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# Do Burnout Perception Levels of Nurses Working in the Health Sector Differ According to Demographic Characteristics?

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## **Abstract**

The challenge of today's healthcare environment, especially with the effect of the Covid-19 pandemic, is not only about task burdens or degrading work/life balance but about immerse expectations from all shareholders, including governments, patients, and administrations. Thus, even if nurses are trained and the most experienced professionals, dealing with these challenges is related to different factors like training and practice level, age, and family support. So, the main aim of this paper is to find out the effects of demographic characteristics of nurses on burnout and its dimensions. The sample is 71 nurses from Izmir / Turkey. The survey results were analyzed with t-test, variance analysis (ANOVA), and confirmatory factor analysis. The results show that gender, education level, and age factors are varying between nurse groups to some level. On the other hand, tenure, and marital status are not significantly related to burnout. These results proofed that individual factors are more important than organizational and family factors.

Keywords: burnout, nursing profession, health services, demographic characteristics

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## Introduction

While burnout is affecting physicians globally across all medical specialties, the experience of how it is measured varies exceedingly (Eckleberry-Hunt, Kirkpatrick, & Barbera, 2018). So, studies of the effects of sociodemographic factors on burnout deserve consideration as research continues.

Burnout is physically, mentally, and emotionally exhaustion, depersonalization with losing a sense of carrying on (West, Dyrbye, & Shanafelt, 2018). However, there have been no diagnostic criteria how to measure or identify proliferated cases among hospital nurses (Schears, 2017). Thus, burnout study results are varying in the case of medical specialty, culture, task environment, career stage, and demographics (Lemaire & Wallace, 2017).

Some studies found a negative relationship between age and burnout, and also found females are more exposed to burnout (Bhatnagar, 2020; Nunn & Isaacs, 2019). Some studies found a

negative correlation between marital status (single vs married) and burnout (Guenette & Smith, 2018). Laccourreye and Lisan (2019) found low exhaustion among younger health workers. On the contrary, the general inclination in the burnout literature is that there is no difference between health professions regardless of age, gender, and job expectations (Michel, Sangha, & Erwin, 2017; Rothenberger, 2017). Thus, this study aims to analyze the effects of socio-demographic characteristics on burnout.

#### **Literature Review**

Burnout was found to be significant within professions that directly work with people, such as nursing and educating (Schaufeli, Maslach, & Marek, 1993). The definition of burnout still has no standardized, and accepted form but is commonly explained by factors of emotional exhaustion, depersonalization, and low personal accomplishment caused by the chronic stress of medical practice (Stageberg, Stark, & Moore, 2020). Burnout occurs at organizational and individual levels. At the organizational level, the consequences are generally indirect like absenteeism, low patient satisfaction, organizational costs, and malpractices (Berliner, 2020; Mayzell, 2020b). At the individual level, even if burnout can be seen more directly, the consequences of burnout are more obvious than the actual symptoms (Mayzell, 2020a).

Burnout has three key dimensions—emotional exhaustion, depersonalization, and low personal accomplishment (Maslach, Schaufeli, & Leiter, 2001). Some authors found different dimensions among different professions. For example, Broc, Shankland, Martin-Krumm, Carter, and Bouteyre (2020) defined emotional exhaustion, cynicism, academic self-efficacy. Emotional exhaustion comprises burnout in the first stage, followed by depersonalization, which is used as a coping strategy, and finally, feelings of reduced personal accomplishment are experienced. More specifically, emotional exhaustion refers to the depletion of emotional resources and can leave the health care worker feeling that they are no longer able to give of themselves on a psychological or emotional level. Depersonalization is characterized by negative, cynical, and impersonal attitudes towards patients. While mentally distancing oneself from patients may initially help one to cope with excessive job demands, this can become maladaptive and hamper the performance of job tasks. Reduced personal accomplishment is associated with the tendency to judge and evaluate work with clients in a negative manner (Engelbrecht, Van den Berg, & Bester, 2009).

Despite inherent difficulties such as decentralization of authority and services, the transformation of the health sector into a unified health care system (city hospitals) in Turkey and. pandemic has increased the workload of nurses considerably. However, not all people experience the negative outcomes of burnout (Chen et al., 2021). Work-related burnout may affect nurses related to individual characteristics.

• **Hypothesis 1**: There is a significant difference between the burnout levels of the nurses according to their socio-demographic characteristics.

At the individual level, there have been having divergent responses to similar stimuli between men and women (Wolfe, 2020). Even if, male nurses suffer from burnout, many of the issues that prevail in nursing do so because of the male-female thing, the gender inequity that persists both overtly and covertly (Todaro-Franceschi, 2013). Thus, gender plays important role in the burnout phenomenon.

• **Hypothesis 1a**: There is a significant difference between nurses' gender emotional exhaustion, depersonalization, and low personal accomplishment levels.

Self-reported various indices of individual distress, including physical exhaustion, insomnia, increased use of addictive materials (like alcohol), and marital and family problems increases burnout in the workplace (McCormack & Cotter, 2013). As a result, we proposed that marital status is related to burnout.

• **Hypothesis 1b**: There is a significant difference between emotional exhaustion, depersonalization, and low personal achievement levels according to the marital status of the nurses.

Shirom (2003) focused on the cognitive and job-related weariness of burnout. In one of the studies, it was discovered that the burnout variable and syndrome seem to have two separate but significantly correlated components – job demands and job resources (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001). Another contributing factor is insufficient training and professional support services for nurses. Many nurses were transferred from small medical centers to big city hospitals without the necessary training to deliver services at the clinic level. Another problem in nursing is the lack of clear protocols and guidelines on many aspects of nursing (Schwartzhoffer, 2009). According to Rothmann, Van der Colff, and Rothmann (2006), support services for staff are practically non-existent and lack of support from managers is often a source of stress, as nurses could feel unsafe and insecure to operate optimally under these circumstances. These characteristics of the nursing job are mostly related to the educational levels of the nurses.

• **Hypothesis 1c:** There is a significant difference between emotional exhaustion, depersonalization, and low personal accomplishment levels according to the education levels of the nurses.

Burnout is a health risk and indeed an occupational risk only for a particular profession like nursing practice; for others, burnout was mostly related to social class, and still, others understood burnout to be a distinct mental state of age (Heinemann & Heinemann, 2017). additionally, the effect of age can be different in national settings. For example, in individualistic cultures age was inversely associated with emotional exhaustion and depersonalization and positively related to personal accomplishment (Golembiewski, Scherb, & Boudreau, 2018). So, the hypothesis below is formed.

• **Hypothesis 1d**: There is no significant difference between the nurses' emotional exhaustion, depersonalization, and low personal accomplishment levels according to age groups.

More generally, burnout occurs in contexts that require a significant amount of emotional work and empathy, personal involvement, and intrinsic motivation (Freudenberger, 1974). And, in hospital organizations, these factors are mostly related or changing according to working year and hierarchy. They experience burnout because of their long-term involvement in emotionally

demanding interpersonal interactions with recipients, other organizational members, and managers. Also, individual stress experience embedded in a context of complex social relationships, and that it changes related to the working year (Schaufeli et al., 1993). In that sense, burnout is relational to the context where the nurses experience it. Relative to the working year, the reaction of a particular individual to collective action or certain objective conditions has been changing (Schaufeli, Maslach, Marek, & Pines, 1993). Thus, the hypothesis formed as is below:

• **Hypothesis 1e**: There is no significant difference between the emotional exhaustion, depersonalization, and low personal accomplishment levels of the nurses according to the working year.

## Methods

Sample, data collection, data source, the empirical model will be discussed.

## Sample

The population of the research is the nurses working in the health sector in İzmir/Turkey.

#### Data Source

After the incomplete questionnaires were removed from the questionnaires returned from the participants, 71 of them were found suitable for analysis.

## Data Collection

Burnout scale: To determine the burnout levels of the nurses working in the health sector, Maslach and Jackson (1981) developed by Maslach Burnout Inventory consisting of 22 items consisting of 3 subscales were used. The subscales are emotional exhaustion (9 items), depersonalization (5 items), and low personal accomplishment (8 items). As a result of the analysis, the total Cronbach alpha reliability coefficient of the scale was determined as .93, .83, and .87.

## **Empirical Model**

#### **Demographics**

The demographic variables of participating nurses in the research are 73.2% of them are female (n = 52), 60,6% (n = 43) are married, 45,1% (n = 32) are university. 46,5% (n = 33) are between 20-30 ages, and 66,2% (n = 47) are between 1-10 years working tenure.

#### **Findings**

First, the measurement model was tested to examine the construct validity of our variables. The measurement model consists of study variables containing scale items that reflect the relevant latent structures. The measurement model consists of a variable: burnout (three sub-dimensions (emotional exhaustion, depersonalization, and low personal accomplishment) and 22 items. As a

result of CFA, the model goodness of fit values of the confirmatory factor analysis show that the measurement model is at an acceptable level to the data (Table 1) (Hu & Bentler, 1999).

**Table 1.** Confirmatory Factor Analysis

Nomenclature	Good fit	Acceptable	Emotional	Depersonalization	Low Personal
			Exhaustion		Accomplishment
$\chi^2$	-	-	54,965	5,203	21,183
Sd	-	-	24	4	17
$\chi^2/sd$	≤ 3	≤ 5	2.29	1,30	1,25
p value	-	-	,000	,000	,000
CFI	$\geq$ 0,95	$0.90 \le CFI < 0.95$	,940	,992	,983
TLI	$\geq$ 0,95	$0.90 \le \text{TLI} < 0.95$	,910	,980	,972
RMSEA	$\leq$ 0,05	$0.05 \le RMSEA \le 0.08$	,13,6	,066	,059
SRMR	$\leq$ 0,05	$0.05 \le SRMR \le 0.08$	,068	,043	,050

Source. Hu & Bentler 1999

In the second stage, "t-test" was used to analyze whether the burnout perceptions of nurses differ according to gender and marital status. The differences (if any) according to education status, age, and working year were tested by "ANOVA analysis".

T-test was performed to analyze whether burnout perceptions differ according to gender and marital status (Table 1). The t-test results show that there was no significant difference between the perceptions of emotional exhaustion (t = .130, p = .055 > 0.05), and low personal accomplishment (t = .216 p =.840> 0.05) according to gender. However, it is observed that there is a significant difference between women and men in the burnout depersonalization subdimension (t = .398, p = .035 < 0.05), women experience more depersonalization compared to men.

**Table 2.** Findings of T-Test (Gender)

Variables	Gender	N	Mean	Std. Deviation	Std. Error	t	Sig.
Emotional Exhaustion	Female	52	2,987	,879	,122	,130	055
Emotional Exhaustion	Male	19	2,959	,559	,128		,055
Depersonalization	Female	52	2,826	,833	,115	,398	025
	Male	19	2,747	,404	,092		,035
Low personal	Female	52	3,461	,567	,078	216	0.40
accomplishment	Male	19	3,493	,495	,113	-,216	,840

As a result of the t-test conducted to test whether burnout perceptions differ according to marital status (Table 3), emotional exhaustion (t = -3.35, p = 0.05), depersonalization (t = -1.19, p = 0.05), and low personal accomplishment (t = -1.09, p = 0.05), it was observed that there was no significant difference between perceptions of burnout.

Whether the burnout perceptions of the nurses differ according to their education level, age, and the working year was tested with "ANOVA analysis". One-way ANOVA was conducted to determine whether burnout perceptions differ according to education status, age, and working year are presented in Table 4, 5, 6, 7, and 8.

**Table 3**. Findings of T-Test (Marital Status)

Variables	Marital Status	N	Mean	Std. Deviation	Std. Error	t	Sig.
Emotional	Married	43	2,739	,742	,113	2.25	770
Exhaustion	Single	28	3,349	,761	,143	-3,35	,778
D 1' 4'	Married	43	2,720	,660	,100	-1,19	,657
Depersonalization	Single	28	2,935	,846	,160		
Low personal	Married	43	3,412	,555	,084	1.00	062
accomplishment	Single	28	3,558	,528	,099	-1,09	,963

As seen in Table 4, emotional burnout perceptions of nurses differ according to their education levels (F = 5.167, p = ,003 < 0.05). According to this result (Table 5), it is seen that nurses with a bachelor's degree have higher perceptions of emotional burnout compared to high school graduates. But now significant differences found according to the education levels between sub dimensions' desensitization (F = 1.418, p =, 245 > 0.05). and low personal achievement (F = 1.626, p =, 192 > 0.05) of burnout.

 Table 4. ANOVA Test Findings (Educational Level)

Variables	Educational level	N	Mean	Std. Deviation	Std. Error	F	Sig.
	High school	23	2,497	,602	,125		
Emotional Exhaustion	Associate degree	11	3,030	1,03	,311	5,167	,003
Elliotioliai Exhaustioli	University	32	3,243	,735	,130	3,107	,003
	Master's Degree	5	3,400	,547	,244		
	High school	23	2,582	,562	,117		
D1!4!	Associate degree	11	2,854	1,06	,322	1 /10	245
Depersonalization	University	32	2,881	,732	,129	1,418	,245
	Master's Degree	5	3,240	,535	,240		
	High school	23	3,299	,574	,119		
Low personal accomplishment	Associate degree	11	3,715	,746	,224	1.626	102
	University	32	3,515	,446	,078	1,626	,192
	Master's Degree	5	3,470	,335	,145		

**Table 5**. ANOVA Test Findings (Educational Level, Tukey Test)

(I)Education	(J)Educational	Mean Difference(I-J)	Std. Error	Sig.
	Associate degree	-,532	,271	,212
High Scholl	University	-,745*	,202	,003
	Master's Degree	-,902	,364	,074
Associate degree	High school	,532	,271	,212
	University	-,212	,258	,843
	Master's Degree	-,369	,398	,791
	High school	,745*	,202	,003
University	Associate degree	,212	,258	,843
-	Master's Degree	-,156	,355	,971
Master's Degree	High school	,902	,364	,074
	Associate degree	,369	,398	,791
	University	,156	,355	,971

As can be seen in Table 6, nurses' perceptions of burnout according to their age depend on the depersonalization (F = 884, p = 418 > 0.05) and low personal achievement (F = 163, P = 850 > 0.05), no significant relationships are found. However, the emotional burnout sub-dimension

differs according to the nurses' ages (F = 3.42, p = 0.038 < 0.05). According to this result (Table 7), it is seen that nurses between the ages of 20-30 have a higher level of emotional burnout perceptions compared to those between the ages of 31-40.

**Table 6**. ANOVA Test Findings (Age)

Variables	Age	N	Mean	Std. Deviation	Std. Error	F	Sig.
Emotional	20-30	33	3,168	,726	,126		
Emotional Exhaustion	31-40	25	2,653	,787	,157	3,420	,038
Exnaustion	41 and over	13	3,128	,878	,243		
	20-30	33	2,903	,738	,128	<del></del>	
Depersonalization	31-40	25	2,648	,748	,149	,884	,418
	41 and over	13	2,861	,741	,205		
Low personal accomplishment	20-30	33	3,492	,491	,085		
	31-40	25	3,420	,585	,117	,163	,850
	41 and over	13	3,509	,634	,175		

**Table 7**. ANOVA Test Findings (Age, Tukey Test)

(I)Age	(J)Age	Mean Difference(I-J)	Std. Error	Sig.
20.20	31-40	,515*	,205	,039
20-30	41 and over	,040	,254	,986
31-40	20-30	-,515*	205	,039
	41 and over	-,474	,265	,181
41 and over	20-30	-,401	,254	,986
	31-40	,474	,265	,181

As seen in Table 8, there are no significant differences between the work tenure groups according to emotional exhaustion (F = 1.842, p =, 166 > 0.05), depersonalization (F = 2.123, p =, 128 > 0.05) and low personal accomplishment (F = 2.620, p =, 080 > 0.05)) sub dimensions of burnout.

**Table 8**. ANOVA Test Findings (Working Tenure)

Variables	Working Tenure	N	Mean	Std. Deviation	Std. Error	F	Sig.
Emotional	1-10 years	47	3,054	,808	,117		
Exhaustion	11-20 years	14	2,619	,731	,195	1,842	,166
Exnaustion	21 and over	10	3,133	,802	,253		
	1-10 years	47	2,868	,797	,116		
Depersonalization	11-20 years	14	2,457	,425	,113	2, 123	,128
	21 and over	10	3,000	,718	,227		
Low personal accomplishment	1-10 years	47	3,547	,541	,079		
	11-20 years	14	3,178	,429	,114	2,620	,080
	21 and over	10	3,512	,599	,189		

#### **Conclusions**

Despite the noteworthy implications of burnout, there continues to be wide variation in terms of how it is defined, what contributes to the manifestation of it, how to treat it, and how to prevent it. While the bulk of early studies focused on burnout in the caring professions, and we still don't now know how individual characteristics in a caring profession experience burnout. In this study,

it was analyzed whether burnout perceptions in nurses differ according to the demographic characteristics of nurses. For this purpose, empirical research was conducted on nurses working in the health sector in Izmir/Turkey. According to the results, the effects of demographic variables included in the analysis were tried to be explained with the help of t-test and ANOVA.

T-test was conducted to test whether the burnout perceptions of nurses differ according to gender and marital status. It was seen that there was no significant difference between the burnout of perceptions according to the marital status of the nurses. However, it was concluded that there is a significant difference only in the depersonalization sub-dimension of nurses according to gender status, and female nurses exhibit more depersonalization than male nurses.

Whether the burnout perceptions of nurses differ according to education level, age, and working year were tested with "ANOVA." According to the education level of the nurses, Emotional burnout perceptions of nurses with a bachelor's degree are higher compared to high school level educated nurses. However, apart from this, there is no significant difference between other education levels. When we compared the age groups of the nurses, it is observed that the nurses with the age range of 20-30 have a higher level of emotional burnout perceptions compared to the nurses with the age range of 31-40. There is no significant difference between other age groups. According to the working year of the nurses, there is no significant difference between burnout levels.

The fact that the study was conducted only in the nursing profession and in Izmir/Turkey is one of the important limitations of the study. Therefore, different findings can be obtained in studies to be carried out in other professions and regions (even countries). Another important limitation of the research is the use of a cross-sectional design. For this reason, it becomes difficult to control the relationships of variables and to determine their causality. Longitudinal studies are needed to evaluate causality relationships.

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