the source of the differences between the groups, and since 10 hypothesis tests were used, the significance level was set at 0.05/10 (0.005). Occupations were compared using pairwise comparisons with the Mann-Whitney U Test. The results showed significant differences in the following paired comparisons:

- Between Dentistry and VSHS, there were significant differences in 'Employment Pressure' (MU=40640.000,  $p=0.001$ ) and 'External Conflict' (MU=41462.000,  $p=0.003$ ).

- Between Pharmacy and VSHS, there was a significant difference in 'Employment Pressure' (MU=30220.000,  $p=0.000$ ).

- Between Medicine and VSHS, there was a significant difference in 'Employment Pressure' (MU=18629.500,  $p=0.000$ ).

- Between Health Management and VSHS, there was a significant difference in 'Employment Pressure' (MU=20310.500,  $p=0.003$ ).

When the responses given to the Career Stress Scale questionnaire were evaluated in general, the items with a higher median compared to other items are presented below:

- 5. I have concerns that I don't know enough about the job I want (Md=3.0).
- 6. I have concerns that there are not enough positions in my career field (Md=3.0).
- 7. I'm worried that I won't be able to pass the recruitment exam the first time (Md=3.0).
- 8. I am worried that the job I want will not provide me with a secure income (Md=3.0).
- 9. I feel under pressure because it is difficult to study for school and prepare for a job at the same time (Md=3.0).
- 10. I feel stressed because there is so much to do to find a job (Md=4.0)
- 11. I feel blocked because I don't know what I want to do in the future (Md=3.0)
- 12. I am worried that I may not get the job I want (Md=3.0)
- 18. I feel blocked because I doubt that what I have planned for my future is what I really want (Md=3.0).

#### 4. DISCUSSION

As a result of the research, the career stress of the students studying in some departments of health sciences in both foundation and state universities operating in Istanbul and the effect of some factors related to this were revealed.

It is remarkable that in our study's findings, higher scores were given to all items related to the factor of 'Employment Pressure' compared to other items in terms of career stress. The item with the highest median value is 'I feel stressed because there are too many

things to do to find a job.' It is observed that many students are anxious about achieving their desired jobs in the future. After graduation, necessary conditions are not created by the government for students who want to pursue their own professions. Even if workforce needs analysis is conducted, necessary coordination cannot be achieved with Higher Education Institution, and faculty numbers and quotas are not reduced in departments where surplus supply will be experienced. Having too many faculties and quotas also negatively affects the quality of education. Similarly, necessary specializations and numbers cannot be provided in departments that graduate fewer students than needed. Programs should be developed to ensure that healthcare graduates who are unemployed or have started working in different fields participate in complementary programs for the needed departments.

The fear of not finding a job also negatively affects the willingness of students to pursue their desired professions in their preferred departments. Half of the items in the dimension of 'Career Uncertainty and Lack of Knowledge' also show high levels of career stress. As the stress levels in the items of 'External Conflict' dimension are low, it is concluded that students studying in health sciences do not experience external conflict.

In the study conducted by Turpçu and Akyurt with Tourism and Hotel Management students, it was determined that students experience career stress mostly in the employment pressure, similar to the result of our research (Turpçu and Akyurt, 2018). In the study conducted by Güler and Ünal with the students of the Faculty of Economics in 2020, it was seen that the items that students had high scores were in the dimensions of 'External Conflict' and 'Career Uncertainty and Lack of Knowledge' (Güler and Ünal, 2020).

In our study, the Mann-Whitney U Test was applied to determine the differentiation of the results of the Career Stress Scale according to gender, and as seen in Table 2, there was no significant difference other than the dimension of 'Employment Pressure', and it was determined that female students (Md=3.33) experienced more stress than male students (Md=3.0) in terms of employment pressure ( $p=0.000$ ).

In the study conducted by Üzüm et al., it was determined that there was a differentiation in the sub-dimension of 'Career Uncertainty and Lack Of Knowledge'. According to this finding, female students have a higher level of stress about 'Career Uncertainty and Lack Of Knowledge' than male students ( $p<0.05$ ) (Üzüm et al., 2018).

According to the study conducted by Esen on Vocational School students, there is a significant difference in the 'External Conflict' dimension based on gender, and it has been observed that female students

feel more external conflict than male students ( $p < 0.05$ ) (Esen, 2019).

"In the study conducted in 2019 with teacher candidates, it has been observed that female students experience more stress than male students in the 'Employment Pressure' dimension (Yılmaz, 2019). In the study conducted by Yaşar and Turgut on students from different faculties, it was found that female students had a higher level of stress in the dimension of 'external conflict' (Yaşar and Turgut, 2019).

Gündoğdu, in his study with students from different faculties, stated that the career stress of female students is higher than male students ( $p < 0,01$ ) (Gundogdu, 2021). In the study conducted by Bayrakçeken and Buztepe on VSHS students, the career stress scores of male students were found to be higher than female students ( $p < 0.05$ ) (Bayrakçeken and Buztepe, 2021). The study conducted by Erdoğan and İşsözen in 2022 on students from different faculties also supports this finding (Erdogan and İşsözen, 2022).

On the other hand, some studies have concluded that there is no significant difference according to gender: No difference was found based on gender in the study conducted by Güler and Ünal (2020). Similar results were observed in the studies conducted by Özkan in different faculties (2020), Bozyiğit and Gökbaraz in sports science students (2020), Çetinkaya in sports science students (2019), and Turpçu and Akyurt in tourism students (2018), where career stress did not differ by gender (Özkan 2020; Bozyiğit and Gökbaraz, 2020; Çetinkaya, 2019; Turpçu and Akyurt, 2018).

When the results of the hypothesis 'There is a difference in career stress among students based on gender' and the literature are examined, different results have been reached in the studies. It can be thought that the reason for this is that the studies were conducted in different occupations and age groups.

The Mann-Whitney U Test was applied for the hypothesis of 'Career stress differs based on the ownership of the university where students attend (state/ foundation)' and it was seen that there is no significant difference and hypothesis was completely rejected. In previous studies, it was seen that there was no comparison in terms of students going to foundation or state universities.

In order to reveal the difference between the professions for the hypothesis of 'Career stress differs based on the field of study where students attend (Medicine, Dentistry, Pharmacy, Health Management and VSHS)', the Kruskal-Wallis Test was applied and it was found that there was a significant difference in all factors except the general value.

Occupations were analyzed in pairwise comparisons with the Man Whitney U Test. In paired comparisons, 'Employment Pressure' and 'External Conflict' showed significant difference between Dentistry and VSHS; 'Employment Pressure' showed significant difference between Pharmacy and VSHS; 'Employment Pressure' showed significant difference between Medicine and VSHS; 'Employment Pressure' showed a significant difference between Health Management and VSHS.

In his study, Gündoğdu showed that there was a difference between the departments of the students on the total score of career stress. She stated that approximately 4.3% of the variance observed in the PSS scores was dependent on the department (Gündoğdu, 2021).

In a study conducted by Yu and Yang in 2013, it was found that department satisfaction and career stress were related (Yu and Yang, 2013). In his research, Özkan revealed that there is a significant relationship between students' satisfaction with the department and career stress, and that those with high satisfaction have low career stress levels (Özkan, 2020). Turgut and Yaşar stated in their study that there is a significant relationship between the department and career stress, and that the level of career stress may be higher in departments that have employment problems after graduation (Yaşar and Turgut, 2019).

Torun et al. showed in their study that university students with a positive 'core self-assessment' perceived career stress less. Core self-assessment; In short, it is a self-evaluation of the person himself. In other words, it is related to the person's self-knowledge (Torun et al.; 2021).

## 5.CONCLUSION

The research participants consisted of 32% male students ( $n=339$ ) and 68% female students ( $n=730$ ). The Mann-Whitney U Test was applied to determine the differentiation of the results of the Career Stress Scale according to gender, and it was observed that there was no significant difference other than 'Employment Pressure' ( $MU=103662.500$   $p=0.000$ ). It was determined that female students ( $Md=3.33$ ) experienced more stress than male students ( $Md=3.0$ ) in terms of employment pressure.

In our study, 32% of the participants were from foundation universities and 68% were from state universities. The Mann-Whitney U Test was applied for the hypothesis of 'Career stress differs based on the ownership of the university where students attend (state/ foundation)' and it was seen that there is no significant difference.

Occupations were analyzed in pairwise comparisons with the Man Whitney U Test. In paired comparisons; 'Employment Pressure'(MU=40640.000 p=0.001) and 'External Conflict' (MU=41462.000 p=0.003) between Dentistry and VSHS; 'Employment Pressure' (MU=30220.000 p=0.000) between Pharmacy and VSHS, 'Employment Pressure' between Medicine and VSHS (MU=18629.500 p=0.000); 'Employment Pressure' (MU=20310.500 p=0.003) showed a significant difference between Health Management and VSHS.

It is clear that the level of career stress will have significant effects on students' future work lives (Zhang et al., 2022). For this reason, families, faculty members, university career centers, statesmen who carry out planning activities in higher education and students themselves have a lot of work to reduce career stress of students.

Students should be guided to get to know themselves and their abilities during their childhood years. Individuals who understand their wishes, abilities and skills correctly can choose the right professions and be happy in their jobs. Families should support their children in line with their children's wishes and abilities, and should be with their children in career decisions. Young people should be able to receive career guidance services both in secondary education and at university. Activities such as career days should be increased in order to promote professions. Faculty members should analyze the changes, needs and

expectations of their students and the business world well, prepare their students for their professions in this direction, and make the students feel ready for the business world. Research and studies should be carried out and cooperation should be established in order to increase the quality and effectiveness of practice courses and internships.

Country governments should create the necessary environment for all stakeholders to work in coordination with each other for effective human resources planning. Instead of educating students in areas with employment problems, the workforce should be shifted to areas where it is needed. The departments in Higher Education Institutions and the quotas for these departments should be revised by constantly reviewing. Cooperation between Higher Education Institutions and industry representatives should be developed, and necessary improvements and arrangements should be made to train a workforce in quality and quantity suitable for the needs of the industry.

#### Conflict of Interest:

The authors declare that they have no conflict of interest.

#### Ethical Approval:

In order to conduct the research, ethical committee approval and permission were obtained from Marmara University Institute of Health Sciences on June 25, 2020.

#### Funding:

No financial support was used in this study.

## REFERENCES

- Altıok, H. Ö., and Üstün, B. (2013). Hemşirelik öğrencilerinin stres kaynakları. Kuram ve Uygulamada Eğitim Bilimleri • Educational Sciences: Theory and Practice - 13(2) Spring 747-766
- Ancın, V., and Ulucan, S. (2020). Mesleki güdülenmenin kariyer kararına etkisinde işsizlik kaygısının rolü; sağlık hizmetleri meslek yüksekokulu örneği. Management And Political Sciences Review.
- Arslan, A., and Gül, H. (2022). Examination Of Career Adaptation Of Health Services Vocational School Students: The Case Of Ondokuz Mayıs University. Uluslararası Ekonomi İşletme ve Politika Dergisi, 6(1), 97-118.
- Aşık, G., and Akgül, H. (2022). Üniversite öğrencilerinin kariyer stresleri, kariyer kararında ailenin etkisi ve kariyer kararı verme yetkinlik algıları arasındaki ilişkinin incelenmesi. Van Yüzüncü Yıl Üniversitesi Eğitim Fakültesi Dergisi, 19(1), 192-212.
- Bayrakceken, E., and Buztepe, S. (2021). Sağlık hizmetleri meslek yüksekokulu öğrencilerinin kariyer streslerinin bazı değişkenler açısından incelenmesi. Balıkesir Sağlık Bilimleri Dergisi, 10(3), 260.
- Bozyiğit, E., and Gökbaraz, N. (2020). Career stress determinants of the students in faculty of sports sciences. Journal of Computer and Education Research Year, 8(15), 181-200.
- Büyükoztürk, Ş. (2007). Sosyal bilimler için veri analizi el kitabı. Ankara: Pegem Akademi.
- Çetinkaya, T. (2019). The analysis of academic motivation and career stress relationships of students in department of physical education and sport. International Education Studies, 12(4), 24-35.
- Choi, B. Y., Park, H., Nam, S. K., Lee, J., Cho, D., and Lee, S. M. (2011). The development and initial psychometric evaluation of the Korean Career Stress Inventory for college students. The Career Development Quarterly, 59(6), 559-572.
- Çokluk, Ö., Şekercioğlu, G., and Büyükoztürk, Ş. (2016). Sosyal bilimler için çok değişkenli istatistik: SPSS ve LISREL uygulamaları. Ankara: Pegem Akademi.
- Demircioğlu, H., Özdemir, Ö., Özben, H. and Yılmaz, E. (2023). Günümüz öğrencilerinde kariyer kararı öz-yeterliliği. Avrasya Sosyal ve Ekonomi Araştırmaları Dergisi, 10(2), 326-358.
- Erdoğan, E., and İşözen, H. (2022, May). Üniversite öğrencilerinin kariyer kararı verme yetkinlik düzeyleri ile öz yeterlikleri ve kariyer stresleri arasındaki ilişki. In 4 th International Congress on Multidisciplinary Social Sciences (p. 65).
- Esen, D. (2019). Kariyer stresi ile öz-yeterlilik inancı ilişkisinin demografik değişkenlerin farklılaştırıcı rolü bağlamında incelenmesi: İzmir meslek yüksekokulu iktisadi ve idari programlar örneği. İzmir Katip Çelebi Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi, 2(2), 217-232.
- Fouad, N. A., Guillen, A., Harris-Hodge, E., Henry, C., Novakovic, A., Terry, S., and Kantamneni, N. (2006). Need, awareness,

- and use of career services for college students. *Journal of Career Assessment*, 14(4), 407-420.
- Gayef, A., and Sarıkaya, Ö. (2012). Sağlık hizmetleri meslek yüksekokulu öğrencilerinde mesleki güdülenme. *Tıp Eğitimi Dünyası*, 33(33), 9-18.
- Günay, A., and Çelik, R. (2019). Kariyer stresinin psikolojik iyi oluş ve iyimserlik değişkenleriyle yordanması. *Süleyman Demirel Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 2(33), 205-218.
- Gündoğdu, Y. (2021) The Relationship between university students' perceived career barriers, career stress and career awareness and academic success, Ufuk University, Social Sciences Institute Master Thesis, Ankara
- İlman, E., Şimşek, M., and Biçer, E. B. (2009). Sağlık yönetimi bölümü öğrencilerinin işsizlik kaygı düzeylerinin değerlendirilmesi: Sivas Cumhuriyet Üniversitesi örneği. 4. International Health Sciences and Management Conference, (p:249)
- Jung, Y. M. (2020). Nursing students' career identity, satisfaction with major, and career stress by career decision type. *Japan Journal of Nursing Science*, 17(1), e12281.
- Karadaş, A., Duran, S., and Kaynak, S. (2017). Hemşirelik öğrencilerinin kariyer planlamaya yönelik görüşlerinin belirlenmesi. *Süleyman Demirel Üniversitesi Sağlık Bilimleri Dergisi*, 8(1), 1-8.
- Kim, S. K. (2003). Life stress in freshmen and adjustment to college [In Korean]. *Korean Journal of Youth Studies*, 10, 215–237.
- Korkmazer, F. (2020). Üniversite öğrencilerinin işsizlik kaygısı algılarının incelenmesi. *Business Economics and Management Research Journal*, 3(2), 141-152.
- Nordvik, H. (1996). Relationships between Holland's vocational typology, Schein's career anchors and Myers—Briggs' types. *Journal of Occupational and Organizational Psychology*, 69(3), 263-275.
- Ozden, K., Sertel-Berk, H. (2017). Reliability and validity study of Turkish version of the Korean career stress inventory (KCSI). *Psikoloji Çalışmaları Dergisi* 37-1 (2017) 35-51
- Park, I. S. and Han, Y. J. (2017). A study on the difference in career attitude maturity, career identity, stress management, and satisfaction for major classes of nursing students according to demographic characteristics. *The Journal of Employment and Career*, 7(1), 145–167
- Rojas, V. M., and Kleiner, B. H. (2000). The art and science of effective stress management. *Management Research News*. Volume 23 Number 7/8 2000
- Rottinghaus, P. J., Jenkins, N., and Jantzer, A. M. (2009). Relation of depression and affectivity to career decision status and self-efficacy in college students. *Journal of Career Assessment*, 17(3), 271-285.
- Sağlık Bakanlığı. (2014). 2023 Yılı Sağlık İş Gücü Hedefleri ve Sağlık Eğitimi. Sağlık Bakanlığı Yayın, (958).
- Sönmez, B., Önal, M. and Yıldız, G. (2019). Hemşirelik son sınıf öğrencilerinin kariyer değerleri ve kariyer geleceği arasındaki ilişkinin belirlenmesi. *Sağlık Bilimleri ve Meslekleri Dergisi*, 6(1), 127-135.
- Şencan, H. (2005). Sosyal ve davranışsal ölçümlerde güvenilirlik ve geçerlilik. Ankara: Seçkin Yayıncılık.
- Tabachnick, B. G. And Fidell, L. S. (2013). Using multivariate statistics. Boston, Pearson.
- Torun, Y., Cakar, H., and Budak, S. (2021). Üniversite öğrencilerinin temel benlik değerlendirmeleri ile kariyer stresleri arasındaki ilişkide girişimcilik niyetinin aracılık rolü: bir vakıf üniversitesi örneği. *Pamukkale Üniversitesi Eğitim Fakültesi Dergisi*, (53), 280-304.
- Turaç, İ. S., and Donar, G. B. (2017). Sağlık yönetimi öğrencilerinin işsizlik kaygılarını ve yaşam doyumlarını etkileyen faktörlerin belirlenmesi. *Siyaset, Ekonomi ve Yönetim Araştırmaları Dergisi*, 5(4), 119-127.
- Turpcu, E., and Akyurt, H. (2018). Turizm eğitimi alan öğrencilerin kariyer streslerinin belirlenmesi: Giresun Üniversitesi lisans öğrencileri üzerine bir araştırma. *The Journal of Academic Social Science Studies*, 69, 365-380.
- Uludağ Güler, Ç. and Ünal, E. (2020). Measuring career stress and emotion-attitudes in young people: an applied research on university students. *International Social Sciences Studies Journal*, (e-ISSN:2587-1587) Vol:6, Issue: 68; pp:3748-3762
- Üzüm, B., Uçkun, S., and Uçkun, G. (2018). Üniversite öğrencilerinin yaşadığı bir fenomen: kariyer stresi. *Journal of Social and Humanities Sciences Research*, 5(24), 1641-1651.
- Yasar, O. M., and Turgut, M. (2019). Sport science college students and career stress. *Cypriot Journal of Educational Sciences*, 14(4), 580-589.
- Yılmaz, A. (2019). Öğretmen adaylarının kariyer streslerinin karma araştırma yaklaşımı ile incelenmesi. *Türk Spor Bilimleri Dergisi*, 2(1), 93-105.
- Yılmaz, M., Yaman, Z., and Erdoğan, S. (2017). Öğrenci hemşirelerde stres yaratan durumlar ve baş etme yöntemleri. *Mersin Üniversitesi Sağlık Bilimleri Dergisi*, 10(2), 88-99.
- Yılmaz, I., Dündar, A., Atli, A. (2020) Expectation of vocational outcome as a predictor of life satisfaction of university students. *Inonu University Journal of the Graduate School of Education* Volume: 7, Issue: 13,
- Yu, E. Y., and Yang, Y. J. (2013). A study on the difference among college students' department satisfaction and career maturity and the influence on career stress. *Journal of Digital Convergence*, 11(12), 557-568.
- Zhang, Z., Yu, X., and Liu, X. (2022). Do I decide my career? Linking career stress, career exploration, and future work self to career planning or indecision. *Frontiers in Psychology*, 13.