

Investigation of the Relationship Between Psychological Well-Being and Problem Solving Skills of Faculty of Health Sciences Students

Sağlık Bilimleri Fakültesi Öğrencilerinin Psikolojik İyi Oluşları ile Problem Çözme Becerileri Arasındaki İlişkinin İncelenmesi

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ÖZET

Amaç: Bu çalışma, sağlık bilimleri fakültesi öğrencilerinin psikolojik iyi oluşları ile problem çözme becerilerinin saptanması ve arasındaki ilişkinin incelenmesi amaçlanmıştır.

Yöntem: Araştırma tanımlayıcı kesitsel tasarımda gerçekleştirildi. Araştırmanın evrenini Türkiye'deki iki vakıf üniversitesinde sağlık bilimleri alanında eğitim alan öğrenciler oluşturmaktadır (N=5016). Verilerin toplanmasında "Tanıtıcı Bilgi Formu", "Psikolojik İyi Oluş Ölçeği (PİÖÖ)" ve "Problem Çözme Envanteri (PÇE)" kullanılmıştır. Veriler SPSS programında analiz edilmiştir.

Bulgular: Öğrencilerin PÇE toplam puan ortalaması 100,4±17,22; PÇE alt boyut puan ortalamaları ise, "Kişisel Kontrol" 15,89±3,92, "Problem Çözme Güveni" 29,40±8,13 ve "Yaklaşma Kaçınma Tarzı" 44,97±9,73 olarak belirlenmiştir. PİÖÖ toplam puan ortalaması ise 42,7±8,54 olarak bulunmuştur. Öğrencilerin psikolojik iyi oluşları ile problem çözme becerileri arasında anlamlı bir ilişki olduğu bulunmuştur (p<0,001).

Sonuç: Elde edilen sonuçlar doğrultusunda, psikolojik iyi oluş ile problem çözme becerileri arasında anlamlı ilişki olduğu ve öğrencilerin psikolojik iyi oluşları ile problem çözme becerilerinin de arttığı bulunmuştur. Bu bulgularla tutarlı şekilde problem çözme alt boyutlarının, psikolojik iyi oluş ve problem çözme toplam puanın pozitif yönde ilişkili olduğu sonucuna ulaşılmıştır. Psikolojik iyilik ile problem çözme becerisi çift yönlü olarak birbiri ile doğrudan ilişkilidir ve birbirini etkilemektedir.

Anahtar Kelimeler: Sağlık Bilimleri, Problem Çözme, Psikolojik İyi Oluş.

ABSTRACT

Objective: The aim of this study was to determine the psychological well-being of health sciences students; their problem-solving skills and to examine the relationship between them.

Methods: The research was carried out in descriptive cross-sectional design. The population of the research consists of students studying in the field of health sciences at two foundation universities in Turkey (N=5016). "Descriptive Information Form", "Psychological Well-Being Scale (PWBS)" and "Problem Solving Inventory (PSI)" were used to collect data. The data were analyzed in SPSS program.

Results: The students' PSI total score average was 100,4±17,22; PSI sub-dimension score averages were determined as "Personal Control" 15,89±3,92, "Problem Solving Confidence" 29,40±8,13 and "Approach Avoidance Style" 44,97±9,73. The mean total score of PWBS was found to be 42,7±8,54. It was found that there is a significant correlation between students' psychological well-being and their problem-solving skills (p<0.001)

Conclusion: In line with the results obtained, it was found that there was a significant relationship between psychological well-being and problem-solving skills, and that as students' psychological well-being increased with their problem-solving skills. Consistent with these findings, it was concluded that problem solving sub-dimensions, psychological well-being and total problem solving score were positively related. Psychological well-being and problem solving skills are directly related to each other and affect each other.

Keywords: Health Sciences, Problem Solving, Psychological Well-Being.

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INTRODUCTION

Psychologically well-being requires self-acceptance in every sense, being in positive relationships with the environment, meaning and purpose in life, efforts for self-development and the ability to be independent, satisfaction with life, intrinsic worthiness, forgiveness, ability to develop close relationships with people and productivity (1,2). The absence of sadness is not a sufficient criterion to define psychological well-being. Psychological well-being also refers to nurturing spiritual needs, autonomy, independence, forgiveness, ability to establish close relationships with people, and productivity (2). Being psychologically well can also be defined as self-acceptance, the ability to establish positive relationships, life having meaning and purpose, openness to personal development, autonomy and the ability to master the environment (1-3). Based on the points, it is possible to say that psychological well-being, which is an important determinant for individuals' mental well-being, may be related to many other psychological variables. One of these psychological variables is problem solving skills. Problem solving is a cognitive and behavioral process that involves creating effective options to cope with existing problems and choosing the most effective one among these options (3-6).

Today, people find themselves constantly confronted with the problem of solving problems in an increasingly complex society. Therefore, it is possible to say that it is necessary to take measures to increase the adaptability of individuals to changes in the complex physical and social environment, to facilitate problem solving and to examine the related factors. The way the problem is handled varies from person to person. As the person fails to solve the problem, he/she is negatively affected psychologically. An individual's good mental health is related to his/her ability to solve problems effectively (3,4). Studies also show that psychological well-being predicts problem solving skills and high psychological well-being has a positive effect on problem solving abilities (5). Health science students, who are the health professionals of the future, need to be supported in order to become self-confident, mentally healthy individuals who can solve their problems effectively. In order for students to manage the stressful situations they are in and to protect their mental health, they must first have psychological resilience and psychological well-being (6).

Students may face many factors that affect their mental state both in the university environment and in the clinical environment. There are many problems that affect the mental health of students, such as encountering dying patients, fear of doing something wrong during practice, fear of adverse reactions from suffering patients, insufficient support from other

healthcare professionals in the clinical environment, and negative attitudes (6-8). Therefore, there is a need to better understand the factors that affect students in many ways.

People with effective problem-solving skills are individuals who experience less stress, are self-confident, and have social skills (6). In addition, health professionals with good problem-solving skills act more effectively in protecting and improving the health of individuals, increasing the quality of life, meeting the needs of patients and their families with complex health problems, and making rational decisions regarding care (8,9). Therefore, it is extremely important that students, who will be professionals of the future, have the skills to cope with factors and clinical problems that will negatively affect their mental state, as this will directly affect the quality of their care (9).

Employees who will serve in the field of health have the potential to encounter problems at any time and are expected to solve these problems effectively. For this reason, it is important for health sciences faculty students to have problem-solving skills both in their school life and in their professional lives. One of the important factors that can affect problem-solving skills is psychological well-being and they need to be aware in this sense. It is extremely important that students have the skills to cope with problems that will negatively affect their psychological well-being, as this will directly affect both their own development and the quality of care they will provide. The aim of this study is to determine the psychological well-being and problem-solving abilities of health sciences students and to examine the relationship between them.

MATERIALS AND METHODS

Study type and group: This descriptive, cross-sectional study was conducted in the 2022-2023 academic year in the health sciences faculties of two universities in Istanbul. The population of the research comprise of health sciences faculty students (N=5016). Raosoft sample size calculation program was used to determine the sample size and it was determined that at least 270 students should be reached in the study ($\alpha=0.05$, $1-\beta=0.90$). The aim of the study was to reach all students but the study was completed with a total of 303 students who participated in the research voluntarily.

Study Questions: What are the psychological well-being and problem-solving skills of health sciences faculty students?

Do the descriptive characteristics of health sciences faculty students affect their psychological well-being and problem-solving skills?

Is there a relationship between the psychological well-being of health sciences faculty students and their problem-solving skills?

Procedures: The data were collected face-to-face and by the researchers. "Introductory Information Form", "Psychological Well-Being Scale" and "Problem Solving Inventory" were used to collect the data.

"Introductory Information Form": The form prepared for the participants consisted of 10 questions about age, sex, people they lived with, department, grade, whether they received psychological support or not (2,6,10) .

"Psychological Well-Being Scale (PWBS)": The scale was developed by Diener et al. (2009) (11). It was adapted into Turkish by Telef (2013) (3). The Cronbach alpha internal consistency coefficient obtained in the reliability study of the scale in our country sample was found to be .80. Cronbach's α value of this study was found to be .89. The scale consists of 8 items and the items range from strongly disagree (1) to strongly agree (7). (min. score 8; max.score 56). High scores from the scale indicate that the person has more psychological resources and high psychological strength (3).

"Problem Solving Inventory (PSI)": The scale developed by Heppner and Peterson (1982) was adapted into Turkish by Taylan and Akkoyun (1990) and the reliability coefficient was determined as Cronbach $\alpha = 0.81$ in the adaptation study (4,12). The cronbach alpha value of the scale were .74 for this study. Since the literature emphasizes that values of .70 and above are reliable, the data were accepted as reliable (13,14). The scale consists of "35 items in 6-point Likert type" and 3 sub-dimensions: "Personal Control", "Problem Solving Confidence" and "Approach Avoidance Style". During scoring, there are items that are not scored and items that are scored in reverse. Low scores (min. score 32) from the scale indicate effectiveness in problem solving skills, and high scores (max. score 192) indicate inadequacy in problem solving (12). This point was taken into account when interpreting the PSI score and looking at the relationship between the PSI and PWBS scales.

Statistical analysis: The data were analyzed in SPSS 28.01 program. The mean, standard deviation, number percentage distributions value was calculated for the analysis of descriptive statistics. Independent samples t test for comparing normally distributed data in two categorical groups; ANOVA test is used to compare 3 or more groups. Mann Whitney U test is used to compare non-normally distributed data in two categorical groups; The Kruskal Wallis test is used to compare 3 or more groups. In the study, problem solving scores showed

a normal distribution; The skewness and curtosis values are between -1.5 and 1.5. Therefore, in the study, analyzes of these data were made with parametric tests. Psychological well-being scores in the study did not show a normal distribution; skewness and curtosis scores are not in the range of -1.5 to 1.5. Therefore, in the study, analyzes of these data were made with non-parametric tests. Since one of the data whose relationship was examined was not normally distributed, Spearman correlation test was performed.

Ethical considerations: Our study was approved by the Non-Interventional Research Ethics Committee on 08.06.2022 with the approval code 17.2022. Before starting the research, verbal approval was obtained from the institutions where the research was conducted. Necessary explanations were made to all participants and their verbal and written consent was obtained.

RESULTS

It was determined that 83.5% of the students were women, 66.7% lived with their family/relatives, they were generally at the middle income level (70.6%), and the mean age was 20.76 ± 2.81 .

It was determined that the majority of the students were students of the Nursing Department (27.1%) and 37.6% of the students were first class (Table 1).

The mean total score of PSI was 100.4 ± 17.22 ; the mean total scores of PSS sub-dimensions were determined as 'Personal Control' 15.89 ± 3.92 , 'Problem Solving Confidence' 29.40 ± 8.13 and 'Approach Avoidance Style' 44.97 ± 9.73 . The mean total score of PWBS was found to be 42.7 ± 8.54 (Table 2). It was determined that there was no significant relationship between the ages of the students and their psychological well-being and problem solving skills ($p > 0.05$).

When compared in terms of gender, it was seen that there was no statistically significant difference between the PWBS of female students and male students. When PSI were examined, it was determined that although the problem solving scores of males were lower than the PSI of females, this difference was not statistically significant ($p > 0.05$). The PSI scores of the students living at home with their friends were significantly lower than those living with their families and relatives and those living in dormitories ($p < .001$). It was found that students' PWBS scores did not diverge according to where they lived ($p > 0.05$).

Table 1. Demographic characteristics of the study group

Variables	X ± SD	
Age	20.76 ± 2.81	
	n	%
Sex		
Female	253	83.5
Male	50	16.5
Place		
With Family	202	66.7
In the dormitory	78	25.7
With Friends in Home	23	7.6
Income		
Very Low	7	2.3
Low	20	7.6
Medium	209	70.6
High	52	17.8
Very High	5	1.7
Table 1. Demographic characteristics of the study group (continued)		
Department	n	%
Nursing	82	27.1
Midwifery	68	22.4
Speech-Language Therapy	40	13.02
Nutrition and Dietetics	31	10.2
Ergotherapy	30	9.9
Child Development	27	8.9
Physiotherapy and Rehabilitation	25	8.3
Year of School		
1. Year	114	37.6
2. Year	110	36.3
3. Year	67	22.1
4. Year	12	4.0
Psychological Support		
Yes	18	5.9
No	285	94.1
Total	303	100

Table 2. Mean scores of students' PSI and PWBS Subscales

Scales		min-max scores	X ± SD
Problem Solving Inventory	Personal Control	6-27	15.89 ±3.92
	Problem Solving Confidence	13-61	29.40±8.13
	Approach Avoidance Style	24 -85	44.97±9.73
	Total Score	65-180	100.4±17.22
Psychological Well-Being Scale	Total Score	8-56	42.7±8.54

SD: Standard deviation; PSI: Problem Solving Inventory; PWBS: Psychological Well Being Score

No significant difference was found between PWBS scores and PSI scores according to the departments, classes and psychological support received. ($p>0.05$) (Table.3).

Table 3. PSI and PWBS score averages according to students' descriptive characteristics

	PSI	PWBS
Sex		
Female	100.11±17.12	42.53±8.23
Male	102.22±17.80	43.98 ±9.95
test value and p	t= -.776; p= 0.43	U=5357; p=0.087
Place		
With Family	98.72±15.85	43.41±7.89
In the dormitory	100.58 ±18.97	41.55±9.84
With Friends in Home	114.91±16.43	41.34±9.04
test value and p	F= 9.62; p=.000*	X ² =2.12; p=0.346
Income		
Very Low	101.85±10.77	41.00 ±6.70
Low	105.45±22.43	39.21±11.34
Medium	100.86±17.06	42.72±7.83
High	97.32±16.62	43.79±9.66
Very High	90.40±7.5	52.6±4.50
test value and p	F=1.33; p=0.25	X ² =15.19; p=0.004*
Department		
Nursing	102.32±12.47	43.52±12.75
Midwifery	97.03±15.82	43.74±11.18
Speech-Language Therapy	101.13±12.76	42.79±17.11
Nutrition and Dietetics	100.46±9.33	42.33±22.91
Ergotherapy	100.69±9.39	44.27±17.07
Child Development	100.20±11.51	41.92±16.76
Physiotherapy and Rehabilitation	100.57±8.17	40.86±11.65
test value and p	F=.272; p=0.950	X ² =1.53; p=0.90
Year of School		
1. Year	102.16±20.70	41.74±9.89
2. Year	97.71±15.23	43.56±7.20
3. Year	101.53±12.80	43.36±7.30
4. Year	104.44±18.86	41.50±11.95
test value and p	F= 1.52; p=0.209	X ² =.905; p=0.82
Psychological Support		
Yes	99.27±17.88	39.27±9.75
No	100.54± 17.21	42.99 ±8.43
test value and p	t= -.301; p= 0.764	U=1923; p=0.75

SD: Standard deviation; PSI: Problem Solving Inventory; PWBS: Psychological Well Being Score; F=One way ANOVA, t=student t testi; χ^2 =Kruskal Wallis Testi; U=Mann Whitney U Testi

It was found that there is a negative and significant correlation between students' psychological well-being and their problem-solving skills ($p<0.001$) (Table.4). In other words,

as the mean score of PSI increases, the mean score of PWBS decreases. In the assesment of psychological well-being, as the scale score increases, psychological well-being increases; in the evaluation of problem solving inventory, as the scale score decreases, the level of problem solving skills increases. Therefore, in this study, negative relationships indicate positive relationships. Based on the mentioned findings, it can be said that there is a correlation between psychological well-being and problem solving competences and as psychological well-being of students increases, their problem solving skills also increase.

Consistent with these findings, it was concluded that problem solving sub-dimensions, psychological well-being and problem solving total score were positively related (Table 4)

Tablo 4. Correlational relationships between "psychological well-being, problem solving skills and problem solving skills sub-dimensions"

	1	2	3	4	5
1. Psychological Well-Being	1				
2. Problem Solving Skills	-.353**	1			
3. Problem Solving Confidence	-.432**	.766**	1		
4. Approach Avoidance Style	-.221**	.850**	.458**	1	
5. Personal Control	-.238**	.605**	.337**	.369**	1

Spearman correlation analysis; **<.001

DISCUSSION and CONCLUSION

Health professionals may encounter and solve various problems at any time in their work environment. For a quality health care service, health professionals with high problem solving skills are needed and problem solving skills are affected by many factors. One of them is psychological well-being. Psychological well-being and problem solving skills are bidirectionally related and affect each other. The study, which aimed to examine the psychological well-being and problem solving abilities of health sciences faculty students, was discussed with the findings of the literature.

When we look at the mean scores of the students on the PWBS, it is seen that their scores are above the medium level. In this case, it can be said that students' psychological well-being is at a high level. In the some studies of Evli (2022) and Eroğlu (2022) examining psychological well-being in nursing students, the psychological well-being levels of the students were determined as high. Our research findings are similar to the literature (6,15).

In the study, as the mean total scores of PSI and the sub-dimensions of the scale are analysed, when we look at max score (192), it is seen that the students have medium level problem solving score. As a result of other similar studies, it is seen that students in the field of health sciences have moderate problem solving skills (16-22).

There was no important different between the students' psychological well-being scores according to their gender, place of residence, department, grade and psychological support status. However, it was determined that the psychological well-being of students with very high income level was at the highest level. In İşgör's (2017) study examining the psychological well-being of university students, it was reported that students with good socioeconomic status had higher psychological well-being than students with low socioeconomic status (23). Students with high income levels have more opportunities in many areas such as education, health and socialization than other students. Therefore, it is thought that the psychological well-being of these students is higher compared to other students.

As the mean scores of PSI scores were compared with respect to different demographic features of the students, the results revealed that there was no difference between gender, income status, department and class and the status of receiving psychological support; students living with friends had better problem solving skills than those living with their families. It is thought that students living with friends and away from their families may have improved problem solving skills because they need to solve the problems they face on their own. However, the study conducted by Koç et al. (2015), the results showed that the status of staying with family or friends did not cause a divergence in the mean scores of the students (20). In the literature, no difference was found in the mean PSI score between students' characteristics such as gender, income status, department, and our study findings are similar to the literature (16,19,24,25).

When age and scale mean scores were examined, it was determined that both problem-solving skills and psychological well-being levels of students were not related to age. Similar results were obtained in the study of Uysal and Manavoğlu (2019), and in the study of Amanak et al. (2019), it was determined that age and problem solving skills were related (10,18). This result may have been obtained because the ages of the students in our study were close to each other.

In our study, there was a correlation between students' psychological well-being and problem solving skills. As students' psychological well-being increases, their problem solving skills also increase. Psychological well-being is associated with solving problems effectively. Taking action to solve the problem requires psychological well-being. At the same time,

improved problem-solving skills also affect psychological well-being and are bidirectionally related to each other (4,5). Dikmen (2019) examined the correlation between psychological well-being and social problem-solving skills of university students and concluded that there was a positive, moderate relationship between psychological well-being and problem-solving skills (26).

Sagone and Caroli examined the relationship between psychological resilience, psychological well-being and coping strategies of university students and found that psychological well-being had a positive relationship with problem solving, coping with problems and resilience (27). In another study, examined the relationship between social problem solving and psychological well-being of nursing students and found that social problem solving had a positive effect on psychological well-being (6). As a result of Karahan and Hamarta's (2020) study with university students, it was determined that there was a positive relationship between solution-oriented thinking and psychological well-being (28). Our study result is similar to the literature findings.

As a result of the research, the problem solving skills of the students were found to be medium level, and their psychological well-being was above the medium level. There is a positive relationship between students' problem solving skills and their psychological well-being, they affect each other positively and as one increases, the other increases. When we look at the results of the study, enrichment of the education curricula of students studying in the field of health in a way that improves their problem-solving skills; It is recommended to carry out activities and practices to increase their psychological well-being and resilience, and to provide counseling to students when necessary.

Limitations of the Study

There are some limitations of this study include the fact that most of the students participating in the study were women, the small number of senior students and the fact that the study was conducted in two universities.

Conflict of Interest: There is no conflict of interest between the author.

Ethics Committee Approval: The study was approved by the Non-Interventional Research Ethics Committee (08.06.2022-17.2022). The study was carried out following the international declaration, guidelines, etc. Written consent was obtained from the participants.

Conflict of Interest: "No conflict of interest was declared by the authors".

Author Contributions: "Concept – HEŞ; Supervision – HEŞ, PDA; Materials – HEŞ, PDA; Data Collection and/or Processing – HEŞ, PDA; Analysis and/or Interpretation – PDA; Writing – HEŞ, PDA."

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