



Original article

An analysis of the relationship between burnout, socio-demographic and workplace factors and job satisfaction among emergency department health professionals



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ABSTRACT

Introduction: Burnout among emergency medical practitioners and personnel negatively affects career satisfaction and job performance and can lead to mental health issues, including anxiety, depression, and suicide.

Purpose: This study investigated the relationship between the perceptions of burnout and job satisfaction of those working in two different hospital's emergency departments assessing the effect of burnout dimensions and additional factors (age, position, marital status, annual income, employment type, gender, patient encounters, and household economic well-being) on job satisfaction. This study addresses a gap in the literature of the relationships between a) burnout and job satisfaction of emergency department's health care personnel (physicians, nurses, technicians) and b) the factors that are associated with emergency department employees' job satisfaction.

Method: A cross-sectional survey of two hundred and fifty participants was interviewed, using validated instruments (the Maslach Burnout Scale and the Minnesota Satisfaction Questionnaire). Participants include 38 physicians, 89 nurses, and 84 medical technicians, and 39 information technicians. The Maslach Burnout Inventory Scale, which assesses emotional exhaustion (EE), depersonalization (DP) and personal accomplishment (PA), and the Minnesota Satisfaction Questionnaire (MSQ), which assesses intrinsic satisfaction (IS), extrinsic satisfaction (ES) and overall satisfaction (OS), were used for data collection.

Results: Study findings indicate that significant relationship exists between burnout and job satisfaction; annual income and household economic-well-being had a positive association with job satisfaction, whereas gender, age, education, marital status had no significant effect on any form of satisfaction. Moreover, this study reveals that emotional exhaustion (EE) is a significant predictor of all three dimensions of job satisfaction while depersonalization (DP) had no significant showing.

Conclusion: Results of this study suggest that it is not yet clear which factors are salient contributors in demonstrating the relationship between burnout and job satisfaction. This study may draw attention to a better understanding of this relationship will help enable health care administrators to design and implement tools to help increase job satisfaction and decrease burnout as a combined goal rather than treat each issue separately.

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1. Introduction

Evidence-based practice (EBP) in Turkey is still under development in emergency health services. There needs to be a holistic approach to help nurses in emergency medicine understand both the value and contribution of EPB to their profession. A major challenge in positioning EBP

in the center of nursing profession in Turkish health system is the lack of clinical guidelines in emergency health services that are based on both external and internal evidence identified through research utilization. Both healthcare organizations, emergency health settings as well as policymakers need to collaborate in developing clinical guidelines for nursing professionals to engage in EBP on a daily basis. This study investigates the organizational dynamics of job satisfaction and job satisfaction among emergency health personnel. We argue that higher levels of job satisfaction and lower levels of burnout may be instrumental in affecting evidence based implications among nurses and emergency health professionals which would transform both the organizational

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culture and work environment in which EBP is at the center of nursing practice. Job Satisfaction is another employee-related variable that can ultimately support -or prevent- proper integration and implementation of EBP as this measure is typically considered as a strong evidence of employees' overall perception of their organization (Chang, 2014; Paquet, Courcy, Lavoie-Tremblay, Gagnon, & Maillet, 2013; Wallin, Ewald, Wikblad, Scott-Findlay, & Arnetz, 2006).

Management literature suggest that human resource outcomes play a significant role on organization outcomes (Koys, 2001) and that job satisfaction dictates employee performance, which is directly associated with organization's performance (Dugguh & Ayaga, 2014; Koys, 2001; Pfeffer, 1991). Job satisfaction, due to its multifaceted nature, draws from a number of theories in order to explain its role in organizational setting or its relationship with other constructs. As a result multiple factors effect job satisfaction, environmental, individual and psychological (Dugguh & Ayaga, 2014) which can have varying levels of role in measuring the job satisfaction score. For example, when psychological factor is part of the research model, some researchers argue that burnout impacts job satisfaction while others argue the opposite. In this study we treat burnout as an antecedent of job satisfaction based on the results of study showing a strong support for burnout as an antecedent of job satisfaction (Wolpin, Burke, & Greenglass, 1991). Literature also indicates that employee job satisfaction and burnout are noticeably affected by many factors including the workplace physical environment (Dewa, Jacobs, Thanh, & Loong, 2014), workplace peers, and type of work in which one is involved (Reis, Xanthopoulou, & Tsaousis, 2015).

An in depth review of literature presented in this study shows disparate relationship readings between employee job satisfaction and burnout, which most probably is stemming from studies conducted under different settings. Furthermore, these studies demonstrate that not all the findings have been consistent or collaborating, and that there is no definitive concurrence among researchers on a particular set of salient factors contributing to posited relationships, this is undoubtedly true when the setting is health care. Health care delivery profession is inherently demanding and stressful, and as such, burnout among medical practitioners, especially among those practicing emergency medicine is on the rise, which is evident by high rates of physician addiction, depression, dissatisfaction, stress (Gokcen et al., 2013). Burnout among healthcare professionals, particularly among physicians, has become an key issue not only in terms of their individual well-being and health, but also in terms of quality of health services they provide (Shanafelt et al., 2012). In other words, potential effects of high burnout and dissatisfaction on the job, could have a negative impact on health outcomes, such as increased medical errors, longer patient recovery times, diminishing health services quality, and lower patient satisfaction (Newman, 2012). Specifically, hospital emergency department (ED) employees feel intense burnout, and demonstrates personnel job satisfaction level that is often low (Doan-Wiggins, Zun, Cooper, Meyers, & Chen, 1995). Likewise, in a different study it was demonstrated that relationship between burnout and job satisfaction was statistically significant, and that the level of job satisfaction had affected the quality of patient care. Thus, researchers concluded that i) maintaining high level of job satisfaction, and ii) avoiding burnout are both considered important for providing high quality patient care (Rosales, Labrague, & Rosales, 2013). Even though extensive literature on studies investigating burnout and job satisfaction among the medical employees exists, there is a dearth of literature that expand these studies among the ED staff in its entirety, where the assessment of participant responses are documented under same circumstances, for more robust understanding of the relationships. Considering the importance and critical nature of the ED employees' reliance on each other to provide care for and maintain the patient throughput (Mchugh & Dyke, 2011) in an efficient and effective manner.

Emergency health and medical services provides an essential medical safety-net in many parts of the world. The emergency services units often tend to be the busiest and most stressful units hospitals, as such the ED employees at all levels would potentially suffer burnout

syndrome more so than those working in other units in the hospital. Understanding factors contributing to this syndrome and their manifestation on job satisfaction is a critical issue. These relationships and their implications, especially from a global perspective, where culture, socio-economic makeup of the study subjects, varied health care delivery systems and environment in different nations, etc. bears considerable differences, are not yet well understood (Schaufeli, Leiter, & Maslach, 2009). Furthermore, the need for continued research on this issue is more so amplified by the increasing number of patients treated in ED, which is compounding the challenges for delivering effective patient care, for example, in USA visits to ED has risen 44% from 1991 through 2010 (Brown, Decker, & Selck, 2015).

Burnout and job satisfaction have been widely studied throughout health professionals in hospital settings. However, little research has been done to determine burnout and job satisfaction in emergency medical rooms and emergency health services units (Ellenbecker, 2004). Gaps in the organization and management literature have shown that further research is needed to explore and explain the effects of job stress, job satisfaction, personal variables, and organizational factors on burnout and the effects of burnout on job satisfaction (Hasselhorn, Tackenberg, & Muller, 2003).

Job satisfaction research has focused on a wide variety of job types and settings, such as business firms, volunteer organizations, hospitals, education, manufacturing, government agencies, professions, the military, and so forth. There are various definitions of job satisfaction, Pool defines job satisfaction as — an attitude that individuals maintain about their jobs. He proposes that this attitude is caused by the individuals' perceptions of their jobs (Pool, 1997). According to Locke and Henne job satisfaction is — an emotional response to a value judgment by an individual worker, and if the individual perceives that her/his job values are fulfilled, s/he will be satisfied (Locke & Henne, 1985). Kalleberg's work on theory of job satisfaction (Kalleberg, 1977) presents us a clear understanding of the distinction between satisfaction and the specific dimensions of work roles that an individual draws their satisfaction from. He emphasizes that even though job satisfaction is a unitary concept it can have a multidimensional representation which should not be overlooked.

Variables that have been shown to positively affect job satisfaction include job type and authority level, tenure, salary (Chet, Ryan, Schmeider, & Parra, 1998), employee empowerment and required skills to complete work related tasks (Kirkman & Rosen, 1997). Furthermore, connection between burnout and job satisfaction as the independent variable while accounting for confounding factors including age, gender, annual income, household economic well-being, workplace shift assignment and patient load of the ED professionals was established in independent studies (Hayes, Bonner, & Pryor, 2010). Job satisfaction among the ED workers is keen interest of this study since it is an important determinant of the performance of health professionals. Job satisfaction has been linked to health worker motivation, stress, burnout, absenteeism, intention to leave, and turnover. We are very interested in understanding the factors that impact ED employees' satisfaction as one of its adverse outcome is its effect on employee turnover, which is not a desirable situation in the times of ED overcrowding (Meeusen, Van Dam, Brown-Mahoney, Van Zundert, & Knape, 2011). Relationship between structural determinants of turnover with job satisfaction and organizational commitment are not succinctly clear and that different structural determinants may have differential effects on job satisfaction and organizational commitment (Gaertner, 1999). Importance of understanding the key antecedents of job satisfaction while assessing the role of job satisfaction on organizational commitment is crucial process for managers, such command would assist the administrators and managers to reduce the risk of turnover by taking proper measures to increase employee job satisfaction (Lambert, Hogan, & Barton, 2001).

The most commonly agreed explanation of burnout condition covers three components and was developed by Maslach and Jackson. This definition implies that burnout is due to emotional exhaustion (EE), depersonalization (DP), and a decreased feeling of personal accomplishment

(PA) (Maslach, Schaufeli, & Leiter, 2001). Emotional exhaustion means that employees do not focus on their work as they did in the past and do not assume responsibility to assist their colleagues who ask for assistance due to feelings of frustration and stress. The most common symptom is a fear of going to work the next day.

Maslach described burnout as “a professional who loses the original meaning and aim of the work and he/she does not deal appropriately with the people whom he/she serves routinely.” The major symptoms of burnout are a loss of energy, lack of motivation, negative attitudes toward others and a desire to avoid colleagues (Maslach & Jackson, 1986).

Despite the extensive studies conducted to date the reasons for and progression of burnout in the health sector are not yet fully understood (Maslach et al., 2001; Keeton, Fenner, Johnson, & Hayward, 2007). Prior research has shown that burnout of health professionals can be induced by factors such as increasing number of medical specialties, challenges associated with successfully completing a medical education, administrative expectations on doctors, increased workloads on nurses, increased patient expectations, and mounting pressure on health professionals regarding work quality, patient safety and job performance (Panagopoulou, Montgomery, & Benos, 2006).

Further survey of recent literature suggests that socio-demographic factors such as age, gender, marital status, and ethnicity have been linked to increasing job burnout rate (Madhavappallil Thomas & Kohli Vandana, 2014). Demographic, professional and organizational factors (income, position, education, work load, etc.) and job satisfaction factors/subscales may influence rate and level of overall burnout and its dimensions (Senter, Morgan, Serna-Mc Donald, & Bewley, 2010). Given this understanding and based on the findings of other studies (Oyefeso, Clancy, & Farmer, 2008), the socio-demographic and workplace variables were carefully selected to represent traits that were commonly identified in health care professionals. For instance, burnout occurs less in men, younger people, and married individuals compared to others (Chiron, Michinov, Olivier-Chiron, Laffon, & Rusch, 2010). Thus, better understanding the relationship between these factors and burnout and its impact on job satisfaction could assist the hospital management to be proactive administrators. For instance, burnout of doctors can be decreased significantly by management taking appropriate action to increase job satisfaction, or vice versa. Renzi and colleagues reported that both physicians and nurses working in both settings, the likelihood of burnout decreased significantly with higher levels of job satisfaction (Renzi, Tabolli, & Ianni, 2005). Conversely, it has been noted that burnout of doctors increases with respect to an increase in negative work psychology syndromes such as harassment and work related stress (Balch, Freischlag, & Shanafelt, 2009).

Several studies have found a positive relationship between job satisfaction and personal accomplishment, and a negative association between emotional exhaustion and depersonalization (Özyurt, Hayran, & Sur, 2006). Study by Sarmiento and others demonstrated that emotional burnout was a strong determinant of job satisfaction, and job satisfaction and burnout are dramatically affected by the type of work in which one is engaged. These findings provide support for significant negative association between job satisfaction and overall burnout; when the level of burnout decreases, job satisfaction increases (Sarmiento, Laschinger, & Iwasiv, 2004). Jalili and Bassir (2013) examined the burnout of health professionals and the reasons for burnout among those in Iran's emergency health system. Their study, which included 165 emergency assistant doctors and specialist doctors, demonstrated significant relationship between depersonalization dimension and gender and employment status factors.

This purpose of this research is to address how burnout dimensions, Emotional Exhaustion (EE) - Depersonalization (DP) - Personal Accomplishment (PA) and additional factors (such as age, gender, marital status, position held, annual income, employee shift type, patient encounters, household economic well-being) relate to ED employees' job satisfaction. This study addresses a gap in the literature concerning the relationships between a) burnout and job satisfaction of health

care ED personnel namely; physicians, nurses, medical, and information technicians, as a group and b) the predictors that are associated with ED employees' job satisfaction. Thus the study question put forth is:

Which of the identified predictor variables (derived from theory and prior studies) are most influential in predicting ED employee's job satisfaction and are there any predictor variables that do not contribute significantly to the prediction model?

The conceptual research model presented in Fig. 1 incorporates Theories of Job Satisfaction and Multidimensional Theory of Burnout which will be further discussed in the following sections. We believe that a better understanding of these relationships will enable health care administrators and upper managers to design and implement relevant tools and intervention models to help increase job satisfaction and decrease burnout as a combined goal, rather than treating each issue separately.

As depicted in the study model focus is on the burnout and job satisfaction levels of physicians, nurses, emergency medical technicians, and health information technicians working in hospital ED. In addition to socio-demographic factors it also takes in to account the contribution of workplace related factors. These items were identified as critical indicators to the burnout-satisfaction relationship in prior studies (Selezneva, 2010) and are further discussed in the following sections.

2. Methods

2.1. Participants

Study was conducted at two public hospitals in Western Turkey: Eskisehir State Hospital (ESH) and Eskisehir Yunus Emre State Hospital (EYESH), hospital characteristics are provided in Table 1. Eskisehir province was one of the regions designated as a 'pilot project implementation area' of the Turkish government's "Health Care Transformation" program undertaken by the Ministry of Health. The study protocol was reviewed and approved (March 5, 2014, authorization number: 2615) by the Public Hospitals Authority in Turkey (Eskisehir Province General Secretariat of the Association of Public Hospitals). Public hospitals were specifically targeted due to access to participants and availability of organizational data.

2.2. Data collection

Since the participating hospitals were government institutions and the directive was issued by the government's provincial authority the subjects were asked to participate as a part of their daily work responsibilities. A face-to-face interview method was used to collect data from each ED employee and interview process continued until full participation was achieved at each hospital. Students from Eskişehir Osmangazi University, School of Health, Department of Health Care Management, who were familiar with the subject matter, conducted the interviews during March and April 2014. Total of 250 emergency department professionals from these two hospitals (ESH = 138, EYESH = 112) took part in the study. Participant population consisted of 38 physicians, 89 nurses, 84 medical technicians, and 39 information technicians (Table 2).

2.3. Instruments

A paper-based survey consisting of the Maslach Burnout Inventory (MBI) items, the Minnesota Satisfaction Questionnaire (MSQ), socio-demographic factors and work related factors was administered to emergency health professionals at the participating hospitals' ED. The instrument was divided into three parts. The first part consisted of open-ended and close-ended demographic and work related questions (total of 10 items). The second part consisted of 22 questions from the MBI developed by Maslach and Jackson (1981). Maslach and Jackson

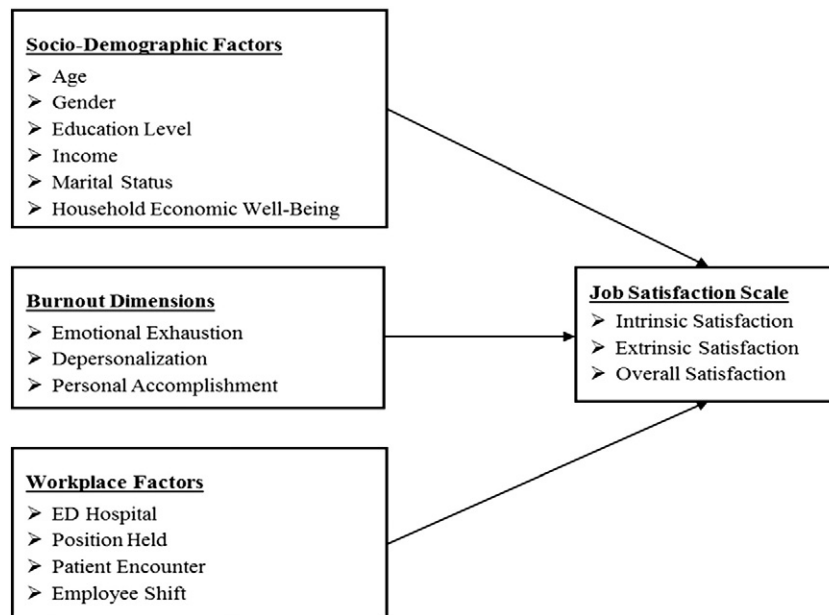


Fig. 1. Research model.

developed the scale specifically for occupational groups that service other people and has been used frequently in research associated with human resources in the health care sector (Martinussen, Borgen, & Richardsen, 2011; Maslach & Jackson, 1981). As such, a seven point Likert scale that was adapted to Turkish and determined to be valid and reliable (Ergin, 1996) was used in this study for the MBI measurement. MBI questions were composed of three sections - emotional exhaustion (9 questions), depersonalization (5 questions) and personal accomplishment (8 questions). The emotional exhaustion subscale defines the burnout level of an individual according to her/his job and work overload including exhaustion, weariness and decrease in emotional energy. The depersonalization subscale assesses the degree to which an individual responds emotionally to those with whom he/she works. The personal accomplishment dimension assesses the degree to which the employee feels a sense of accomplishment or success in his/her job. High scores for the first two dimensions indicate high burnout, while low scores for the third dimension suggest that the level of burnout is high (Maslach & Jackson, 1981).

Table 1
Study hospital characteristics^a.

Characteristics	ESH ^b	EYESH ^b
Number of Beds	995	618
Total Number of Patient Encounters (PE)	1,524,102	1,099,172
Number of Emergency Department Encounters (EDE)	356,219	194,500
EDE to PE Ratio	23.40%	17.70%
Number of Patient Admits (NPA)	66,495.00	30,238.00
NPA to PE Ratio	4.40%	2.80%
Bed Occupancy Rate	78%	72%
Average In-Patient Length of Stay (LOS) Days	4	5
Rate of Patient Bed Rotation (PBR)	66.83	48.93
Number of Surgeries	95,528	62,212
Number of Deaths at Hospital	616	578
Number of Physicians	240	214
Number of Nurses	526	429
Number of Midwives	263	92
Number of Other Health Professionals	395	315
Total Number of Health Professionals	1424	1050
Annual Hospital Budget (in Euro)	40,849,160	35,715,549

^a Per year; 2013 Annual Report, Turkey Ministry of Health, Public Hospitals Authority.
^b ESH: Eskisehir State Hospital; EYESH: Eskisehir Yunus Emre State Hospital.

The reliability coefficients of the MBI (internal consistency coefficient, Cronbach's alpha values) were calculated and found to be as follows: EE dimension $\alpha = 0.89$; DP dimension $\alpha = 0.76$; and PA dimension $\alpha = 0.85$. The internal consistency coefficient for all questions was $\alpha = 0.91$. These results are within the acceptable values of alpha, ranging from $\alpha = 0.70$ to $\alpha = 0.95$ (Hair, Anderson, Tatham, & Black, 1998).

Table 2
Participant characteristics by hospital.

		ED Hospital		Total (100%)
		ESH	EYESH	N
		n (%)	n (%)	
Socio-demographic Factors				
Gender	Male	75 (55.6)	60 (44.4)	135
	Female	63 (54.8)	52 (45.2)	115
Age	Mean (SD)	35.2 (7.9)	34.2 (7.6)	
Monthly Income	Mean (SD); In Euro	385.2 (376.7)	865.5 (346)	
	Academic Background			
	High School	28 (51.9)	26 (48.1)	54
	Associate Degree	43 (55.8)	34 (44.2)	77
	Bachelor's Degree	41 (56.2)	32 (43.8)	73
	Master's Degree	20 (55.6)	16 (44.4)	36
	Specialist	6 (60)	4 (40)	10
Marital Status	Single	42 (51.9)	39 (48.1)	81
	Married	81 (58.3)	58 (41.7)	139
	Other	15 (50)	15 (50)	30
Household Economic Well-Being	Fair or Bad	102 (57.6)	75 (42.4)	177
Workplace Factors				
Position	Physician	21 (55.3)	17 (44.7)	38
	Nurse	51 (57.3)	38 (42.7)	89
	Medical Technician	45 (53.6)	39 (46.4)	84
	Information Technologist	21 (53.8)	18 (46.2)	39
Patient Encounters	Mean (SD); Daily	298.3 (226.2)	359.3 (254.2)	
	Shift Type			
	Work only Day or Night Shift	7 (33.3)	14 (66.7)	21
	Work only 24 h Shifts	63 (55.3)	51 (44.7)	114
	Work Day Shift + Night Rotation	68 (59.1)	47 (40.9)	115
Total		138 (55.2)	112 (44.8)	250

To measure the job satisfaction of employees, the third section of the survey consisted of the short form of the MSQ (Weiss, Rene, Georg, & Llyold, 1967). This scale consists of 20 questions assessed using a 5-point Likert scale, that measures intrinsic, extrinsic and general satisfaction levels. The intrinsic satisfaction domain includes factors such as personal activities; personal feelings of freedom and independence; attitudes toward change, authority, and responsibility; and personal social status, moral values, recognition, abilities, creativity, and success. Extrinsic satisfaction includes questions related to opportunities for occupational progression, company policies and practices, colleagues, working conditions, insurance coverage, wages, human relations and leadership/management techniques, and the remaining two items, general satisfaction questions, are included when overall satisfaction score is reported (Weiss et al., 1967). MSQ was adapted to Turkish and determined to be valid and reliable (Baycan, 1985). Same scale used in this study and the reliability coefficients - internal consistency coefficient and Cronbach's alpha values - were calculated. The reliability score for the IS dimension was $\alpha = 0.87$ and for the ES dimension it was $\alpha = 0.88$. The internal consistency coefficient for OS (sum of 20 questions) was $\alpha = 0.93$.

2.4. Data analysis

Multiple linear regression models were utilized to examine the relationship between each MJQ items (intrinsic, extrinsic and general satisfaction) and the hospital ED employee characteristics their burnout scores. In total, three separate models were specified; one for each of the three dependent variables measuring job satisfaction. Independent variables for each model included socio-demographic factors, factors associated with workplace and burnout dimensions. Since no a priori hypotheses had been made to determine the order of entry of the predictor variables, a direct method was used for the multiple linear regression analyses. Since our data set contained certain nominal variables that needed to be considered along with ordinal and interval variables in the analysis, dummy variables were created in this study to correctly analyze attribute variables. Dummy variables for the following predictor variables, reference groups shown in parentheses, were set. Position (Physician), Marital Status (Other) and Employee Shift Type (Work both Day Shift and Night Rotation). In doing so we were able to account more fully for the variables used and avoid a biased assessment of the impact of the variable resulting from exclusion of another variable related to it.

Descriptive statistics were first used to examine all variables and to determine their suitability for statistical analysis. Next, bivariate Pearson correlations between the dependent and independent variables were computed to investigate for the potential of multicollinearity. No correlation coefficients larger than 0.62 existed among the independent and control variables of interest, except for the Depersonalization item which was found to have a significant strong positive correlation with Emotional Exhaustion ($r = 0.72, p < 0.05$). Further tests to see if the data met the assumption of collinearity indicated that multicollinearity was not a concern, tolerance was >0.10 (0.18) and variance inflation factor was <10 (5.50), suggesting that multicollinearity was not a problem. In total, three separate multiple regression models were run, one for each of the dependent variables. For all three models the data met the assumption of independent errors (Durbin-Watson value for IS, ES and OS were 1.54, 1.56 and 1.53). All analyses were conducted in IBM SPSS Statistics 22, and significance was considered at the $p < 0.05$ level.

3. Results

The descriptive statistics on participants are summarized in Table 2. Out of 250 respondents 138 were employed at ESH and 112 were employed at EYESH. The demographic distribution is proportional and also is reflective of the hospital characteristics that is listed in Table 1.

The bivariate correlations between independent and dependent variables are displayed in Table 3. These correlations suggest significantly strong negative association between burnout dimension EE and all three satisfaction items examined; IS ($r = -0.597, p < 0.01$), ES ($r = -0.573, p < 0.01$), and OS ($r = -0.621, p < 0.01$). DP and PA had moderate but significantly negative association with the satisfaction items IS, ES, OS ($r = -0.479; r = -0.390; r = -0.467$) and ($r = -0.311; r = -0.378; r = -0.359$) at $p < 0.01$ respectively. Marital status showed weak, but significant positive, association between IS ($r = 0.201, p < 0.01$) and OS ($r = 0.164, p < 0.01$) but had no significant correlation with ES. Gender and Academic Background had no significant correlation with any of the job satisfaction categories. Household Economic Well-Being had a moderate but significant correlation with IS ($r = 0.360, p < 0.01$) and OS ($r = 0.336, p < 0.01$) and a weak but also significant positive association with ES ($r = 0.289, p < 0.01$). Age presented weak but significantly positive association with all three job satisfaction categories: IS ($r = 0.256, p < 0.01$), ES ($r = 0.223, p < 0.01$) and OS ($r = 0.252, p < 0.01$), likewise Monthly Income was also had significant positive but weak correlation with: IS ($r = 0.289, p < 0.01$), ES ($r = 0.267, p < 0.01$) and OS ($r = 0.292, p < 0.01$). There was a weak but significant negative correlation between Eskisehir Yunus Emre Hospital (EYESH) and IS ($r = -0.203, p < 0.01$), ES ($r = -0.158, p < 0.05$) and OS ($r = -0.192, p < 0.01$). All three job satisfaction items and employee Position showed a weak but significant negative association: IS ($r = -0.246, p < 0.01$), ES ($r = -0.207, p < 0.01$) and OS ($r = -0.323, p < 0.01$). Employee's work Shift designation had weak but significant positive association with their job satisfaction items: IS ($r = 0.181, p < 0.01$), ES ($r = 0.130, p < 0.05$) and OS ($r = 0.169, p < 0.01$). While Daily Patient Encounter item had no significant correlation with IS it had a weak but significant positive association with ES ($r = 0.172, p < 0.01$) and OS ($r = 0.138, p < 0.05$).

Standard multiple regression was conducted to determine to test the accuracy of the selected thirteen independent variables, socio-demographic factors, factors associated with workplace and burnout dimensions in predicting ED employee's job satisfaction. Three separate models for each of IS, ES and OS consisting of same thirteen IVs were run. All three regression results indicate that each model significantly predicts ED employee's job satisfaction. Namely for IS ($F(17, 232) = 16.240, p < 0.001, R^2 = 0.543, R^2_{Adj} = 0.510$); for ES ($F(17, 232) = 16.196, p < 0.001, R^2 = 0.543, R^2_{Adj} = 0.509$); and for OS ($F(17, 232) = 19.296, p < 0.001, R^2 = 0.586, R^2_{Adj} = 0.555$). This model

Table 3

Bivariate correlations for continuous independent and dependent variables.

	Mean	SD	IS	ES	OS
Burnout Dimensions					
Emotional Exhaustion (EE)	3.56	1.19	-0.597**	-0.573**	-0.621**
Depersonalization (DP)	2.91	1.23	-0.479**	-0.390**	-0.467**
Personal Accomplishment (PA)	3.81	1.14	-0.311**	-0.378**	-0.359**
Socio-Demographic Factors					
Gender			-0.108	-0.080	-0.103
Marital Status			0.201**	0.099	0.164**
Household Economic Well-Being			0.360**	0.289**	0.336**
Age	34.78	7.76	0.256**	0.223**	0.252**
Academic Background	2.48	1.10	0.121	0.049	0.090
Monthly Income (Euro)	876.37	362.65	0.289**	0.267**	0.292**
Workplace Factors					
EYESH ED			-0.203**	-0.158*	-0.192**
Position			-0.246**	-0.207**	-0.232**
Shift Type			0.181**	0.130*	0.169**
Daily Patient Encounter	325.66	240.56	0.084	0.172**	0.138*

Values represent Pearson correlation coefficients. $N = 250$.

IS: Intrinsic Satisfaction, ES: Extrinsic Satisfaction, OS: Overall Satisfaction.

* Significance at the $p < 0.05$ level (two-tailed).

** Significance at the $p < 0.01$ level.

accounts for 51.0% of variance in IS, 50.9% of variance in ES and 55.5% of variance in OS. A summary of regression coefficients for each of the three model is presented in Table 4.

Among the burnout dimensions of the model; EE was negatively associated with all three job satisfaction dimensions: IS ($\beta = -0.397$, $p < 0.000$), ES ($\beta = -0.428$, $p < 0.000$) and OS ($\beta = -0.433$, $p < 0.000$) while PA showed a negative association only with ES ($\beta = -0.113$, $p < 0.046$) and DP showed no significant association with any of the job satisfaction dimensions.

In addition to burnout dimensions, a number of socio-demographic and workplace related factors were also found related to job satisfaction measures. For example, among the socio-demographic factors, an increase in Annual Income was positively associated with IS ($\beta = 0.151$, $p < 0.002$), ES ($\beta = 0.126$, $p < 0.010$) and OS ($\beta = 0.147$, $p < 0.001$). Likewise Household Economic Well-Being also demonstrated a positive association with IS ($\beta = 0.209$, $p < 0.000$), ES ($\beta = 0.109$, $p < 0.030$) and OS ($\beta = 0.162$, $p < 0.001$). However, none of the three job satisfaction models presented any significant relationship with Gender, Age, Academic Background or Marital Status predictors.

Conversely most of the workplace related factors were negatively associated with at least one measure of the job satisfaction (except for those worked solely day or night shift). Only positive association was between ED employee's shift selection (those who chose to work either day or night shift) and ES ($\beta = 0.096$, $p < 0.044$). When employee's

position was considered, other than physicians, all three professions were negatively associated with the job satisfaction measures. Nurses presented a negative association with IS ($\beta = -0.228$, $p < 0.018$) and OS ($\beta = -0.201$, $p < 0.028$), Information Technologist also had negative association with IS ($\beta = -0.210$, $p < 0.045$) and OS ($\beta = -0.201$, $p < 0.044$). Medical Technicians had negative association with all three aspects of job satisfaction, IS ($\beta = -0.342$, $p < 0.001$), ES ($\beta = -0.338$, $p < 0.001$) and OS ($\beta = -0.349$, $p < 0.001$). Patient Encounters per Day presented no significant association with ED employee's job satisfaction scores. However, working at EYESH ED was negatively associated with IS ($\beta = -0.155$, $p < 0.001$), ES ($\beta = -0.126$, $p < 0.007$) and OS ($\beta = -0.147$, $p < 0.001$).

4. Discussion and conclusion

This study examined the relationship between socio-demographic factors, workplace factors, burnout dimensions and job satisfaction scores among emergency health service professionals working for publicly owned and operated hospitals in Turkey. Among its contributions to the literature include it being one of a few studies that have examined the multifaceted relationship with respect ED health professionals, providing health care decision makers much needed insight. One of the questions put forth was to assess the predictive abilities of the thirteen items included in this study. The results of our study support our assertion that further research is needed to clearly identify the core factors associated with emergency health services employee job satisfaction. Our study suggests that there is a deficiency in our ability to provide a robust model that would offer insights about the relationship between job satisfaction and burnout among emergency health service professionals, which is observed to at moderate to high levels. Two of the burnout dimensions, 'emotional exhaustion and personal accomplishment', had significant negative effect on job satisfaction dimensions. Furthermore, certain factors, 'position held, annual income, employee shift type, and household economic well-being' had significant association the job satisfaction dimensions.

Organizational leaders may take these results into practice by considering both job satisfaction and burnout together rather than treating them separately. Those who suffer high levels of burnout but also high levels of satisfaction may fair better in the workplace than those whom suffer from high levels of burnout and low levels of satisfaction. In summary our study extends previous research on this topic by examining the relationships between burnout and job satisfaction of health care personnel in ED of two public hospitals in Turkey and the role of specified factors on these relationships. The topic is timely for Turkish health care system, given the rapid expansion of emergency health services in Turkey triggered by the National Health care Transformation project, expansion of services with no immediate human resource capacity to support the physical developments may prove to be major problem with the potential for burnout and decreasing job satisfaction.

There are also several studies conducted in Turkey exploring the relationships between burnout and job satisfaction, some of them focusing on health care. Results from one of these studies have shown a negative relationship between job satisfaction and burnout among nurses and doctors (Kelleci et al., 2011). Study conducted by Akpınar and Tas focused on job satisfaction and burnout among 191 emergency health care professionals. Their results showed a weak negative relationship between emotional burnout and intrinsic satisfaction, a strong negative relationship between depersonalization and extrinsic satisfaction. Moreover, they identified a moderate relationship between personal accomplishment and the perception of intrinsic and extrinsic satisfaction, and a weak relationship between general satisfaction (Akpınar & Tas, 2011). In a study investigating the burnout levels among the nurses working throughout the hospital, found that ED nurses higher burnout rates than the nurses who worked in other departments of the same hospital (Kepabçı & Akçolcu, 2011). Furthermore, similar studies conducted in Spain (Garrosa, Moreno-Jimenez,

Table 4
Effects of burnout and other covariates on ED employee's job satisfaction.

	IS	ES	OS	T ^a	VIF
Burnout Dimensions					
Emotional Exhaustion (EE)	-0.397***	-0.428***	-0.433***	0.36	2.76
Depersonalization (DP)	-0.086	0.031	-0.044	0.40	2.51
Personal Accomplishment (PA)	-0.034	-0.113*	-0.071	0.62	1.62
Socio-Demographic Factors					
Gender	-0.017	0.010	-0.008	0.89	1.13
Age	0.025	0.049	0.040	0.54	1.86
Academic Background	-0.129	-0.131	-0.129	0.38	2.65
Annual Income (Euro)	0.151**	0.126*	0.147**	0.84	1.19
Household Economic Well-Being	0.209***	0.109*	0.162**	0.79	1.27
Marital Status - Single^b					
Marital Status - Married	-0.018	-0.049	-0.039	0.56	1.78
Marital Status - Other	0.049	-0.091	-0.012	0.63	1.58
Workplace Factors					
EYESH (hospital ED located at)	-0.155**	-0.126**	-0.147**	0.92	1.09
Position - Physician^b					
Position - Nurse	-0.228*	-0.161	-0.201*	0.22	4.65
Position - Medical Technician	-0.342**	-0.338**	-0.349**	0.18	5.48
Position - Information Techno.	-0.210*	-0.202	-0.201*	0.18	5.50
Daily Patient Encounter					
Shift - Day or Night Shift	0.051	0.092	0.079	0.60	1.66
Shift - only 24 h Shifts	0.000	0.096*	0.045	0.87	1.15
Shift - Day Shift + Night Rotation ^b	-0.120	-0.207	-0.172	0.68	1.46
N	250	250	250		
Adjusted R ²	0.510***	0.509***	0.555***		
Durbin-Watson ^c	1.539	1.564	1.532		

The value in each cell is the standardized partial regression coefficient. The value indicates the direction (positive or negative) and significance of the relationship to the outcome variable (ED employee job satisfaction). The adjusted R² represents the proportion of variance in the outcome variable that is explained by the variables in the model.

IS: Intrinsic Satisfaction, ES: Extrinsic Satisfaction, OS: Overall Satisfaction.

^a T (tolerance): Between 0.1 and 1., VIF (variance inflation factor): Between 1 and 10.

^b Referent for dummy coding.

^c Durbin-Watson test values of 1.5 < d < 2.5 show that there is no auto-correlation in the multiple linear regression data.

*** $p < 0.001$.

** $p < 0.01$.

* $p < 0.05$.

Liang, & González, 2008) and United Kingdom (Sheward, Hunt, Hagen, Macleod, & Ball, 2005) have indicated that there is a negative association between job satisfaction and burnout of nurses and that demographic and personal variables may be related to burnout.

Several studies have shown that burnout levels decreased as the medical professional's age and their length of time in the profession increased (Özyurt et al., 2006). Other studies also suggests that job satisfaction and burnout dimensions vary according to age, gender and type of unit one is employed at (Chet et al., 1998). Gokcen and colleagues performed studies on burnout and job satisfaction of emergency service professionals, such as emergency service doctors, nurses and paramedic employees, and determined that emotional exhaustion and depersonalization scores differed significantly according to burnout dimensions, where as personal accomplishment scores are not affected by occupation. But, did conclude that job satisfaction scores change based on the type of occupation, while age affects one's level of emotional exhaustion and depersonalization (Gokcen et al., 2013). Tarcan, Tarcan, and Top (2016) indicated that education, marital status and occupation affect burnout and job satisfaction. However, gender was also determined to have a significant effect on job satisfaction. Also Tarcan et al. (2016) showed that emotional exhaustion is a significant predictor of overall satisfaction, that emotional exhaustion and depersonalisation are significant predictors of intrinsic job satisfaction and that emotional exhaustion and personal accomplishment are significant predictors of extrinsic job satisfaction in emergency health services. Schooley, Neset, Tarcan, and Yorgancıoğlu (2016) indicated that age, gender, economic well-being, and income level were all significant; while patient load and marital status showed no significance in burnout of emergency health professionals.

The results obtained in this study requires special attention such that while some of the findings are in concurrence with studies previously conducted both in Turkey and in other countries, others findings are in contradiction with them. Out of the thirteen predictors used in this study six were not supported at all (depersonalization, gender, age, education, marital status and patient load). As argued in our motivation for this study, various studies have examined the relationships between the predictor variables, burnout attributes and job satisfaction in health care context and some have found support for them. As such, findings from the current study must be viewed in light of varying results from prior studies on the topic. Thus, additional work is needed to more fully understand the relationships investigated herein.

5. Limitations

The most important limitation of this study is that due to challenges associated with the time and cost of conducting research, population studied was limited to two public hospitals located in Eskişehir, Turkey. For this reason the results of the research cannot be generalized with other hospitals in Turkey or beyond. This study used subjective, self-reported measures of burnout and job satisfaction of personnel working in emergency health services; hence, the results are a measure of how the respondents perceived their competence and not an actual assessment of performance. A non-experimental design was used in our research and non-experimental designs may have lower internal validity than experimental and subjective designs. There are several international instruments (scales/indexes/questionnaires etc.) for burnout and job satisfaction that have different subscales or dimension. The results of this study were limited according to subscales of Maslach Burnout Inventory and Minnesota Satisfaction Questionnaire. These limitations should be taken into account when considering the results of our study.

6. Future research directions

Future studies should assess variables beyond job stress, burnout and job satisfaction. Additional consideration should be given to factors such as social support (friends, family), organizational support

(managers, co-workers), leadership, and organizational culture. Conducting similar studies across institutions with different emergency medical services (EMS) ownership structures (hospital owned, privately operated, public agency operated) may provide insight on the pre-hospital portion of services. Similarly, on the hospital emergency department side, it may be important to control based on different ownership/operational structures (e.g., privately owned, non-governmental not-for-profit, military, and university hospitals) and physician/nurse employment arrangements (e.g., contracted physician groups vs hospital employed physicians vs public/government employed). A qualitative study may also be recommended to further explore, define and analyze relationships between burnout and job satisfaction in emergency health services. Longitudinal studies are also needed. Furthermore, collaborative studies may be conducted across different regions and cities to compare these concepts at the regional, provincial, and international levels. Additionally, longitudinal research may uncover the effects of demographic, individual and organizational characteristics on job satisfaction and burnout in emergency health services and health care organizations in different countries.

Many comprehensive studies can be performed to assess burnout and job satisfaction among emergency health service professionals. Furthermore, collaborative studies can be conducted in different regions and cities to compare these concepts at the regional and provincial levels. Comprehensive studies that include samples with 112 emergency service personnel are important. In addition to assessing the relationship between job satisfaction and burnout, relationships among topics such as violence, mobbing, leadership, and career satisfaction can also be measured, and universities and the Republic of Turkey Ministry of Health can prioritize these topics. Finally, to examine the worldwide association between burnout and job satisfaction of emergency health professionals, international collaborative studies should be conducted. All measures used in this study were self-report measures, future research might include qualitative, objective, projective, if available panel data to achieve stronger study results.

Just as efforts are being made to assess and reduce burnout among physicians and emergency health professionals (Gokcen et al., 2013), more research is needed to explain the impact and extent of burnout and job satisfaction in health care professionals. Identifying those emergency health personnel who are more likely to experience burnout and dissatisfaction will help to inform prevention, education, and treatment. Administrators would be able to use our research findings in order to re-evaluate and develop policies that address the care and well-being of emergency medical professionals in Turkey. It is hoped that the results from our study would further enlarge our collective understanding concerning job satisfaction and burnout in emergency health care management.

Our research findings may be used by hospital administrators to help promote job satisfaction, organizational performance, and reduce burnout in health care professionals. This study may assist in helping further develop our awareness concerning the predicative capability of various personal and organizational characteristics, perspectives on job satisfaction and burnout, as well as the interrelationships found among these variables in evidence based practice. High job satisfaction and low burnout in emergency professionals may support the improving quality, effectiveness, and performance in evidence based emergency medicine.

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