

Original Article

Evaluation of Nurse Manager Practice Environment

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Abstract

Background: Nurse managers play a key role in effective and quality presentation of nursing services and positive work environments affect their performance positively.

Aim: This descriptive and cross-sectional research was conducted to determine the nurse managers' opinions about their practice environments.

Methodology: Data from 211 nurse managers who filled out the questionnaires completely and voluntarily, were collected with an information form and "Nurse Manager Practice Environment Scale" in Ankara.

Results: The evaluation of nurse managers' practice environments was on the average ($4.69 \pm .66$) and positive. The evaluations of nurse managers who are unmarried, graduated from health vocational high school, worked in private hospitals, satisfied with working as nurse managers, with management education with experience of 11 years and above were more positive than the others.

Conclusions: It is important to emphasize the duties and responsibilities of nurse managers in creating a positive practice environment for both themselves and other nurses to achieve positive work outcomes.

Keywords: Health institutions, nurse managers, positive practice environment, quality of working life.

Introduction

Rapid developments and changes in management science affect health care organizations, their management styles and structures. Nurses and nurse managers (NMs), who have the vast majority among healthcare teams, need to make permanent arrangements in practice environments to provide quality, efficient and effective service that can meet the increasing demands and expectations of the society under these changes and developments (Baykal and Seren, 2014; Bektas, 1998).

The success of health institutions depends on understanding the multi-faceted and complex structure of the human factor and creating a suitable practice environment (Yildirim, 2014). The presence of practice environments where healthcare professionals can demonstrate their capacity and performance at the highest level is closely related to safe, quality, and efficient delivery of health services (Bauman, 2007). A healthy practice environment is also important

for patient safety. Because patient safety affects both individual patient results and the health sector as a whole (Croll, Coburn, & Pearson, 2012).

Working in a positive environment ensures the continuity of well-being, from the social life of the employee to the area where it provides services in addition to many benefits such as longer life expectancy, controlling health problems occurring in working life, reducing the burden of existing diseases, increasing the efficiency of the employee and the quality of work life, ensuring economic freedom and continuity to work.

Proper working conditions and environmental order is an important phenomenon that keeps employees in the organization, as it motivates employees or at least eliminates their dissatisfaction. Especially by senior managers, ways and methods that increase commitment of employees to the organization should be researched and positive practice environments

should be a standard that can be reached. (WHO, 2001; Parlar, 2008; Yaprak & Seren, 2010).

Literature Review

The NM practice environment is defined as the practice environment supported by the hospital management and affects the success of the NMs in achieving optimal staff, patient and institutional outcomes (Warshawsky, Lake, & Brandford, 2013). NMs contribute to organizational success. A quality and effective leadership is reflected in creating a professional practice environment, ensuring job satisfaction and intention to remain in work, using evidence-based practices and patient safety (Warshawsky, Wiggins, & Rayens, 2016).

While NMs fulfill the roles and responsibilities expected of them most appropriately, they experience problems arising from the variable health policies, institutions regulations they are affiliated to, and the duties, authorities and responsibilities, management styles, financial and human resources, working in the hospital, other healthcare team members, their education level, physical conditions and equipment of the hospital (Ozturk, Yilmaz, & Demir, 2009; Tan, Polat & Sahin, 2012; Acarer & Beydag, 2013). Positive practice environments have beneficial effects ranging from increasing nurses' health, morale, and motivation, job satisfaction, performance, patient outcomes, and quality healthcare delivery. For this purpose, the International Council of Nursing (ICN) has determined the theme of the 2007 International Nursing Day as Positive Working Environments = Quality Workplaces = Quality Patient Care (Baumann, 2007).

The support of the NMs' practices by the organization, the ability to act autonomously in their own working environment, leadership and teamwork are closely related to job satisfaction of NMs, the freedom to make self-decisions increases satisfaction by reducing the rate of quitting and facilitates the achievement of quality outputs. Problems experienced in practice environment are known to reduce NMs' commitment to the institutions and professions, and cause deterioration of positive relationships between employer and employee (Best & Thurston, 2004; Gormley, 2011; Anzai, Douglas, & Bonner, 2014). Also, it is inevitable to experience poor performance, interpersonal conflicts, and job dissatisfaction in the negativities related to the practice environment. When evaluated in terms of the institution, the

problems that experienced cause the decrease in work efficiency, lack of attention and concentration, economic losses, increase in business faults and accidents, deterioration in interpersonal relations and direct care areas, and all these factors are reflected in patient care and reduce the quality of care (Boston & Kose, 2011; Ayaz & Beydag, 2014).

Consequently, this study was planned to be used as a guide in evaluating the practice environments of the NMs who have an important role in the healthcare team and providing a suitable practice environment to provide quality, effective and efficient health services. The descriptive and cross-sectional design research was conducted to determine the opinions of the NMs regarding practice environments.

Methods

Study Design: The population of this descriptive and cross-sectional design study was NMs who work in 32 Ministry of Health Hospitals (MHH), 3 University Hospitals (UH), and 7 Private Hospitals (PH) in Ankara in Turkey, have a bed number of 100 and above (N=1300); the sample was composed of NMs who work at 6 hospitals (3 MHH, 1 UH, 2 PH) which allowed the research (N=260). It was aimed to reach a sample size of at least 155 people with a 95% confidence interval, a margin of error of %5 and an unknown prevalence of 50% according to the Epi Info 7 Statcalc program. The research data were collected with 211 NMs excluding annual leaves, incomplete forms, and participants who did not want to participate (n=211).

Data Collection: Data were collected between October 2016 and December 2016. Institutions that allowed the research were visited following the appointment received from their managers. Also, institutions revisited at certain intervals to be elected to the NMs who were on annual leave or not currently eligible.

Socio-demographic Characteristics Questionnaire and Nurse Manager Practice Environment Scale were used in data collection. Socio-demographic Characteristics Questionnaire was prepared according to the literature to determine the characteristics of NMs (age, marital status, education level, postgraduate education status, working years, institution and unit, satisfaction from being a NM, having management education, and the effect of practice environment on the performance as a manager).

NM Practice Environment Scale (NMPES) was developed by Warshawsky et al. in 2013. It consists 44 items of 8 subscales (patient safety, culture of meaning, productivity, financial resources, workload, NM-manager relations, NM-physician relations, NM-unit staff relations). Responses were measured on a Likert scale ranging from 1 to 6, with higher scores indicating greater agreement. All items were expressed positively. For this study, Cronbach's alpha was ranged from .63 to .91 for the subscale scores and .96 for the total score.

Ethical considerations: The ethics committee permission was obtained from the Clinical Research Ethics Committee of Turgut Ozal University Faculty of Medicine (09.03.2016 date and number: 99950669/70) and permission was obtained from the hospitals. Also, the data were collected by obtaining both written with informed consent form, and verbal consent from all participants voluntarily.

Data analysis: IBM SPSS (Statistical Package for Social Sciences) 23.0 package program was used for statistical analysis. Whether the data showed normal distribution was evaluated by Kolmogorov-Smirnov test. Mann-Whitney U and Kruskal-Wallis H tests were used as well as descriptive statistics (means and standard deviations (SD) or frequency distributions). The Mann-Whitney U test with Bonferroni correction was used to determine which group caused the significance in the Kruskal-Wallis H test. Spearman's rank-order correlation was used to explore relationships among subscale scores. The significance level was accepted as $p < .05$ within the 95% confidence interval.

Results

Most (63%) of the participants are in the age range of 31-40, married (75%), undergraduate (56%), without postgraduate education (86%), working years in the profession in 11-20 years (49%) and working years as NM between 1-5 years (65%), working in university hospital (35%) and internal units (36%), satisfied with being a NM (53%), did not have management education (66%) and who stated that practice environments affect their performance as a NM (52%) (Table 1).

The highest evaluation of NMs towards the working environment is in the "NM-unit staff relations" subscale ($5.32 \pm .63$) and the lowest evaluation is (3.75 ± 1.03) in the "financial

resources" subscale. The mean and SD of the total scale scores ($4.69 \pm .66$) and the NMs evaluated the practice environments positively (Table 2).

Results related to comparison of the socio-demographic characteristics and NMs' evaluation of practice environment are displayed in Table 3. Unmarried NMs have higher scores than married in the subscale of "NM-physician relations" ($Z = -2.909$ $p = .004$). NMs graduated from health vocational high schools have higher average scores in subscale of "culture of meaning" ($\chi^2 = 8.664$ $p = .034$), "financial resources" ($\chi^2 = 8.278$ $p = .041$) "NM-manager relations" ($\chi^2 = 13.882$ $p = .003$) and total scale ($\chi^2 = 9.633$ $p = .022$) and undergraduate and postgraduate NMs have higher than associate in "NM-manager relations" ($\chi^2 = 13.882$ $p = .003$).

NM who have 11-20 working years have higher scores than with 20 and above working years subscales of "NM-manager relations" ($\chi^2 = 6.972$ $p = .031$) and "NM-unit staff relations" ($\chi^2 = 6.570$ $p = .037$) and NMs who have 11 and above working years as a manager have more positive evaluations in subscales of "patient safety" ($\chi^2 = 8.506$ $p = .014$), "culture of meaning" ($\chi^2 = 7.130$ $p = .028$), "productivity" ($\chi^2 = 9.966$ $p = .007$), "NM-physician relations" ($\chi^2 = 6.574$ $p = .037$) and "NM-unit staff relations" ($\chi^2 = 6.055$ $p = .048$) and total scale ($\chi^2 = 6.614$ $p = .037$) (Table 3).

Also NMs in PH were more positively than the others in subscales of "patient safety" ($\chi^2 = 24.598$ $p = .000$), "culture of meaning" ($\chi^2 = 20.846$ $p = .000$), "productivity" ($\chi^2 = 13.498$ $p = .001$), "financial resources" ($\chi^2 = 54.502$ $p = .000$), "workload" ($\chi^2 = 12.670$ $p = .002$), "NM-manager relations" ($\chi^2 = 32.957$ $p = .000$), "NM-physician relations" ($\chi^2 = 15.086$ $p = .001$) and total scale ($\chi^2 = 30.640$ $p = .000$). NMs who work in internal units have higher scores than special unit workers in subscales of "patient safety" ($\chi^2 = 7.847$ $p = .049$), "productivity" ($\chi^2 = 11.904$ $p = .008$), "workload" ($\chi^2 = 12.916$ $p = .005$), "NM-manager relations" ($\chi^2 = 10.669$ $p = .014$), "NM-physician relations" ($\chi^2 = 20.401$ $p = .000$), "NM-unit staff relations" ($\chi^2 = 19.156$ $p = .000$) and total scale ($\chi^2 = 10.459$ $p = .015$).

It was found that NM who satisfied with being a manager have higher scores than others in subscales of "patient safety" ($\chi^2 = 35.650$ $p = .000$), "culture of meaning" ($\chi^2 = 31.917$ $p = .000$), "productivity" ($\chi^2 = 30.737$ $p = .000$), "financial

resources” ($\chi^2=29.827$ $p=.000$), “workload” ($\chi^2=14.473$ $p=.001$), “NM-manager relations” ($\chi^2=26.550$ $p=.000$), “NM-physician relations” ($\chi^2=13.173$ $p=.001$) and total scale ($\chi^2=39.209$ $p=.000$). NMs who have management education (certificate-course) were more positive than others in subscales of “NM-physician relations” ($Z=-2.909$ $p=.004$) and NMs who stated that their practice environments do not affect their performance evaluate practice environments more positively than the others in subscales of “patient safety” ($\chi^2=6.390$ $p=.041$), “financial resources” ($\chi^2=6.193$ $p=.045$), “workload” ($\chi^2=14.281$ $p=.001$) and total scale ($\chi^2=6.401$ $p=.041$) (Table 3.)

Correlations among NMPES subscale scores are displayed in Table 4. All subscales were significantly related with the NMPES total score positively ($p<.01$) with correlation coefficients ranging from .60 to .93. This suggests that all of the NMPES subscales were associated with the NMPES total score, many with moderate to strong positive correlations so all subscales are important in NMPES evaluation. The subscale most strongly related to the total score was Patient Safety ($r=.926$, $p<.01$) and the most weakly related to the total score was NM-Unit Staff Relations ($r=.603$, $p<.01$).

Table 1: Socio-Demographic Characteristics of Nurse Managers (n=211)

Variables		Frequency	%	Variables		Frequency	%
Age (38,25±6.17) (min 21-max 57)	21-30	16	8	Satisfaction From Being Nurse Manager	Satisfied	112	53
	31-40	134	63		Not Satisfied	15	7
	41 and over	61	29		Partially Satisfied	84	40
Marital Status	Married	159	75	Management Training Status	Yes	72	34
	Unmarried	52	25		No	139	66
Education Level	Health Vocational High School	24	11	Unit of Work	Internal unit	76	36
	Associate	39	19		Surgical units	58	27
	Undergraduate	118	56		Special units	69	33
	Postgraduate	30	14		Others(management polyclinic)	8	4
Postgraduate Education Status	Without postgraduate education	181	86	Institution of Work	Ministry of health hospitals	73	35
	Management	18	8		Private hospitals	64	30
	Other Fields	12	6		University hospitals	74	35
Total Working Years in Profession (17.01±7.18) (min 2-max 36)	1-10	42	20	Working Time as Nurse Manager (6.16±5.62) (min 1-max 30)	1-5	128	61
	11-20	104	49		6-10	47	22
	20 and over	65	31		11 and over	36	17
Practice Environments Affect Their Performance as Nurse Manager	Yes	110	52	Total	211	100	
	No	51	24				
	Partially	50	24				
	Total	211	100				

Table 2: Nurse Managers Practice Environment Scale's Mean and Standard Deviations (n=211)

NMPES Subscales	Mean	Std Dev	Min-Max	Cronbach Alpha	NMPES Subscales	Mean	Std Dev	Min-Max	Cronbach Alpha
Patient Safety	4.75	.71	1.27-6.00	.91	Workload	4.38	.90	1.00-6.00	.63
Culture of Meaning	4.80	.76	1.75-6.00	.79	Nurse Manager-Manager Relations	4.86	.83	1.33-6.00	.88
Productivity	4.69	.75	1.67-6.00	.83	Nurse Manager-Physician Relations	4.90	.76	1.33-6.00	.69
Financial Resources	3.75	1.03	1.50-6.00	.69	Nurse Manager-Unit Staff Relations	5.32	.63	1.00-6.00	.80
Total Scale	4.69	.66	1.82-6.00	.96	Total Scale	4.69	.66	1.82-6.00	.96

Table 3: Findings Related to Comparison of the Socio-Demographic Characteristics and Nurse Managers' Evaluation of Practice Environment

Variables		n	Patient Safety	Culture of Meaning	Productivity	Financial Resources	Workload	Nurse Manager-Manager Relations	Nurse Manager-Physician Relations	Nurse Manager-Unit Staff Relations	Total Scale	
			X ± SD	X ± SD	X ± SD	X ± SD	X ± SD	X ± SD	X ± SD	X ± SD	X ± SD	
Marital Status	Married	159	4.76 ± .662	4.81 ± .744	4.67 ± .724	3.71 ± 1.00	4.37 ± .889	4.84 ± .800	4.84 ± .770	5.32 ± .579	4.69 ± .620	
	Single	52	4.71 ± .834	4.77 ± .825	4.73 ± .850	3.87 ± 1.09	4.41 ± .958	4.92 ± .916	5.11 ± .716	5.33 ± .781	4.72 ± .766	
								Z -2.909*	p .004			
Education Level	HVHS	24	4.97 ± .556	5.09 ± .565	4.76 ± .676	4.15 ± 1.03	4.58 ± .858	5.15 ± .623	4.92 ± .668	5.33 ± .520	4.90 ± .568	
	Associate	39	4.53 ± .577	4.57 ± .724	4.49 ± .724	3.42 ± 1.05	4.38 ± .971	4.58 ± .627	4.74 ± .600	5.27 ± .473	4.49 ± .479	
	Undergraduate	118	4.76 ± .766	4.80 ± .782	4.72 ± .780	3.81 ± .982	4.34 ± .878	4.87 ± .814	4.94 ± .814	5.32 ± .713	4.71 ± .709	
	Postgraduate	30	4.80 ± .674	4.85 ± .814	4.76 ± .747	3.62 ± 1.07	4.38 ± .958	4.95 ± .926	4.92 ± .834	5.37 ± .579	4.73 ± .669	
			χ ² 8.664 1>2	p .034		χ ² 8.278 1>2	p .041	χ ² 13.882 1>2	p .003 3,4>2		χ ² 9.633 1>2	p .022
Total Working Years in Profession	1-10	42	4.56 ± .943	4.64 ± .875	4.51 ± .947	3.74 ± 1.08	4.17 ± 1.11	4.73 ± 1.08	4.68 ± .946	5.13 ± .868	4.53 ± .884	
	11-20	104	4.86 ± .634	4.90 ± .679	4.77 ± .679	3.83 ± 1.01	4.46 ± .838	4.97 ± .820	4.99 ± .740	5.43 ± .553	4.79 ± .568	
	21 ve ↑	65	4.69 ± .613	4.73 ± .800	4.66 ± .721	3.63 ± 1.03	4.39 ± .849	4.76 ± .619	4.89 ± .645	5.27 ± .542	4.64 ± .599	
							χ ² 6.972* 2>3	p .031		χ ² 6.570* 2>3	p .037	
Total Working Years as Nurse Manager	1-5	128	4.70 ± .727	4.74 ± .739	4.59 ± .774	3.77 ± 1.02	4.32 ± .929	4.86 ± .835	4.83 ± .749	5.27 ± .657	4.65 ± .670	
	6-10	47	4.67 ± .678	4.76 ± .804	4.73 ± .683	3.54 ± .985	4.45 ± .883	4.68 ± .889	4.87 ± .856	5.30 ± .621	4.63 ± .622	
	11 ve ↑	36	5.93 ± .608	5.05 ± .762	4.98 ± .708	3.94 ± 1.08	4.49 ± .844	5.13 ± .656	5.21 ± .623	5.54 ± .524	4.95 ± .608	
			χ ² 8.506* 3>1, 2	p .014	χ ² 7.130* 3>1	p .028	χ ² 9.966* 3>1	p .007	χ ² 6.574* 3>1	p .037	χ ² 6.614* 3>1	p .037
Institution of Work	MHH	73	4.54 ± .57	4.66 ± .65	4.56 ± .64	3.53 ± .91	4.35 ± .82	4.55 ± .79	4.72 ± .74	5.23 ± .53	4.51 ± .55	
	PH	64	5.02 ± .68	5.13 ± .58	4.96 ± .64	4.52 ± .73	4.71 ± .75	5.21 ± .76	5.14 ± .63	5.37 ± .76	5.01 ± .62	
	UH	74	4.72 ± .78	4.65 ± .91	4.57 ± .89	3.30 ± .99	4.13 ± 1.02	4.87 ± .81	4.88 ± .84	5.36 ± .61	4.60 ± .070	
			χ ² 24.598 2,3>1	p .000	χ ² 20.846 2>1,3	p .000	χ ² 13.498 2>1,3	p .001	χ ² 54.502 2>1,3	p .000	χ ² 12.670 2>1,3	p .002
			χ ² 32.957 2>1	p .000	χ ² 15.086 2>1	p .001	χ ² 30.640 2>1,3	p .000		χ ² 30.640 2>1,3	p .000	
Unit of Work	Internal unit	76	4.86 ± .77	4.95 ± .079	4.90 ± .075	3.75 ± 1.18	4.68 ± .094	5.00 ± .091	5.18 ± .066	5.53 ± .058	4.85 ± .067	
	Surgical unit	58	4.76 ± .92	4.78 ± .107	4.56 ± .118	3.74 ± .140	4.21 ± .126	4.87 ± .099	4.85 ± .111	5.34 ± .079	4.67 ± .090	
	Special units	69	4.59 ± .749	4.61 ± .794	4.53 ± .706	3.70 ± 1.04	4.19 ± .893	4.65 ± .900	4.63 ± .801	5.09 ± .729	4.52 ± .694	
	Others	8	4.94 ± .374	5.02 ± .378	4.73 ± .404	4.00 ± .750	4.58 ± .669	5.24 ± .495	4.85 ± .525	5.30 ± .380	4.87 ± .370	
			χ ² 7.847* 1>3	p .049	χ ² 11.904* 1>3	p .008	χ ² 12.916* 1>2,3	p .005	χ ² 10.669* 1>3	p .014	χ ² 20.401* 1>3	p .000
			χ ² 19.156* 1>3	p .000	χ ² 19.156* 1>3	p .000	χ ² 10.459* 1>3	p .015		χ ² 10.459* 1>3	p .015	
Satisfaction From Being Nurse Manager	Satisfied	112	4.97 ± .646	5.03 ± .623	4.91 ± .646	4.10 ± .994	4.53 ± .836	5.09 ± .786	5.05 ± .705	5.39 ± .666	4.91 ± .606	
	Not Satisfied	15	3.89 ± .928	3.95 ± .808	3.71 ± 1.01	3.13 ± 1.01	3.35 ± 1.24	4.29 ± .952	4.42 ± .894	5.08 ± .762	3.94 ± .818	
	Partially Satisfied	84	4.59 ± .579	4.63 ± .783	4.56 ± .673	4.35 ± .804	4.35 ± .804	4.65 ± .764	4.78 ± .768	5.27 ± .551	4.53 ± .544	
			χ ² 35.650 1>2,3	p .000	χ ² 31.917 1>2,3	p .000	χ ² 30.737 1>2,3	p .000	χ ² 29.827 1>2,3	p .000	χ ² 14.473 1>2,3	p .001
			χ ² 26.550 1>2,3	p .000	χ ² 13.173 1>2,3	p .001	χ ² 26.550 1>2,3	p .000	χ ² 13.173 1>2,3	p .001	χ ² 39.209 1>2,3	p .000
Management Training Status	Yes	72	4.86 ± .695	4.98 ± .692	4.89 ± .698	3.96 ± .920	4.52 ± .849	4.90 ± .914	4.97 ± .815	5.29 ± .611	4.81 ± .644	
	No	139	4.68 ± .706	4.70 ± .782	4.57 ± .763	3.64 ± 1.06	4.30 ± .924	4.83 ± .783	4.86 ± .737	5.33 ± .645	4.62 ± .656	
								Z -2.909	p .004			
Practice	Yes	110	4.76 ± .717	4.81 ± .795	4.67 ± .769	3.70 ± 1.02	4.28 ± .924	4.89 ± .830	4.96 ± .729	5.37 ± .658	4.70 ± .657	

Environments Affect Their Performance as Nurse Manager	No	51	4.86±.637	4.91±.676	4.80±.697	4.03±1.02	4.76±.693	4.96±.712	4.89±.844	5.26±.585	4.82±.612
	Partially	50	4.58±.732	4.65±.764	4.59±.778	3.56±.987	4.20±.949	4.67±.917	4.78±.755	5.26±.625	4.54±.683
			χ^2 6.390 2>1			χ^2 6.193 2>1	χ^2 14.281 2>1				χ^2 6.401 2>3
			p .041			p .045	p .001				p .041

("Mann-Whitney U" test (Z- table value) ; "Kruskal-Wallis H" test (χ^2 -table value), p<.05, MHH: Ministry of Health Hospital, PH: Private Hospital, UH: University Hospital, HVHS: Health Vocational High School

Table 4. Correlations Among NMPES Subscale Scores

NMPES Subscale	Corelation Coefficient (r)								
	1	2	3	4	5	6	7	8	9
Patient Safety		.766**	.724**	.504**	.539**	.866**	.639**	.597**	.926**
Culture of Meaning			.793**	.570**	.606**	.675**	.625**	.546**	.862**
Productivity				.520**	.631**	.630**	.616**	.562**	.834**
Financial Resources					.570**	.451**	.375**	.150*	.671**
Workload						.425**	.381**	.319**	.674**
Nurse Manager-Manager Relations							.652**	.579**	.857**
Nurse Manager- Physician Relations								.635**	.718**
Nurse Manager-Unit Staff Relations									.603**
Total Scale									

*p<0,05, ** p<0,01

Discussion

According to data obtained from 211 NMs, NMPES and subscale mean scores are in the range of 3.75 to 5.32, the lowest “financial resources”, the highest “NM-unit staff relations” subscale. In line with these results, the highest average score was found in “NM-unit staff relations” subscale (5.0) and the lowest “financial resources” subscale (3.69) in the research of Warshawsky et al. in 2016. According to Warshawsky et al., as the average score approaches 6, they are considered to evaluate their practice environment positively (Warshawsky et al., 2013; Warshawsky, Wiggins, & Rayens, 2016) and the evaluation of NMs’ practice environments is positive in this research. Also nurse participants positively evaluated their work environment in the study conducted by Tambag et al. (2015), and Tan, Polat, & Sahin (2012) and Mollaoğlu, Fertelli, & Tuncay (2010).

There was no significant differences between age and postgraduate education departments with evaluation ($p > .05$). Similar to the fact that age was not effective on nurses' perception of work environment in study of Altinoz & Demir, 2017. However, in the study conducted by Tan et al. in 2012 to determine the perception of the work environment of nurses, in comparing ages and mean scores of the nurses with the working environment scale, professional relations, personnel fears and total mean scores in the 30-39 age group were high in statistically significant contrary to this study. Also, it is considered that there is no difference due to the small number of participants who received postgraduate education.

It has been determined that there is a statistically significant difference ($p < .05$) between married and unmarried in subscale of “NM-physician relations”, and unmarried NMs showed a more positive attitude. Contrary to our study, the study of Saygili and Celik in 2011 to determine the perceptions of hospital employees about their working environment, it is determined that married employees generally evaluate their work environments more positively than unmarried (Saygili & Celik, 2011). In contrast, in the study conducted by Altinoz and Demir in 2017, marital status was not effective on the nurses' perception of the work environment (Altinoz & Demir, 2017).

NMs who graduated from health vocational high schools were found to have higher average scores

in “culture of meaning”, “financial resources”, “NM-manager relations” subscales and total scale compared to associate degree graduate nurses. In the study conducted by Saygili & Celik in 2011, health personnel who graduate from high school evaluated in a more positive way of the working environment in general than health personnel who have an associate degree and undergraduate and postgraduate education (Saygili & Celik, 2011). This result is similar to our study. But, education was not effective on the nurses' perception of the work environment in the study conducted by Altinoz & Demir in 2017.

Generally, NMs with 11-20 working years in profession have higher average scores in subscales of “NM-manager relations” and “NM-unit staff relations” in this study. In parallel with this; it was determined that the positive perception of the working environment gradually increased with the increase in working years and this positive perception reversed after 18 years in the study of Erdagi & Ozer in 2015.

According to results of the study carried out by Altinoz & Demir in 2017, there is a statistically significant difference according to the working years and the working environment evaluation score of 10 years and more workers in the profession is higher than the fewer workers, and the positive perceptions of nurses regarding the working environment increase as their working years increase.

The NMs who have 11 years and above working years have more positive evaluations in subscales of “patient safety”, “culture of meaning”, “productivity”, “NM-physician relations”, “NM-unit staff relations” and total scale. In the study of Cetinkaya Kutun et al. (2019), it was stated that experienced in the profession and working in the department for a long time allows both know the internal communication systems better and get to know the institution, which may be thought to be effective in evaluating the working environment positively (Cetinkaya Kutun, Yildirim, & Yilmaz, 2019). This situation supports the study result.

The NMs working in private hospitals are more positive to evaluate the practice environments than the NMs working in both the ministry of health and the university hospitals. In the study carried out by Ozkan et al. in 2013, to determine the perceived working conditions of the nurses working in private hospitals, it was stated that the participants worked mostly in private hospitals

and that there was a positive working environment among the reasons (Ozkan, Kocyigit, & Sen, 2013). It is thought that the physical environment and conditions in private hospitals are more favorable than other hospitals, which can also be effective in evaluating the working environments.

NMs working in internal units have positive evaluation of practice environment in subscales of “patient safety”, “productivity”, “workload”, “NM-manager relationships”, “NM-physician relations”, “NM-unit staff relations” and total scale. In the study of Tan and her friends in 2012, no relation was found between the unit studied and the average of the work environment assessment score (Tan, Polat, & Sahin, 2012).

It was observed that the NMs who satisfied with being a NM evaluated their practice environment more positively. In the literature, a positive nurse practice environment significantly increases job satisfaction (Al-Hamdan, Banerjee, & Manojlovich, 2018, Falguera et al., 2020). Insufficient resources and staffing in the work environment lead to poor work outcomes such as increased burnout and job dissatisfaction (Al Sabei et al., 2020; Liu et al., 2012, Falguera et al., 2020). So it is very important to create a positive work environment to increase employee satisfaction.

The NMs who have management education seem to have a more positive evaluation of their practice environment in “NM-physician relations” subscales. The participation of NMs in the certificate and course programs specific to their fields and constantly improving themselves will support them to provide easier intervention and control of the events they encounter in practice environment, and will also contribute to the creation of a positive practice environment by supporting the professionalism in practice environments. As a result, it is believed that those who have management training evaluate their practice environment more positively. Also when looking at other studies in the literature, there is a positive relationship between nurses' job satisfaction and participation in educational activities and job satisfaction appears to have a positive effect on workplace evaluations (Sung, Chang, & Tsai, 2005).

Those who stated that their practice environments do not affect the performance as a NM are more positive than others in sub dimensions of “Patient

safety”, “financial resources”, “workload” and total scale. In the study conducted by Yilmaz & Ozturk in 2011, they stated that the NMs had conflicts due to the most workload (higher workload than other occupational groups, and insufficient wages compared to workload), not meeting expectations, not being authorized in working environment. Conflicts in working environment affect work performance negatively, and it may cause negative effects such as job dissatisfaction/poor performance, negatively affected patient care, and increased costs (Yilmaz & Ozturk, 2011). So, the positive evaluation of those who think that their work environment does not affect their performance is an expected result.

According to the results of the correlation analysis, All subscales were significantly related with the NMPES total score positively ($p < .01$). This suggests that all subscales are important in NMPES evaluation and all managers should be careful about these issues in their field of application.

Limitations: The research is limited by being only tested with a single sample of NMs at the ministry of health, private and university hospitals in Ankara in Turkey. Findings, therefore, cannot be generalized to all NMs, and further work is required.

Conclusion: The evaluations of NMs' practice environment were found to be above the average ($4.69 \pm .66$), positive and sociodemographic differences were considered important in the evaluation. It is recommended to organize NM practice environments, to conduct studies across the country to guide senior executives to improve the NM practice environment. Also studies should be done to create positive work environment to increase employee satisfaction and work outcomes. It should be emphasized that all these arrangements will support quality and qualified service, improvement of corporate performance, and the formation of mutual satisfaction.

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References

- Acarer, E. & Beydag, K. (2013). Factors that influence the problems of executive nurses in their working environment. *Gumushane University Journal of Health Sciences*, 2 (1) , 26-39. Retrieved from

- <https://dergipark.org.tr/pub/gumussagbil/issue/7505/98934>.
- Anzai, E.; Douglas, C. & Bonner, A. (2014). Nursing practice environment, quality of care, and morale of hospital nurses in Japan. *Nursing and Health Sciences*, 16, 171–178, <https://doi.org/10.1111/nhs.12081>.
- Al-Hamdan, Z., Banerjee, T. & Manojlovich, M. (2018). Communication with physicians as a mediator in the relationship between the nursing work environment and select nurse outcomes in Jordan. *Journal of Nursing Scholarship*, 50(6), 714–721. <https://doi.org/10.1111/jnu.12417>.
- Al Sabei, S. D., Labrague, L. J., Miner Ross, A., Karkada, S., Albashayreh, A., Al Masroori, F. & Al Hashmi, N. (2020). Nursing work environment, turnover intention, job burnout, and quality of care: The moderating role of job satisfaction. *Journal of Nursing Scholarship*, 52(1), 95–104. <https://doi.org/10.1111/jnu.12528>.
- Altinoz, U. & Demir, S. (2017). Intensive care nurses' perceptions of their work environment, psychological distress and the factors that affect them, *Journal of Psychiatric Nursing*; 8(2):95–101, <https://doi.org/10.14744/phd.2017.03016>.
- Ayaz, S. & Beydag, K. D. (2014). Factors affecting the quality of work life of nurses: example of Balikesir. *Journal of Health and Nursing Management*, 2 (1), 60-69, <https://doi.org/10.5222/SHYD.2014.060>
- Baumann, A. (2007). International Council of Nurses (ICN) Positive practice environments: Quality workplaces = quality patient care, information, and action tool kit. [Electronic version]. Arrived in 19.04.2020, Retrieved from https://www.caccn.ca/files/ind_kit_final2007.pdf
- Baykal, U., & Harmanci Seren, A.K. (2014). Management process and organization of nursing services. (Ed.: Baykal, U., & Turkmen, E.), *Nursing Services Management* (1. edition), Istanbul: Academy Press and Publishing, 49-89.
- Bektas, G. (1998). Nursing services management. (Ed.: Hayran, O. ve Sur, H.) *Health Services Handbook* (1.edition), Istanbul: Yuce Publication, 337-3358.
- Best, M. & Thurston, E. (2004). Measuring nurse job satisfaction. *Journal of Nursing Administration*, 34(6). 283-290, PMID: 15190223, <https://doi.org/10.1097/00005110-200406000-00007>.
- Boston, S. & Kose, A. (2011). Evaluation of administrative services and working conditions for nurses in a university hospital case, *Clinical and Experimental Health Sciences*,1(3),176-183 <https://dergipark.org.tr/pub/clinexphealthsci/issue/17846/187151>
- Croll, Z. T., Coburn, A. F. & Pearson, K. B. (2012). Promoting a culture of safety: Use of the hospital survey on patient safety culture in critical access hospitals. (Briefing Paper No. 30). Portland, ME: Flex Monitoring Team. Retrieved from https://www.flexmonitoring.org/wp-content/uploads/2013/07/PolicyBrief27_Patient-Safety-Culture-CAHs.pdf
- Cetinkaya Kutun, F., Yildirim, A., & Yilmaz, S. (2019). Determination of nursing services management efficiency in hospitals. *Journal of EKEV Academy*, 23 (80), 151-172, Doi: 10.17753
- Erdagi, S. & Ozer, N. (2015). Examining practice environments, patient safety culture perceptions and burnout status of nurses working in surgical clinics, *Journal of Anatolia Nursing and Health Sciences*,18:2,<https://doi.org/10.17049/ahsbd.90265> .
- Falguera, C.C., De los Santos J.A.A., Galabay, J.R., Tsaras, K., Rosales, R.A., Mirafuentes, E.C., Labrague, L.J. (2020). Relationship between nurse practice environment and work outcomes: A survey study in the Philippines. *International Journal of Nursing Practice*;e12873. <https://doi.org/10.1111/ijn.12873>.
- Gormley, D K. (2011). Are we on the same page? Staff nurse and manager perceptions of work environment, quality of care, and anticipated nurse turnover, *Journal of Nursing Management*, 19, 33–40, PMID: 21223403, <https://doi.org/10.1111/j.1365-2834.2010.01163.x>.
- Liu, K., You, L. M., Chen, S. X., Hao, Y. T., Zhu, X. W., Zhang, L. F. & Aiken, L. H.(2012). The relationship between hospital work environment and nurse outcomes in Guangdong, China: A nurse questionnaire survey. *Journal of Clinical Nursing*, 21, 1476–1485. <https://doi.org/10.1111/j.1365-2702.2011.03991.x>.
- Mollaoglu, M., Fertelli, K.T., & Tuncay, O.F. (2010). Evaluation of nurses working in the hospital perceptions of their working environment., *Firat Journal of Health Services*, 5: 17-30.
- Parlar, S. (2008). A problem that is not considering in health workers: healthy work environment. *TAF Preventive Medicine Bulletin*, 7(6) 547-554, Retrieved from https://www.bibliomed.org/mnsfulltext/1/khb_007_06-547.pdf?1631543377
- Saygili, M., & Celik, Y. (2011). The evaluation of relationship between job satisfaction and perceptions relating to working environment of health staff working in hospitals, *Hacettepe Journal of Health Administration*, 14(1) Retrieved from <https://dergipark.org.tr/en/pub/hacettepesid/issue/7569/99397>.
- Sung, H., Chang, S., Tsai, C. (2005). Working in long-term care settings for older people with dementia: nurses' aides. *Journal of Clinical Nursing*, 14: 587-593. <https://doi.org/10.1111/j.1365-2702.2004.01111.x>

- Tambag, H., Can, R., Kahraman, Y., & Sahpolat, M. (2015). The effect of the work environment on job satisfaction among nurses, *Medical journal of Bakirkoy*, 11(4), 143-149, <https://doi.org/10.5350/BTDMJB201511402>.
- Tan, M., Polat, H., & Sahin, Z. (2012). Assessing perception of nurses regarding work environments. *Journal of Performance and Quality in Health*, 4(2), 67-78. Retrieved from <https://dergipark.org.tr/tr/pub/spkd/issue/29275/313450>.
- Ozkan, O., Kocyigit, Z., & Sen, U. (2013). Perceived job and income insecurity with working conditions of nurses working in private hospitals. *Cumhuriyet Nursing Journal*, 2(1):15-25, Retrieved from <https://pdfs.semanticscholar.org/cd9a/c4a9b40dfd3fc06820ee1301c0332a6a5cba.pdf>.
- Ozturk, H., Yilmaz, F., & Demir, N. (2009). The matters of nurses managers working in hospital. *Journal of Anatolia Nursing and Health Sciences*, 12: 2,57-65 Retrieved from <https://dergipark.org.tr/en/pub/ataunihem/issue/2645/34028>.
- Warshawsky, N.E., Lake, S. & Brandford, A. (2013). Nurse managers describe their practice environments. *Nursing Administration*, 37, 317-325, PMID: 24022285 <https://doi.org/10.1097/NAQ.0b013e3182a2f9c3>.
- Warshawsky, N.E., Rayens, M.K., Lake, S., & Havens, D. (2013). The nurse manager practice environment scale: development and psychometric testing. *The Journal of Nursing Administration*, 43(5),250-257, <https://doi.org/10.1097/NNA.0b013e3182898e4e>.
- Warshawsky, N.E., Wiggins, A.T., & Rayens, M.K. (2016), The Influence of the Practice Environment on Nurse Managers_ Job Satisfaction and Intent to Leave, *The Journal of Nursing Administration*, 46(10), 501-507,. PMID: 27571545, <https://doi.org/10.1097/NNA.0000000000000393>.
- WHO (2001).The Role of the Occupational Health Nurse in Workplace Health Management. Eds.Whitaker S., & Baranski B., Retrieved from <https://apps.who.int/iris/handle/10665/108433>.
- Yaprak, E., & Seren, S. (2010). Effects of nurses' intent to leave their jobs and organizational climate on employment of nurses, *Journal of Education and Research in Nursing*, 7(1), 28-33, Retrieved from https://www.journalagent.com/kuhead/pdfs/KUHEAD_7_1_28_33.pdf.
- Yilmaz, F. & Ozturk, H., (2011). Causes of conflicts encountered by nurse managers in hospitals and their approaches in conflicts management, *Florence Nightingale Journal of Nursing*, 19(3), 145-152 Retrieved from <https://fnjn.org/en/causes-of-conflicts-encountered-by-nurse-managers-in-hospitals-and-their-approaches-in-conflicts-management-16830>
- Yildirim, A. (2014). Health work environment and factors affecting the quality of work life, in health management and nursing, nursing in the light of health system and management principles, Ankara: Hedef Publishing.