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THE RELATIONSHIP BETWEEN BURNOUT LEVEL AND HOPELESSNESS, PERCEIVED SOCIAL SUPPORT AND MENTAL WELL-BEING IN PHYSIOTHERAPY AND REHABILITATION SENIOR UNDERGRADUATE STUDENTS

ORIGINAL ARTICLE

ABSTRACT

Purpose: This study aimed to investigate the relationship between burnout level and hopelessness, perceived social support, and mental well-being among physiotherapy and rehabilitation senior undergraduate students.

Methods: Three hundred sixty-nine physiotherapy and rehabilitation senior undergraduate students (195 female, mean age: 22.81±3.72 years) were included in the present study. Data were collected using the online survey with a combination of the Maslach Burnout Inventory-Student Survey (MBI-SS), Beck Hopelessness Scale (BHS), Multidimensional Scale of Perceived Social Support (MSPSS), and Warwick-Edinburgh Mental Well-Being Scale (WEMWBS).

Results: There are no gender differences in burnout level and hopelessness level, perceived social support, mental well-being, and sociodemographic characteristics ($p>0.05$). There were significant relationships between the emotional exhaustion and cynicism subscales of MBI-SS and BHS, MSPSS, and WEMWBS ($p<0.05$) while the efficacy subscale of MBI-SS correlated with WEMWBS ($\rho=0.526$, $p=0.017$). In addition, BHS, MSPSS, and WEMWBS were significant predictors in the emotional exhaustion model describing 19% of the adjusted R^2 , and in the cynicism model describing 9% of the adjusted R^2 .

Conclusion: This study found that burnout level has a relationship between hopelessness, perceived social support, and mental well-being in physiotherapy and rehabilitation senior undergraduate students. Hopelessness, perceived social support, and mental well-being were significant predictors of the emotional exhaustion and cynicism aspects of burnout. Initiatives aimed at increasing hope level and social support for physiotherapy and rehabilitation senior undergraduate students might reduce burnout levels and improve mental well-being.

Keywords: Burnout, Hopelessness, Physiotherapy, Student, Mental Well-Being

FİZYOTERAPİ VE REHABİLİTASYON BÖLÜMÜ SON SINIF ÖĞRENCİLERİNDE TÜKENMİŞLİK DÜZEYİ İLE UMUTSUZLUK, MENTAL İYİLİK HALİ VE ALGILANAN SOSYAL DESTEK İLİŞKİSİ

ARAŞTIRMA MAKALESİ

ÖZ

Amaç: Bu çalışma, fizyoterapi ve rehabilitasyon lisans son sınıf öğrencilerinde tükenmişlik düzeyi ile umutsuzluk, algılanan sosyal destek ve mental iyi oluş arasındaki ilişkiyi incelemeyi amaçlamıştır.

Yöntem: Bu çalışmaya 369 fizyoterapi ve rehabilitasyon lisans son sınıf öğrencisi (195 kadın, ortalama yaş: 22,81±3,72 yıl) dahil edildi. Veriler, Maslach Tükenmişlik Envanteri-Öğrenci Anketi (MTE-ÖA), Beck Umutsuzluk Ölçeği (BUÖ), Çok Boyutlu Algılanan Sosyal Destek Ölçeği (ÇBASDÖ) ve Warwick-Edinburgh Mental İyi Oluş Ölçeği (WEMİÖÖ)'nden oluşan çevrimiçi anket kullanılarak toplanmıştır.

Sonuçlar: Tükenmişlik düzeyi, umutsuzluk düzeyi, algılanan sosyal destek, mental iyi oluş ve sosyodemografik özellikler açısından cinsiyetler arası fark bulunmadı ($p>0,05$). MTE-ÖA'nın duygusal tükenme ve duyarsızlaşma alt ölçekleri ile BUÖ, ÇBASDÖ ve WEMİÖÖ ile ilişkili bulunurken ($p<0,05$), MTE-ÖA'nın yetkinlik alt ölçeği yalnızca WEMİÖÖ ile ilişkiliydi ($\rho=0,526$, $p=0,017$). Ek olarak, BUÖ, ÇBASDÖ ve WEMİÖÖ duygusal tükenmenin %19'unu açıklayan ve duyarsızlaşma modelinin %9'unu açıklayan istatistiksel olarak anlamlı belirleyicileri olarak bulundu.

Tartışma: Bu çalışma, fizyoterapi ve rehabilitasyon lisans son sınıf öğrencilerinde tükenmişlik düzeyinin umutsuzluk, algılanan sosyal destek ve mental iyi oluş arasında bir ilişki olduğunu bulmuştur. Umutsuzluk, algılanan sosyal destek ve mental iyi oluş, tükenmişliğin duygusal tükenme ve duyarsızlaşma yönlerinin önemli belirleyicileriydi. Fizyoterapi ve rehabilitasyon son sınıf öğrencilerinde umut düzeyini ve sosyal desteği artırmayı amaçlayan girişimler, tükenmişlik düzeylerini azaltabilir ve mental iyilik halini iyileştirebilir.

Anahtar kelimeler: Tükenmişlik, Umutsuzluk, Fizyoterapi, Öğrenci, Mental İyi Oluş

INTRODUCTION

Studies on burnout in sectors that involve excessive human relations such as health, education, and service have extended to involve students (1-3). Learning burnout which is defined for students refers to the emotional exhaustion that stems from the necessity of studying lessons; cynicism and indifference towards the research, and low learning efficiency are observed (2,3). Literature shows that the effect of burnout on learning is widespread and in a nature that affects the student in the aspects of academic, personal, and social lives (4-7). This effect causes a decrease in academic involvement and performance by the deterioration of learning motivation (6,7). Along with this in an up-to-date study regarding students of physiotherapy and rehabilitation (PTR) who are future health personnel and are in communication with patients who have degradation in body structure and functions and with those who are in pain, it has been shown that along with the progression to the upper classes, the level of burnout increases and by the 4th grade reaches an all-time high (5). Özdinçler et al. found that the level of hopelessness varies depending on the faculty where students are educated, and the students of the Faculty of Health Sciences, including the students of the PTR department, experienced mild hopelessness (8).

According to the theory of burnout, hopelessness is defined as having negative expectations and emotions, and high-level hopelessness, can cause a loss of motivation, negatively affect mental well-being, and can be related to many psychological conditions (9,10). Levels of hopelessness have risen a meaningful amount in university students in the last few years (11). Social support can be estimated as a negative predictor of hopelessness. The majority of researches on physical and mental health have focused on social support. While the objective compound that contributes to the forming of the social support concept refers to the social support that is received in actuality, the subjective compound refers to the perceived social support. Compared to actually receiving social support, the support that people perceived to have helped themselves has been detected to be more effective. According to the studies, as the perceived social support increases, people's beliefs regarding the solution to

their problems can be higher and they can distance themselves from negative expectations of the future. Due to this fact, some researchers pointed out that perceived social support is important for the health of the mind and contributes to putting a distance to hopelessness (12). With this, perceived social support decreases the burnout level (13).

The positive effect of perceived social support from family and friends on the mental well-being of students is shown in the literature (14). Although mental well-being is defined in various ways by different authorities, it is a complex phenomenon that can be expressed as optimal functionality and mood in general (15). On the other hand, Kaya Mutlu et al. concluded that PTR students are at a level of mild hopelessness and have detected that anxiety about finding a job plays a crucial factor in the hopelessness (16). A recent study that focused on the employment time of PTR graduates has found that following 2015 the ratio of graduate physiotherapists who found a job compared to previous years has decreased prominently (17).

Although studies on the level of burnout and hopelessness have been conducted in Turkey, no studies have been found on the association of these two factors with the level of perceived social support and mental well-being. It may be that the level of burnout is high and the level of hopelessness, mental well-being, and perceived social support may be related to the level of burnout in PTR students whose rate of graduates increases every year and cannot be employed at the same rate (17). This study aimed to investigate the relationship between burnout level and hopelessness level, mental well-being, and perceived social support in PTR senior undergraduate students.

METHODS

Study Protocol

The present study was a cross-sectional design study and was conducted from 27/02/2023 to 27/03/2023. Ethical approval was obtained from the University of Health Sciences, Hamidiye Scientific Research Ethics Committee (Approval number: 4/18 and Date: 24/02/2023) and conducted according to the Declaration of Helsinki. The informed

consent form approved by the Research Ethics Committee was obtained from all participants. Written explanations were provided to patients about the study, and each provided written informed consent.

Participants

Three hundred sixty-nine PTR senior undergraduate students studying at state and foundation universities in Turkey were included in the present study. The eligibility criteria were as follows: (1) being a senior undergraduate student in the PTR department in Turkey; (2) using computers or smartphones and having internet access; (3) ability to read and write in Turkish and (4) being a volunteer to participate. The exclusion criteria were as follows: (1) suspending education on any grounds; (2) having any work in return for money; and (3) not being Turkish citizens.

The sample size and power calculation were performed using the G*Power 3.1 power analysis program. In the sample size calculated using the correlation model "Correlation: Bivariate normal model," the effect size was small to moderate ($|p|=0.2$), α error was 0.05, the 95% confidence interval, and the desired power was 95% (18). These parameters generated a sample size of at least 319 participants. Due to the high drop-out rate of internet-mediated university studies, 400 senior undergraduate PTR students were invited to the present study (19).

Data Collection

Data collection was carried out via an e-survey sent out with an e-mail to the targeted sample. The questionnaire created through Google Forms was delivered to the participants via the link. The link had been active within a month for the data collection process. The participants were informed that the study was carried out for scientific purposes, and the information was not shared with third parties. The online survey had an introductory page explaining the purpose of the research, the identity and affiliations of the researchers, details of what participation will entail, and confirmation of ethical approval by the ethics committee. Before they started the questionnaire, they were asked whether they were willing to participate. All participants answered "yes" to the question, "Do you agree to

participate in the survey?". Thus, all participants have provided voluntary consent to participate. The selection of one response option was enforced, and completeness checks were performed before the questionnaire was submitted. Participants could review and change their answers through a Back button, and the survey was never displayed again once they had filled it. The questionnaires that terminated early were not analyzed.

Data Collection Tools

The evaluation was composed of three parts: (1) socio-demographic characteristics, (2) information about occupational anxiety, professional competence, and satisfaction, and (3) questionnaires.

Age, sex, marriage status, and having a child or not were questioned. Information about occupational anxiety, professional competence, and satisfaction was questioned via the following statements: Being worried about finding a job, thinking that your profession is respected enough by society, thinking that your profession will meet your demands, feeling professionally competent, thinking of choosing the PTR department again and thinking of recommending the PTR department to candidates.

Maslach Burnout Inventory-Student Survey (MBI-SS) was used to determine the degree of burnout. The MBI-SS consists of 15 items that aimed to assess three major aspects of burnout: emotional exhaustion (5 items), cynicism (5 items), and efficacy (6 items) (3,20). Turkish version of MBI-SS has 13 items and 3 subscales (emotional exhaustion (5 items), cynicism (4 items), and efficacy (4 items)) and was obtained as a result of confirmatory factor analysis (21). Higher scores indicate greater burnout levels in the exhaustion and cynicism subscales, and lower scores indicate greater burnout levels in the efficacy subscale (3,21).

Beck Hopelessness Scale (BHS) was used to determine the degree of hopelessness. The BHS consists of 20 dichotomous (true/false) items that aimed to assess three major aspects of hopelessness: feelings about the future, loss of motivation, and expectations (9,22). The total score ranges from 0 to 20, and higher scores indicate greater hopelessness. The total scores from 0 to 3 indicate the normal range, scores from 4 to 8 reflect mild hopelessness,

Table 1. Characteristics of Participants (n=369)

Parameters	n (%)
Age, years	22.81±3.72 [20-27]
Sex	
Female	195 (52.84%)
Male	174 (47.16%)
Cumulative Grade Point Average, score (out of 4)	3.01±1.76
Marriage status	
Single	16 (4.33%)
Married	353 (95.67%)
Having a child	
Yes	10 (2.71%)
No	269 (97.29%)
Being worried about finding a job	
Yes	210 (56.91%)
No	159 (43.08)
Thinking that your profession is respected enough by society	
Yes	239 (64.77%)
No	130 (35.23%)
Thinking that your profession will meet your demands	
Yes	175 (47.43%)
No	194 (52.57%)
Feeling professionally competent	
Yes	185 (50.13%)
No	184 (49.86%)
Thinking of choosing the PTR department again	
Yes	166 (44.99%)
No	203 (55.01%)
Thinking of recommending the PTR department to candidates	
Yes	194 (52.58%)
No	175 (47.42%)
MBI-SS, score	
Emotional Exhaustion	15.33±4.78 [5-25]
Cynicism	10.30±3.81 [4-20]
Efficacy	12.18±3.13 [4-20]
BHS, score	10.58±1.95 [3-16]
MSPSS, score	46.28±12.53 [10-60]
WEMWBS, score	48.12±10.82 [14-56]

Notes: BHS, Beck Hopelessness Scale; MBI-SS, Maslach Burnout Inventory-Student Survey; MSPSS, Multidimensional Scale of Perceived Social Support; PTR, Physiotherapy and Rehabilitation; WEMWBS, Warwick-Edinburgh Mental Well-Being Scale. Data are expressed as number (percentage of the total number) and mean±standard deviation [Minimum-Maximum].

scores from 9 to 14 reflect moderate hopelessness, and scores greater than 14 reflect severe hopelessness (23).

Multidimensional Scale of Perceived Social Support (MSPSS) was used to determine the degree of perceived social support. The MSPSS consists of 12 items that aim to measure three sources of social support: family, friends, and a significant other (24,25). Total score ranges from 12 to 84,

and higher scores indicate greater perceived social support. The total scores from 12 to 35 indicate low perceived support, scores from 36 to 60 reflect moderate perceived support, and scores from 61 to 84 reflect high perceived support (24).

Warwick-Edinburgh Mental Well-Being Scale (WEMWBS) was used to determine the degree of mental well-being. The WEMWBS consists of 14 items that aim to assess well-being (26,27). Total

Table 2. The Relationship between Burnout Level and Hopelessness Level, Perceived Social Support, and Mental Well-Being (N=369)

Variables	Emotional Exhaustion ^a	Cynicism ^a	Efficacy ^a	Hopelessness ^b	Perceived Social Support ^c	Mental Well-Being ^d
Hopelessness	-0.63 (0.001)**	-0.57 (0.001)**	0.37 (0.06)	1	0.41 (0.02)*	0.61 (0.001)**
Perceived Social Support	-0.43 (0.03)*	-0.42 (0.01)*	0.41 (0.08)	0.41 (0.02)*	1	0.57 (0.001)**
Mental Well-Being	-0.64 (0.001)**	-0.63 (0.001)**	0.52 (0.01)*	0.61 (0.001)**	0.57 (0.001)**	1

Spearman correlation test $p < 0.05$, $p < 0.01$ **

Data are expressed as rho (p).

^a As assessed by the Maslach Burnout Inventory-Student Survey.

^b As assessed by the Beck Hopelessness Scale.

^c As assessed by the Multidimensional Scale of Perceived Social Support.

^d As assessed by the Warwick-Edinburgh Mental Well-Being Scale.

Table 3. Linear Regression Analysis of Predictors of Emotional Exhaustion Level

Predictors	Independent Variables	Standardized Coefficient			P-value	Adjusted R ²
		B	SE	Beta		
Model I	Hopelessness ^a	0.27	0.10	0.16	0.001	0.19
	Perceived Social Support ^b	0.14	0.15	0.07	0.03	
	Mental Well-Being ^c	0.76	0.33	0.37	0.001	

^a As assessed by the Beck Hopelessness Scale.

^b As assessed by the Multidimensional Scale of Perceived Social Support.

^c As assessed by the Warwick-Edinburgh Mental Well-Being Scale.

score ranges from 14 to 70, and higher scores indicate higher mental well-being (26).

Statistical Analysis

Statistical Package for Social Science (SPSS) version 21.0 for Windows software (SPSS, Inc., Chicago, IL, USA) was used for all statistical analyses. Before the statistical analysis, the Kolmogorov-Smirnov test was used to assess data distribution. Descriptive statistics, including frequency, the percentage for nominal variables, and mean and standard deviation for continuous variables were calculated. Spearman correlation analysis was used to explore the relationship between hopelessness level, burnout level, mental well-being, perceived social support, and other factors. The significance level was set as $p < 0.05$. The correlation coefficient was interpreted as: 0.00-0.30 negligible correlation; 0.30-0.50 weak correlation; 0.50-0.70 moderate correlation; 0.70-0.90 strong correlation; and 0.90-1.00 very strong correlation (28). Variables with significant correlations in the correlation analysis were used in

linear regression models to predict burnout levels in the PTR senior undergraduate students.

RESULTS

Three hundred sixty-nine PTR senior undergraduate students (195 female, mean age: 22.81 ± 3.72 years) volunteered to participate in the study. The sociodemographic characteristics of participants, data about occupational anxiety, professional competence and satisfaction, and mean scores of questionnaires are shown in Table 1. No students did a double major or minor in another program or engaged voluntarily in the internship.

There are no gender differences in burnout level and hopelessness level, perceived social support, mental well-being, and sociodemographic characteristics ($p > 0.05$). The mean scores of emotional exhaustion, cynicism, and efficacy subscales of MBI-SS were similar in both sexes (14.82 ± 3.28 , 10.21 ± 2.75 , 12.02 ± 1.75 for female students, and 15.90 ± 4.21 , 10.39 ± 4.23 , 12.35 ± 2.51 for male students, respectively) ($p < 0.05$). In addition, the

Table 4. Linear Regression Analysis of Predictors of Cynicism Level

Predictors	Independent Variables	Standardized Coefficient			P-value	Adjusted R ²
		B	SE	Beta		
Model I	Hopelessness ^a	0.37	0.21	0.06	0.008	0.09
	Perceived Social Support ^b	0.34	0.25	0.10	0.06	
	Mental Well-Being ^c	0.54	0.31	0.30	0.006	

^a As assessed by the Beck Hopelessness Scale.

^b As assessed by the Multidimensional Scale of Perceived Social Support.

^c As assessed by the Warwick-Edinburgh Mental Well-Being Scale.

mean scores of BHS (10.98±1.54 for female students and 10.13±2.14 for male students), MSPSS (45.40±11.48 for female students and 47.43±10.53 for male students), and WEMWBS (47.68±11.08 for female students and 48.61±9.97 for male students) were also similar for female and male PTR senior undergraduate students ($p=0.21$, $p=0.45$, and $p=0.26$, respectively).

The relationship between burnout level and hopelessness level, perceived social support, mental well-being, and sociodemographic characteristics of participants are presented in Table 2. There were significant relationships between the emotional exhaustion subscale of MBI-SS and BHS, MSPSS, and WEMWBS ($\rho = -0.632$, $p=0.001$; $\rho = -0.435$, $p=0.031$; and $\rho = -0.644$, $p=0.001$; respectively). The cynicism subscale of MBI-SS was also related to BHS, MSPSS, and WEMWBS ($\rho = -0.577$, $p=0.001$; $\rho = -0.425$, $p=0.012$; and $\rho = -0.634$, $p=0.001$; respectively). However, the efficacy subscale of MBI-SS correlated only with WEMWBS ($\rho = 0.526$, $p=0.017$).

Linear regression analysis of predictors of emotional exhaustion was statistically significant for hopelessness ($p=0.001$), perceived social support ($p=0.032$), and mental well-being ($p=0.001$), describing 19% of the adjusted R² (in Model I, Table 3). Besides, hopelessness ($p=0.008$), perceived social support ($p=0.041$), and mental well-being ($p=0.006$) were significant predictors in the cynicism model, describing 9% of the adjusted R² (in Model I, Table 4).

DISCUSSION

The present study aimed to investigate the relationship between burnout level and hopelessness, perceived social support, and mental well-being

among PTR senior undergraduate students. About 57% of students were worried about finding a job, 53% of them did not think that their profession would meet their demands, and 55% of them did not think of choosing the PTR department again if they had a chance. Moreover, burnout level has a relationship between hopelessness, perceived social support, and mental well-being in PTR senior undergraduate students. Hopelessness, perceived social support, and mental well-being were significant predictors of the emotional exhaustion and cynicism aspects of burnout. Similarly, a recent study showed that the burnout levels of the students increased as the years progressed and reached their peaks in the 4th grade (5). As graduation time approaches, it has been shown that burnout and anxiety increase (29), but no research in the PTR field reviewing the relationship between burnout levels of senior undergraduate students with their perceived social support, mental well-being, and hopelessness parameters was found.

Although the research on burnout was specific in the service/service sector fields before, it started to deal with student burnout in the mid-2000s (30-32). Burnout assessment inventories have been diversified by considering students and academic burnout (3,21). A previous meta-analysis stated that students with low perceived social support levels had higher burnout levels. In addition, strong correlations were found between all subcomponents of burnout, including inefficiency, cynicism, exhaustion, and social support (33). In our study, there was a strong relationship between cynicism and exhaustion and perceived social support, but unlike the literature, no relationship was found with efficiency.

In a study that was conducted in Turkey in the year

2017 on 330 registered undergraduate students, it was found that the hopelessness levels of the students were meaningfully higher than their American peers (34). Girgin et al. concluded that hopelessness levels in male students are higher than in female students and it has been stated the situation is directly correlated with social relations (35). However, there are no gender differences in burnout level and hopelessness level, perceived social support, or mental well-being in the present study. The absence of difference between female and male students can be related to the similarity of perceived social support because hopelessness level is found to be directly correlated with perceived social support in the present study.

The last comprehensive study regarding the employment of physiotherapists has been done by Karagozoglu Coskunsu et al. They found that following the year 2018, the last 3 years, progressively decreasing employment levels have been detected. While in 2012 the percentage of graduated and found a job is %76.2, this ratio is %24.4 for 2016 graduates. On top of this, on the date the study was conducted, it is seen that the number of universities giving PTR license education was 61 (17). By the year 2023, the number of faculties that are offering bachelor's degrees on PTR has reached 102 (36). This sharp increase might cause the unemployment problem to increase further, thus affecting hopelessness levels. Findings of a recent study supporting this hypothesis pointed out that while anxiety about professional competence was higher in the first graders of undergraduate PTR students, future and employability anxiety was higher in the fourth graders of undergraduate PTR students (37).

One parameter that has proven to have an impact on mental well-being is perceived social support (38). Cobo-Rendon et al. found that emotional well-being increased significantly as perceived social support increased (39). In our study, it is seen that perceived social support is associated with higher mental well-being, in line with the literature. It has been shown that mental well-being is negatively affected in students with high hopelessness, and the incidence of suicidal thoughts increases (40). In the present study, it was determined that the level of hopelessness affected mental well-being

significantly negatively. Hopelessness, perceived social support, and mental well-being are significant predictors of two major aspects of burnout (emotional exhaustion and cynicism). Therefore, PTR senior undergraduate students should be monitored in terms of hopelessness and perceived social support, and their mental well-being should be supported.

The present study will contribute to the field in terms of understanding burnout and associating it with perceived social support, hopelessness, and mental well-being in PTR senior undergraduate students and students in general. In a meta-analysis on the subject, it was seen that teacher/counselor support came first among the types of social support that reduced the level of burnout, followed by family and friends (33). We hope that raising awareness on the subject will enable academic advisors to develop new strategies.

This study has some limitations that should be highlighted. First, the concept of perceived social support was not examined in detail in itself and only senior undergraduate students were included. Second, it was carried out through an online platform. Third, other sociodemographic data that may lead to an increase in burnout and hopelessness and a decrease in well-being were not focused on.

CONCLUSION

This study found that burnout level has a relationship between hopelessness, perceived social support, and mental well-being in PTR senior undergraduate students. Hopelessness, perceived social support, and mental well-being were significant predictors of the emotional exhaustion and cynicism aspects of burnout. Initiatives aimed at increasing hope level and social support for PTR senior undergraduate students might reduce burnout levels and improve mental well-being. Future studies can also follow the development of the effect of work anxiety by including students from all classes in the studies to be planned in the field.

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Author Contribution: TB: Conceptualization, Methodology, Investigation, Writing-Original draft

preparation, Writing-Reviewing, and Editing. PB: Conceptualization, Methodology, Investigation, Writing-Original draft preparation, Formal Analysis, Writing-Reviewing, and Editing.

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