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Predictors of burnout and job satisfaction among Turkish physicians

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Summary

Background: Burnout is associated with decreased job performance and low career satisfaction. It has a special significance in health care, where staff experience both psychological–emotional and physical stress.

Aim: To investigate levels of job satisfaction and burnout among Istanbul physicians, and the relationships between demographic characteristics, job characteristics, job satisfaction and burnout.

Design: Questionnaire-based survey.

Methods: We collected data from a randomly selected sample group of 598 physicians from different health-care institutions in Istanbul. A questionnaire regarding sociodemographic characteristics of the physicians, the Maslach Burnout Inventory (MBI) and the Minnesota Job Satisfaction Questionnaire (MSQ) were all administered during face-to-face interviews.

Results: Job satisfaction was inversely correlated with emotional exhaustion and depersonalization, and positively correlated with personal accomplishment. Under multilevel regression, the most significant and common predictors of all burnout dimensions and job satisfaction were the number of vacations at individual level, and public ownership of healthcare facilities at group level. Number of shifts per month was also a significant predictor of all burnout dimensions.

Discussion: Organizational efforts aimed at increasing the level of job satisfaction among physicians could help to prevent burnout.

Introduction

Burnout is a syndrome of emotional exhaustion, depersonalization and a sense of low personal accomplishment that leads to decreased effectiveness at work.[1,2] It is associated with decreased job performance and reduced job commitment, and predicts stress-related health problems and low career satisfaction.[3] A broad range of professions (including physicians, nurses and educators) can experience burnout.[4–6] Burnout is a prolonged response to chronic job-related stressors. It has a special significance in health care, where staff experience both psychological–emotional and physical stress.[7–9]

The modern medical workplace is a complex environment, and doctors' responses to it vary greatly. Some find it stimulating and exciting, whereas others become stressed and burned out from their heavy workload. Several personal, interpersonal and organizational factors have been reported to be related to job satisfaction, stress and burnout in the medical environment.[10–14] The strain of working day in and day out with too many patients, taking responsibility for critical decisions based on ambiguous information, facing the potentially serious consequences of these decisions, and the attendant pressure to avoid mistakes, are

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among the job conditions that render medicine inherently stressful.[15] The literature suggests strong interrelationships among low levels of job satisfaction, the burnout syndrome and other organizational factors,[8,16–18]

Turkey is a country with too few physicians and poor health indicators when compared to European countries. The health care system has a highly complex structure that is at once centralized and fragmented, health care being provided by public, quasi-public, private and philanthropic organizations. Relations between these institutions are not well structured or regulated, as the current system is the result of historical developments rather than rational planning.[19]

In 2003, the Turkish government started a 'health transformation programme' to ensure that health services are organized, funded and delivered in an effective, efficient and equitable way. Although the health care system is now undergoing tremendous changes, there are no data related to the psychosocial work climate and the role of structural changes in the job-related experiences. In particular, physicians in Istanbul, the largest metropolis, are overwhelmed by their workload. The recent application of performance criteria to public sector physicians has created extra pressure and workload for these physicians. We took the opportunity to investigate burnout and job satisfaction in physicians working in a changing health care system in a developing country.

Our objectives were: (i) to assess the levels of burnout and job satisfaction among physicians in different health care institutions in Istanbul; and (ii) to investigate the interrelationships between demographic characteristics, job characteristics, job satisfaction and burnout.

Methods

Study sample

This cross-sectional study used a sample group of physicians as representative of the physicians in Istanbul, Turkey. We selected the sample by stratified and systematic sampling methods. The minimum sample size to represent the population of Istanbul physicians at 95% confidence level was calculated to be 384. Because the first stage of sampling was planned as cluster sampling, and the 'design effect' of the cluster sampling method vs., simple random sampling is to multiply by two, the estimated sample size was 768.[20]

We stratified the physicians' workplaces into five groups: (i) public hospitals; (ii) private hospitals; (iii) university hospitals; (iv) primary health care facilities of the Ministry of Health; and (v) private offices and polyclinics. We then selected four public hospitals, four private hospitals, one university hospital and ten public health centres using the cluster sampling method. The participants needed for the sample were chosen systematically from the lists received from Province Health Directorate and Chamber of Medicine, proportionately to the distribution of the total physicians in these groups. We collected data from 598 physicians (response rate 78%).

Data collection

Data were collected using three different questionnaires during face-to-face interviews with trained interviewers.

The first questionnaire included questions regarding the demographic characteristics and working conditions of the physicians.

The second questionnaire was the Turkish version of the Maslach Burnout Inventory (MBI). The MBI is a 22-item questionnaire, generally considered as the 'gold standard' measure for burnout.[21] It has been translated into Turkish, and shown to be reliable and valid.[22] The inventory asks respondents to indicate the frequency with which they experience certain feelings related to their work. The MBI evaluates three domains of burnout: (i) emotional exhaustion, consisting of nine items measuring the reduced energy and job enthusiasm, emotional and cognitive distancing from the job; (ii) depersonalization, consisting of five items measuring cynicism, lack of engagement and distancing from the patients, treatment of patients as inanimate, unfeeling objects; and (iii) personal accomplishment, consisting of eight items measuring perception of having an influence on others, working well with others and dealing well with problems.[23] Each item consists of a 5-point rating scale ranging from 0 ('never') to 4 ('every day'), and on the basis of the MBI responses, independent subscale scores are calculated for each of the three domains of burnout. High scores on the emotional exhaustion or depersonalization subscales indicate burnout, as do low scores on the personal accomplishment subscale.

Reliability analysis of the MBI in our study group indicated that it was a reliable instrument with high coefficients of internal consistency (Cronbach's $\alpha = 0.81$ for emotional exhaustion, $\alpha = 0.70$ for depersonalization, and $\alpha = 0.73$ for personal accomplishment subscales).

The third questionnaire was the Turkish version of the short form of the Minnesota Satisfaction Questionnaire (MSQ). The MSQ was developed by Weiss, Dawiss, England, and Lofquist,[24] and is a

well regarded measure of job satisfaction that has been used in various studies. The short form of the MSQ was translated and adapted into Turkish by the Department of Psychology of the University of Bosphorus. Baycan[25] performed a validation and reliability analysis of the Turkish version of the MSQ as part of her postgraduate thesis. Since then, it has been used in a number of studies in Turkey.[26,27] The short form of the MSQ includes 20 items that are relevant to a number of job facets; respondents indicate their degrees of relative satisfaction using a 5-point, Likert-type scale ranging from 1 (very dissatisfied) to 5 (very satisfied). The scores were summed so as to show each participant's satisfaction level ranging from 20 to 100. The MSQ was reliable, with a Cronbach's α of 0.88 in our study group.

Statistical analyses

Collected data was analysed using SPSS v. 11.5. Percentages, mean and SD were used as descriptive statistics. Bivariate analysis of mean burnout subscale scores and mean satisfaction scores with regard to independent variables were done by unpaired t test and ANOVA. Tukey's HSD test was used for *post hoc* comparisons of ANOVA. Variables that were significant in the bivariate analysis were included in the multilevel modelling process.

Multilevel analysis of the data used the statistical software package HLM 6 (Hierarchical Linear and Non-linear Modelling).[28] The dependent variables were: emotional exhaustion, depersonalization, personal accomplishment and job satisfaction. The independent variables at individual level ('level 1') were: the sociodemographic characteristics and working conditions of the physicians in the study group. Group level ('level 2') variables were: type of the ownership of the health facility ('government' or 'proprietary') and the type of the health services given ('out-patient only' or 'in-patient and out-patient'). For each dependent variable, we created a series of multilevel models, the final versions of which are described in Tables 5–8.

The first model for each dependent variable was the null model without any variables at either level. When the random effect for the intercept was statistically significant in the null model, a subsequent model focused upon group level determinants alone. A final model included the relevant level 2 variables from the preceding stage and all of the level 1 variables.

Results

Table 1 shows sociodemographic characteristics of the study group: 64% were male, 67.4% were married, 78.6% were specialists and 20% had administrative responsibility.

Table 1 Demographic characteristics

	n	%
Age group (years)		
⩽29	84	14.2
30–39	189	31.9
40–49	243	41.0
⩾50	77	13.0
Gender		
Male	380	64.0
Female	214	36.0
Marital status		
Single	127	21.2
Married	403	67.4
Widowed/divorced/separated	68	11.4
Professional status		
GP	55	9.2
Assistant	69	11.5
Specialist	470	78.6
Sub-specialist	4	0.7
Employment		
Public sector	272	45.5
University hospital	77	12.9
Private sector	249	41.6
Administrative responsibility		
Yes	113	20.0
No	452	80.0
Years in profession		
0–9	160	27.2
10–19	231	39.3
20–29	160	27.2
⩾30	37	6.3

Table 2 presents the mean scores computed for each subscale of MBI and MSQ by demographic characteristics. Emotional exhaustion and depersonalization scores were significantly higher in the ⩽29 years age group than in the older age groups, while personal accomplishment score and satisfaction score were significantly lower in this age group, indicating that younger physicians in our study group experience high levels of burnout and low levels of job satisfaction.

Mean depersonalization score of males was significantly higher than that of females ($p = 0.036$). However, gender was not a significant variable for emotional exhaustion, personal accomplishment or job satisfaction. Mean emotional exhaustion score was significantly higher in single physicians than in married or widowed/divorced physicians ($p = 0.036$). The mean satisfaction score of single physicians was also significantly lower than for the others ($p = 0.006$). There were no statistically

Table 2 Mean MBI subscale and MSQ scores by demographic characteristics

Demographic characteristics	Emotional exhaustion	Depersonalization	Personal accomplishment	Job satisfaction
Age group				
⩽29	15.56 (6.18)	5.57 (3.91)	21.63 (5.11)	65.98 (12.51)
30–39	13.69 (6.41)	4.69 (3.51)	22.57 (3.64)	68.88 (10.99)
40–49	12.71 (5.95)	4.15 (3.14)	22.61 (4.09)	72.24 (11.07)
⩾50	12.83 (6.07)	3.61 (3.10)	23.70 (4.92)	72.14 (11.11)
	$F=4.65$, $p=0.003$	$F=5.35$, $p=0.001$	$F=3.01$, $p=0.03$	$F=5.98$, p 0.001
Gender				
Male	13.36 (6.33)	4.65 (3.47)	22.60 (4.40)	70.84(11.86)
Female	13.56 (6.03)	4.04 (3.23)	22.60 (3.94)	68.74(10.69)
	$t=0.37$, $p=0.707$	$t=2.10$, $p=0.036$	$t=0.018$, $p=0.986$	$t=1.79$, $p>0.05$
Marital status				
Single	13.93 (6.11)	4.73 (3.66)	22.23 (4.45)	66.80 (11.84)
Married	13.59 (6.27)	4.48 (3.40)	22.67 (4.28)	70.53 (11.25)
Widowed/divorced/separated	11.62 (5.87)	3.71 (2.77)	22.89 (3.51)	73.02 (12.05)
	$F=3.35$, $p=0.036$	$F=2.01$, $p=0.136$	$F=0.66$, $p=0.518$	$F=5.16$, $p=0.006$

Data are means (SD).

significant differences between depersonalization and personal accomplishment scores with regard to marital status.

Mean MBI subscale scores and mean satisfaction scores of the study group according to various job characteristics are shown in Table 3.

Emotional exhaustion and depersonalization scores of assistants were significantly higher than those of general practitioners (GPs) and specialists ($p<0.001$), while personal accomplishment score was significantly lower ($p<0.001$). Satisfaction scores of assistants and GPs were significantly lower than specialists and sub-specialists ($p<0.001$). The physicians in the private sector had significantly lower scores for emotional exhaustion ($p<0.001$) and depersonalization ($p<0.001$), and significantly higher scores for personal accomplishment ($p<0.001$) and satisfaction ($p<0.001$) than the physicians in the public sector and university hospitals.

Physicians who reported a higher number of shifts, had significantly higher emotional exhaustion and depersonalization scores, and a lower satisfaction score. Having an administrative responsibility was a significant variable only for emotional exhaustion during bivariate analysis. Physicians who had been practicing for between 0 and 9 years had significantly higher mean emotional exhaustion and depersonalization scores than those who had been physicians for longer. These newer physicians also had significantly lower satisfaction scores ($p<0.001$).

Number of vacations per year was found to be a significant variable for every subscale of burnout and job satisfaction. Physicians, who reported having more than two vacations per year, had significantly lower scores for emotional exhaustion and depersonalization, and higher scores for personal accomplishment and satisfaction.

Bivariate analysis of the job characteristics data showed that specialists, private sector physicians, those who did not have shifts, had been physicians for longer, and went on vacations more than twice a year, were more satisfied and less burned out. On the other hand, assistants and GPs, public sector physicians, those who worked shifts, were newer to the profession, and had one or no vacation per year, were less satisfied and more burned out.

Job satisfaction was inversely correlated with emotional exhaustion and depersonalization, and positively correlated with personal accomplishment (Table 4).

Multilevel multiple regression analysis results are presented in Tables 5–8. Physicians who had no administrative responsibility, reported higher number of shifts per month and lower number of vacations per year, were more likely to report emotional exhaustion after controlling for the other variables at levels 1 and 2 (Table 5). It also appears that a high level of emotional exhaustion was associated with public ownership of the health facilities.

After controlling for other variables, depersonalization was significantly higher for males, and those who reported more shifts per month and less vacations per year (Table 6). Public ownership was the significant group level variable associated with high depersonalization.

Table 3 Mean MBI subscale and MSQ scores by job characteristics

Job characteristics	Emotional exhaustion	Depersonalization	Personal accomplishment	Job satisfaction
Professional status				
GP	15.23 (5.80)	4.47 (3.31)	23.38 (4.29)	61.54 (10.54)
Assistant	17.01 (5.67)	6.62 (3.78)	20.22 (4.54)	62.71 (12.10)
Specialist	12.72 (6.13)	4.14 (3.25)	22.84 (4.09)	72.18 (10.57)
Sub-specialist	10.75 (6.18)	4.44 (3.40)	23.00 (3.91)	82.00 (3.46)
	$F = 11.66$, $p < 0.001$	$F = 10.91$, $p < 0.001$	$F = 7.85$, $p < 0.001$	$F = 22.41$, $p < 0.001$
Employment				
Public sector	15.46 (5.87)	5.05 (3.39)	22.19 (4.62)	66.61 (11.58)
University hospital	14.14 (6.88)	5.16 (3.79)	22.00 (4.04)	67.08 (13.01)
Private sector	11.00 (5.50)	3.57 (3.09)	23.22 (3.77)	76.22 (7.68)
	$F = 36.82$, $p < 0.001$	$F = 14.56$, $p < 0.001$	$F = 4.67$, $p = 0.01$	$F = 37.73$, $p < 0.001$
Shift work				
Yes	15.53 (6.26)	5.48 (3.57)	22.22 (4.76)	67.12 (11.81)
No	12.22 (5.89)	3.77 (3.11)	22.89 (3.78)	72.19 (10.92)
	$t = 6.31$, $p < 0.001$	$t = 6.01$, $p < 0.001$	$t = 1.81$, $p = 0.071$	$t = 4.52$, $p < 0.001$
Administrative responsibility				
Yes	12.41 (6.03)	4.17 (3.24)	22.66 (5.11)	71.57 (11.95)
No	13.92 (6.32)	4.55 (3.47)	22.51 (4.09)	69.69 (11.37)
	$t = 2.22$, $p = 0.027$	$t = 1.03$, $p = 0.303$	$t = 0.33$, $p = 0.742$	$t = 1.31$, $p > 0.05$
Years in profession				
0–9	15.05 (6.21)	5.13 (3.66)	22.40 (4.51)	66.42 (12.22)
10–19	12.98 (6.07)	4.10 (3.19)	22.63 (3.59)	70.31 (9.74)
20–29	12.62 (5.93)	4.26 (3.29)	22.54 (4.28)	73.59 (11.95)
$\geqslant 30$	13.02 (7.44)	3.97 (3.19)	24.17 (5.71)	68.11 (13.15)
	$F = 4.81$, $p = 0.003$	$F = 3.35$, $p = 0.019$	$F = 1.73$, $p = 0.159$	$F = 8.00$, $p < 0.001$
Vacations per year				
0	14.64 (7.48)	4.67 (4.32)	20.88 (7.21)	62.77 (14.42)
1	14.65 (6.20)	5.23 (3.43)	22.04 (4.49)	68.05 (12.31)
2	12.85 (6.11)	4.00 (3.22)	23.01 (3.72)	72.17 (9.95)
>2	10.42 (4.64)	3.04 (2.77)	23.84 (2.88)	75.24 (8.61)
	$F = 9.49$, $p < 0.001$	$F = 9.83$, $p < 0.001$	$F = 5.55$, $p < 0.001$	$F = 8.72$, $p < 0.001$

Table 4 Correlations between job satisfaction and burnout subscales

	Job satisfaction	Emotional exhaustion	Depersonalization	Personal accomplishment
Job satisfaction	1			
Emotional exhaustion	−0.559*	1		
Depersonalization	−0.368*	0.598*	1	
Personal accomplishment	0.359*	−0.313*	−0.353*	1

*Significant at the 0.001 level (2-tailed).

Older respondents, general practitioners, physicians who had more vacations per year and less shifts per month reported significantly higher personal accomplishment (Table 7). Public ownership and out-patient facilities were also associated with low levels of personal accomplishment.

After controlling other variables, job satisfaction was significantly higher for specialists and for those reporting more vacations per year (Table 8). Public ownership was significantly associated with low job satisfaction.

Discussion

According to the multilevel regression results of our data, the most significant and common predictors of

Table 5 Multilevel linear regression results: factors associated with emotional exhaustion

Fixed effects	Coefficient	SE	*t* ratio	*p*
Constant	16.1211	1.1764	13.704	<0.001
Individual predictors				
Age	0.0318	0.0348	0.915	0.361
Gender* (0 = female, 1 = male)				
Marital status (1 = single, 2 = married, 3 = divorced/widowed/separated)	−0.5582	0.3371	−1.656	0.098
Professional status (1 = GP, 2 = assistant, 3 = specialist)	−0.6333	0.4481	−1.413	0.158
Administrative responsibility* (0 = no, 1 = yes)	−1.4670	0.6220	−2.358	0.019
No. of shifts per month	0.3452	0.1027	3.360	<0.001
No. of vacations per year	−1.0947	0.2932	−3.734	<0.001
Group level predictors				
Ownership of the health facility* (0 = public, 1 = proprietary)	−4.4252	1.0059	−4.399	0.003

*Entered as uncentred dummy variable. The remaining variables were centred on the group mean.

Table 6 Multilevel linear regression results: factors associated with depersonalization

Fixed effects	Coefficient	SE	*t* ratio	*p*
Constant	4.9457	0.6204	7.971	<0.001
Individual predictors				
Age	−0.0144	0.0197	−0.728	0.467
Gender* (0 = female, 1 = male)	0.8666	0.2821	3.072	0.003
Marital status (1 = single, 2 = married, 3 = divorced/widowed/separated)	−0.2318	0.1916	−1.210	0.227
Professional status (1 = GP, 2 = assistant, 3 = specialist)	0.0182	0.2547	0.072	0.943
Administrative responsibility* (0 = no, 1 = yes)	−0.3246	0.3533	−0.919	0.359
No. of shifts per month	0.2725	0.0584	4.665	<0.001
No. of vacations per year	−0.4913	0.1666	−2.948	0.004
Group level predictors				
Ownership of the health facility* (0 = public, 1 = proprietary)	−1.6556	0.5333	−3.104	0.019

*Entered as uncentred dummy variable. The remaining variables were centred on the group mean.

Table 7 Multilevel linear regression results: factors associated with personal accomplishment

Fixed effects	Coefficient	SE	*t* ratio	*p*
Constant	20.8125	0.6622	31.428	<0.001
Individual predictors				
Age	0.0599	0.0246	2.432	0.016
Gender* (0 = female, 1 = male)	−0.4729	0.3513	−1.346	0.179
Marital status (1 = single, 2 = married, 3 = divorced/widowed/separated)	−0.0335	0.2388	−0.141	0.889
Professional status (1 = GP, 2 = assistant, 3 = specialist)	−0.6594	0.3175	−2.077	0.038
Administrative responsibility* (0 = no, 1 = yes)	−0.0436	0.4396	−0.099	0.921
No. of shifts per month	−0.1607	0.0728	−2.208	0.028
No. of vacations per year	0.6221	0.2077	2.995	0.003
Group level predictors				
Ownership of the health facility* (0 = public, 1 = proprietary)	2.1600	0.5758	3.751	0.009
Type of health services* (0 = out-patient only, 1 = out-patient and in-patient)	2.1953	0.6431	3.413	0.013

*Entered as uncentred dummy variable. The remaining variables were centred on the group mean.

Table 8 Multilevel linear regression results: factors associated with job satisfaction

Fixed effects	Coefficient	SE	*t* ratio	*p*
Constant	64.4215	2.0284	31.760	<0.001
Individual predictors				
Age	0.0722	0.0555	1.301	0.194
Gender* (0 = female, 1 = male)	0.0339	0.7922	0.043	0.966
Marital status (1 = single, 2 = married, 3 = divorced/widowed/separated)	0.4770	0.5377	0.089	0.930
Professional status (1 = GP, 2 = assistant, 3 = specialist)	1.7059	0.7147	2.387	0.017
Administrative responsibility* (0 = no, 1 = yes)	1.4251	0.9926	1.436	0.152
No. of shifts per month	−0.1846	0.1639	−1.126	0.261
No. of vacations per year	0.9559	0.4676	2.044	0.041
Group level predictors				
Ownership of the health facility* (0 = public, 1 = proprietary)	7.1475	1.7256	4.142	0.005

*Entered as uncentred dummy variable. The remaining variables were centred on the group mean.

all burnout dimensions and job satisfaction were the number of vacations at individual level, and public ownership of healthcare facilities at the group level. Both of these predictors are extrinsic work-related factors. Number of shifts per month, another work-related factor, was also a significant predictor of all burnout dimensions.

Various personal, interpersonal and organizational factors have been reported to relate to job satisfaction, stress and burnout in the medical environment. Although a recent follow-up study depicted that stress, burnout and satisfaction were correlated with trait measures of personality taken five years earlier,[29] several others have emphasized the importance of extrinsic work-related stressors and organizational factors, rather than personal factors.[13,14,21,30]

Our findings are consistent with those of other studies, which indicated insufficient personal time and/or vacation as one of the most important predictors of burnout.[31–33] The negative correlation of job satisfaction with emotional exhaustion and depersonalization, and the positive correlation with personal accomplishment that we found in this study were also found in many other studies.[5,13,33–35] The similarities between our results and those seen in other countries suggests that our findings have international value.

General practitioners, physicians working in the public sector, those who have more shifts, and have fewer vacations per year, seem to be at high risk of burnout in our study group. These findings are similar to the results of other studies. For example, in a Finnish study, the highest burnout scores were noted in general practitioners and non-specialists working in health centres. This was attributed to heavy patient loads, long hours, and problems of professional identity.[36]

In another study of transplant surgeons, less leisure time per month and fewer years of medical practice were the strongest predictors of emotional exhaustion.[32] In a large-scale survey of oncologists, the majority of respondents indicated the need for more vacation or personal time to alleviate burnout.[31] However, because medical specialties differ widely in their job characteristics in ways that appear to affect the relative prevalence of burnout, it is difficult to reach universal conclusions.

An important limitation of this study was the heterogeneous structure of the sample group. Since the sample included physicians from different specialties, different institutions, different income levels and working conditions, it was not possible to draw conclusions regarding specific physician groups or working conditions.

Other limitations of our study were its cross-sectional nature and data collection method, which create difficulties in ascertaining causality. The use of self-reported data collected at one point in time necessitates care about drawing conclusions about the effects of working conditions on burnout or job satisfaction.

However, we believe that the results of this study will not only help better understanding of the psychosocial work climate, but also will be useful in following-up the results of structural changes in Turkey. Production and sharing of scientific information on these issues is important and useful: many countries in Eastern Europe, the Balkans, the Caucasus, Central Asia, South America, and even some developed countries, have been trying to transform their health care system and implement health care reforms in recent years.

We recommend further follow-up studies on the intensity and determinants of burnout as well as job

satisfaction, and what is realistically required to manage or prevent it in different physicians groups.

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