



ORIGINAL ARTICLE

The Relationship Between Burnout and Perceived Stress: A sample of Healthcare Workers

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ABSTRACT

Objective: The complex relationship between perceived stress and burnout symptoms in medical professionals is an overlooked topic and there are limited studies that examine the relationship between these two variables. In this study, it is aimed to examine the relationship between perceived stress and burnout based on Maslach's three-dimensional model.

Methods: The study sample consists of 32 males, 124 females and totally 156 medical secretaries from different departments of Dokuz Eylul University Hospital (DEUH). Sociodemographic form for all the participants was completed during the interviews. The Turkish MBI (Maslach's Burnout Inventory) and Turkish PSS (Perceived Stress Scale) were completed by the participants.

Results: Our findings revealed that stress and burnout scores were not statistically significant different in terms of socio-demographic variables such as gender, marital status, education level, and working unit. Furthermore, stress was found to be positively correlated with emotional exhaustion and depersonalization and also depersonalization and personal accomplishment subscales were significantly predictive of stress.

Discussion: The development of programs aimed at reducing the stress level of individuals in healthcare organizations and taking some precautions in this direction will also decrease the level of burnout and increase the work efficiency.

Keywords: Burnout, healthcare organizations, medical secretaries, stress

INTRODUCTION

The concept of burnout was defined by Freudenberger in his study on healthcare employees in 1974 and it was accepted as mental and physical energy depletion after developing work-related stress in the long term (1). However, important contributions in burnout literature was completed by Maslach. He argued that long-term work stress leads to burnout, and defined it as breaking away of people from the original meaning and purpose of the profession they do and giving up to take care of people they served. Maslach has developed a three-dimensional burnout model that explain what burnout is (2).

Maslach defined Emotional Exhaustion as the main dimension of burnout, and it means being emotionally overextended and exhausted by one's work. The second critical dimension of burnout was depersonalization, which was characterized by exhibiting negative, cynical attitudes toward others and treating people as objects. To cope with the sense of exhaustion, workers exhibit cynical, solid and distant behaviors. The last dimension of burnout in Maslach Burnout Theory was Personal Accomplishment. That is about the negative assessment of the performance of people (3). People are doubtful about making a difference in their job, and they lose awareness of their personal competence (4-6).

Stress is a condition that manifests various physical psychotic symptoms that arise from the threatening and forcing of the organism's physical and psychological boundaries. Stress at work is a condition mediated by business and organizational desires, restrictions, and

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opportunities individual characteristics. The work stress response is an objective and individual phenomenon (7). In various studies, it was found that perceived stress affects physical health (8), chronic pain (9-11), and psychological health (12, 13). Lazarus and Folkman (14) stated that stress poses a threat to people's physical and psychological well-being. Misra et al. have reported that stress has emotional (e.g.; depression, anxiety, fear) and physiological (e.g.; headache, sweating, body aches, weight gain and loss) consequences (15).

Many studies that examined the relationship between stress and health emphasized the importance of physiological responses to stressful events (16). Although stress is a warning that encourage workers to work harder, when the stress reach to an extreme level, job performance decreases and the person starts to have difficulty in decision making. In this sense, the relationship between stress and work efficiency depends on the amount of stress. In the absence of stress in the work environment, job performance is declining. When stress increases to a certain level, job performance is also increasing. However, excessive stress completely eliminates the work efficiency of the worker. Stressful work life increases nervousness and may also lead them to leave their jobs (17). Stress in the workplace has a devastating impact on the health and performance of employees. In addition, stress in the workplace has a devastating impact on the health and performance of employees. Stress is an important cause of psychosocial diseases as well as physical disorders. Individuals working under stress may be more vulnerable to physical and mental illness (18). Accordingly, it is thought that determining how stress and burnout levels change according to sociodemographic variables and the relationship between stress and burnout will make a significant contribution to the literature in this field.

The main aim of present study was to examine the relationship between perceived stress and burnout based on Maslach's three-dimensional model. Therefore, two important hypotheses were examined in this study. First, would the level of stress and burnout of healthcare workers vary according to some sociodemographic

variables? Second, which dimensions of burnout predicts stress.

METHODS

Participants

This study included 32 males, 124 females and totally 156 medical clerks from different departments of Dokuz Eylul University Hospital. Sociodemographic form for all the participants was completed during the interviews. The Turkish version of Maslach Burnout Inventory (MBI) and Turkish version of Perceived Stress Scale (PSS) were completed by the participants. Written informed consents were obtained from the participants following the study protocol was thoroughly explained.

Psychometric measurements

Sociodemographic data form

This form consisted of questions that were prepared by author for obtaining information about the demographic characteristics (age, gender, marital status, education level, and working unit) of the participants.

Maslach Burnout Inventory (MBI). MBI was developed by Maslach and Jackson (5) is a 7-point Likert-type scale and composed of 22 items to measure burnout. MBI assesses three components of the burnout syndrome as emotional exhaustion, depersonalization, and personal accomplishment. Cronbach alpha coefficients of original MBI for emotional exhaustion, personal accomplishment and depersonalization subscales found 0.90, 0.71 and 0.79 respectively test-retest reliability coefficients for emotional exhaustion, personal accomplishment and depersonalization subscales found 0.82, 0.80 and 0.60 respectively (5). In the scale, 9 items are used to evaluate emotional exhaustion, 5 items are for depersonalization, and 8 items are for personal accomplishment. In emotional exhaustion and depersonalization subscales, items are scored in the same way, but the personal accomplishment subscale items are reverse scored and collected.

The score of each subscale is not combined in one single total score. Therefore, for each respondent, three

subscale scores are computed. Individuals who experience burnout are expected to be high in emotional exhaustion and depersonalization, and to be low in personal accomplishment. The Turkish version of MBI translated by Çam (19). Its validity and reliability have been done and the three factors in the original form are also found to be valid for Turkish Form. Cronbach alpha coefficients of the Turkish MBI for emotional exhaustion, personal accomplishment and depersonalization subscales found 0.80, 0.71, and 0.71 respectively and validity coefficients for emotional exhaustion, personal accomplishment and depersonalization subscales by split-half test methods was found 0.84, 0.72, and 0.78 respectively (19).

Perceived Stress Scale (PSS). PSS was developed by Cohen, Kamarck and Mermelstein (20) is a 5-point Likert-type scale and composed of 14 items to measure the level of stress in certain situations. Cronbach alpha coefficients of original PSS for three samples (two of college students and one of a more heterogeneous community group) found 0.84, 0.85, and 0.86 and test-retest reliability coefficient found 0.85 (20). In the scale items 4, 5, 6, 7, 9, 10 are positively stated items and they are scored in reverse. Scale score is obtained by summing all items scores. The Turkish version of PSS translated by Eskin, Harlak, Demirkiran and Dereboy (21) and its validity and reliability have been done with sample consisted of 234 university students. Cronbach's alpha coefficients of Turkish PSS found 0.84 and test-retest reliability coefficient found 0.87 (21).

Statistical Analysis

SPSS 23 (SPSS Inc., Chicago, IL, United States) package program was used to analyze the data. Kolmogorov-Smirnov and Shapiro-Wilk tests were applied and skewness and kurtosis values examined to determine whether the scale scores showed normal distribution. Because all scale scores showed normal distribution, parametric analysis methods were used. Descriptive statistics were reported using means and standard deviations for continuous variables and frequencies and percentages for categorical variables. In order to compare the means of two groups Independent Sample t-test and

for three or more groups one-way variance analysis (ANOVA) were used. Pearson correlation coefficients were calculated in order to show the relationship between burnout, stress, age, and work experience. Hierarchical multiple regression was used to examine relationship between PSS scores and MBI scales. The alpha level of 0.05 was set up to indicate significance.

RESULTS

Socio-demographic characteristics of sample

As seen from Table 1, the average age of the 156 participants in the study was 37.64 (SD=6.86) years and the average work experience was 12.52 (SD=6.71) years. The sample consisted of 32 (20.5%) males and 124 (79.5%) females. The majority of the participants in the study were married (67.3%) and 51 (32.7%) were single. In all, 69.9% participants were undergraduates and 30.1% had high school education. 20 (12.8%) participants were working in the emergency service, 19 (12.2%) in the clinics, 53 (34.0%) polyclinics, 32 (%20.5) in the center laboratory and 32 (%20.5) participants were working in the billing unit.

Table 1: Socio-demographic characteristics of the participants

Age	37.64±6.86	
Work experience (Year)	12.52±6.71	
	n	%
Gender		
Female	124	79.5
Male	32	20.5
Marital Status		
Single	51	32.7
Married	105	67.3
Education Level		
High school	47	30.1
University	109	69.9
Working Unit		
Emergency service	20	12.8
Clinics	19	12.2
Outpatient	53	34.0
Center laboratory	32	20.5
Billing unit	32	20.5

Comparison of Total PSS and MBI Subscale Scores in terms of Socio-demographic Variables

Study results revealed that total PSS and Emotional Exhaustion, Depersonalization, and Personal Accomplishment subscales of MBI mean scores were not statistically significant different in terms of gender, marital status, education level, and working unit (Table 2) ($p>0.05$).

Correlation of MBI and Subscales with PSS Scores

There were statistically significant but weak positive correlations between Total PSS with Emotional Exhaustion and Depersonalization subscales of MBI. Total PSS scores were statistically significantly and positively correlated

with Emotional Exhaustion ($r=0.234$, $p<0.01$) and Depersonalization ($r=0.196$, $p<0.05$) scores. However, there were not a statistically significant correlation between age and professional time with total PSS and MBI subscale scores ($p>0.05$). The results of the Pearson's correlation are presented in Table 3.

The predictors of Total PSS

The hypothesized relationship between PSS scores and MBI scales were tested in two separate hierarchical multiple regression analysis. The demographic variables (age, gender) were entered in the first step of the hierarchical multiple regression. MBI scales were entered in the second steps of the hierarchical regression analyses. The results indicated that Depersonalization and Personal

Table 2: Comparison of Total PSS and MBI Subscale Scores in terms of Working Unit

	n	Mean	SD	F	p	η^2
Total PSS						
Emergency service	20	40.85	6.69	0.640	0.634	0.016
Clinics	19	40.21	4.20			
Outpatient	53	38.96	7.04			
Center laboratory	32	39.94	6.11			
Billing unit	32	40.81	4.32			
Emotional Exhaustion						
Emergency service	20	22.60	5.71	1.640	0.167	0.041
Clinics	19	23.63	5.79			
Outpatient	53	22.66	6.96			
Center laboratory	32	21.53	8.30			
Billing unit	32	19.38	6.12			
Depersonalization						
Emergency service	20	8.55	2.78	0.401	0.808	0.010
Clinics	19	8.95	2.88			
Outpatient	53	8.55	3.71			
Center laboratory	32	9.47	3.39			
Billing unit	32	8.94	3.82			
Personal Accomplishment						
Emergency service	20	29.75	3.52	2.084	0.086	0.052
Clinics	19	28.47	4.03			
Outpatient	53	29.28	5.49			
Center laboratory	32	26.31	5.87			
Billing unit	32	29.06	5.46			

PSS: Perceived Stress Scale

MBI: Maslach Burnout Inventory

Table 3: Correlations between the Turkish MBI, Turkish PSS, age, and Work Experience

	Age	Work Experience (Year)	Total PSS	Emotional Exhaustion	Depersonalization	Personal Accomplishment
Age						
Work Experience (Year)	0.704**					
Total PSS	-0.040	-0.003				
Emotional Exhaustion	0.020	0.146	0.234**			
Depersonalization	-0.065	-0.067	0.196*	0.535**		
Personal Accomplishment	-0.049	-0.030	0.157	-0.088	-0.051	

**Correlation is significant at the 0.01 level (2-tailed).

*Correlation is significant at the 0.05 level (2-tailed).

PSS: Perceived Stress Scale

MBI: Maslach Burnout Inventory

Table 4: Hierarchical Multiple Regression

Model 1	B	SE	β	t	p
(Constant)	42.323	3.122		13.555	0.000
Age	-0.037	0.071	-0.043	-0.528	0.598
Gender	-0.816	1.195	-0.055	-0.682	0.496
Model 2					
(Constant)	30.693	4.474		6.860	0.000
Age	-0.027	0.068	-0.030	-0.389	0.698
Gender	-0.603	1.171	-0.041	-0.515	0.607
Emotional Exhaustion	0.167	0.081	0.192	2.053	0.042
Depersonalization	0.182	0.163	0.104	1.118	0.265
Personal Accomplishment	0.200	0.089	0.176	2.246	0.026
R ²		0.096			
F		3.198			

p<0.01

Dependent Variable: Total PSS

PSS: Perceived Stress Scale

MBI: Maslach Burnout Inventory

Accomplishment subscales were significantly predictive of PSS scores ($R^2=0.096$, $F(5,155)=3.198$, $p=0.01$). The results of the hierarchical multiple regression are presented in Table 4.

DISCUSSION

In this present study, we aimed to examine the relationship between perceived stress and burnout based on Maslach's three-dimensional model among medical clerks working at a university hospital in Izmir, Turkey.

The first major finding of our study was that total PSS and Emotional Exhaustion, Depersonalization, and

Personal Accomplishment subscales of MBI mean scores were not statistically significant different in terms of gender, marital status, education level, and working unit. In the literature, it is seen that there are similar results in other studies. In a study conducted with 151 administrative staff working in various hospitals, no significant differences were found between PSS scores in terms of gender (22). Similarly, in a study conducted on 540 teachers, no significant differences were found between PSS scores according to gender (23). Tok et al. (24), in their study conducted on 150 family health workers working in the family health center, reported that there were no significant differences between male and

female participants in terms of Emotional Exhaustion, Depersonalization and Personal Accomplishment subscales of MBI. The results of another study that examines burnout level between male and female doctors and nurses revealed that both men and women feel the same level of burnout (25). These studies supported the result of Maslach and Jackson (26) that gender was not an important factor in burnout in contrast to the common assumption that women are more vulnerable to job stress. Therefore, it is important to include women and men at equal rates in the studies and programs developed to prevent burnout.

Our results also revealed that there was no significant differences between perceived stress levels, emotional exhaustion, depersonalization and personal accomplishment levels of married and single health workers. There are similar results in the literature. In a study conducted with 151 administrative staff working in various hospitals, no significant differences were found between single and married participants in terms of PSS scores. In another study conducted on 540 teachers, it was reported that PSS scores did not change significantly according to marital status. In a study conducted with 54 nurses working at the intensive care units, no significant differences were found between the of Emotional Exhaustion, Depersonalization and Personal Accomplishment scores of nurses according to marital status (27). Similarly, the burnout levels of medical clerks working in a public hospital did not differ according to the marital status (28).

In addition, our results revealed that there were no statistically significant differences between participants have a high degree and undergraduate degree in terms of mean scores of Emotional Exhaustion, Depersonalization and Personal Accomplishment subscales scores. Similarly, Akbolat, Işık and Karadağ (28) also have reported that burnout level does not change according to participant's educational level. However, because studies examine the relationship between educational level, burnout and stress, it is difficult to comment. More longitudinal studies are required in order to understand if education has any effects on burnout and stress.

In our sample, Turkish PSS was found to be positively correlated with Emotional Exhaustion and

Depersonalization subscales of MBI. The participants who received higher scores in Turkish PSS also received higher scores in these scales specifically developed to examine being emotionally overextended and exhausted by one's work and exhibiting negative, cynical attitudes toward others and treating people as objects. According to the findings of a study conducted on 206 health care personnel in Turkey, it was reported that the work stress that the employees were exposed increased their intention to quit the work and increased work-family conflicts. On the other hand, while job stress has the most negative effect on job satisfaction, it also negatively affects life satisfaction and family satisfaction (29). In another study conducted in family physicians, researchers reported that physicians who expressed that work stress has been recently increased scored higher scores in Emotional Exhaustion, Depersonalization, and total burnout when compared to those expressed that work stress has not changed or decreased (30). In a more recent study, Elshaer et al. (31) have reported that skill underutilization, variation in workload, and intragroup conflicts were negatively associated with burnout. While, job satisfaction and responsibility for peoples' life were positively associated with personal accomplishment domain of MBI. Authors describe burnout as the "progressive loss of idealism, energy and purpose, experienced by people in the helping professions as a result of their work" (32). When all these findings are evaluated, it can be said that there is a positive relationship between stress level and the exhaustion level of the individuals and the individuals who have high levels of emotional exhaustion or depersonalization experience more stress than other individuals. Therefore, the development of programs aimed at reducing the stress level of individuals in business life and taking some precautions in this direction will also decrease the level of burnout and increase the work efficiency.

This study also presents certain limitations. The first limitation of our study is that it has a small sample and participants included in study with convenience sampling method. The fact that women and men have not an equal distribution and that most of the participants being women is another limitation of this study. Another

limitation of the present study, it can be stated that inclusion of clerks only in medical professionals. Including a sample of general population would provide extra conclusions regarding comparison of perceived stress levels and burnout symptoms between medical and non-medical samples. Lastly, in this study, we did not use any scales that measure participant's anxiety level. However, anxiety is also an important variable that affects stress and burnout. Examining the anxiety level as a moderating factor in the causal relationship between stress and burnout in the future study will make important contributions to the relevant literature.

CONCLUSIONS

In conclusion, our findings revealed that stress and burnout scores were not statistically significantly different in terms of socio-demographic variables such as gender, marital status, education level, and working unit. Furthermore, stress was found to be positively correlated with emotional exhaustion and depersonalization and also depersonalization and personal accomplishment subscales were significantly predictive of stress.

Patient informed consent: Written informed consents were obtained from the participants.

Ethics committee approval: The study protocol was approved by the Ethics Committee of Dokuz Eylül University. The study protocol was approved by the Ethics Committee of Dokuz Eylül University.

Conflict of Interest: The authors reported no conflicts of interest related to this article.

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