The Effect of Organizational Culture on Nurses' Attitudes Toward Productivity

Örgüt Kültürünün Hemşirelerin Verimliliğe İlişkin Tutumuna Etkisi

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ABSTRACT

Objective: This study aimed to investigate the effects of nurses' sociodemographic characteristics, professional characteristics, and organizational culture on nurses' attitudes toward productivity.

Methods: This descriptive and relational study was conducted between January 2018 and April 2018 with 352 nurses who had been working in four hospitals in Istanbul (Türkiye) for at least six months. Data were collected using the "Individual Descriptive Characteristics Form," the "Denison Organizational Culture Scale," and the "Attitudes Towards Productivity Scale". Descriptive statistics, Pearson correlation, and multiple regression analysis (backward method) were used for the analysis of the data.

Results: While the participating nurses' attitudes towards productivity levels were close to average, their organizational culture levels were moderate. A positive, strong, and highly significant relationship was found between organizational culture and nurses' productivity attitudes (r=0.61; P <.001). Regression analysis demonstrated that nurses' productivity attitudes were affected by seven variables (R^2: 46, P<.001, Durbin Watson: 1.82).

Conclusion: The results of the study show that the two sub-dimensions of the Denison Organizational Culture Scale, work unit, willingness to work in the unit, workload perception, type of institution, and satisfaction with institution were important factors affecting nurses' productivity attitudes. Hospital administrators and executive nurses should develop strategies of developing nurses' productivity attitudes by considering organizational culture.

Keywords: Attitude, nurse, nurse productivity, organizational culture, productivity

ÖZ

Amaç: Bu çalışmada hemşirelerin sosyodemografik özellikleri, mesleki özellikleri ve örgüt kültürünün hemşirelerin verimliliğe yönelik tutumları üzerindeki etkilerinin incelenmesi amaçlanmıştır.

Yöntemler: Tanımlayıcı ve ilişkisel tipteki bu çalışma, Ocak 2018-Nisan 2018 tarihleri arasında İstanbul'da (Türkiye) dört hastanede en az altı aydır çalışan 352 hemşire ile yürütülmüştür. Veriler "Bireysel Tanımlayıcı Özellikler Formu", "Denison Örgüt Kültürü Ölçeği" ve "Verimliliğe İlişkin Tutum Ölçeği" kullanılarak toplanmıştır. Verilerin analizi için tanımlayıcı istatistikler, Pearson korelasyonu ve çoklu regresyon analizi (backward yöntemi) kullanılmıştır.

Bulgular: Katılımcı hemşirelerin verimliliğe yönelik tutum düzeyleri ortalamaya yakın iken, örgüt kültürü düzeyleri orta düzeydedir. Örgüt kültürü ile hemşirelerin verimlilik tutumları arasında pozitif, güçlü ve oldukça anlamlı bir ilişki bulunmuştur (r=0,61; P<,001). Regresyon analizi, hemşirelerin verimlilik tutumlarının yedi değişkenden etkilendiğini göstermiştir (R^2: 46, P<,001, Durbin Watson: 1,82).

Sonuç: Araştırma sonuçları, Denison Örgüt Kültürü Ölçeği'nin iki alt boyutu ile çalışılan birim, birimde çalışma isteği, iş yükü algısı, kurum türü ve kurumdan memnuniyetin hemşirelerin verimlilik tutumlarını etkileyen önemli faktörler olduğunu göstermektedir. Hastane yöneticileri ve yönetici hemşireler, örgüt kültürünü dikkate alarak hemşirelerin verimlilik tutumlarını geliştirmeye yönelik stratejiler geliştirmelidir.

Anahtar Kelimeler: Tutum, hemşire, hemşire verimliliği, örgüt kültürü, verimlilik

INTRODUCTION

Productivity of nurse manpower is at the center of healthcare organization planning, as it is directly related to the provision of quality patient care[1] with nurses playing an important role in health service delivery. Productivity is the ratio between input and output[2] and in nursing, productivity described as a measure of efficiency with which labor, materials and equipment are convert into goods and services.[3] Control of productivity is a critical part of a nurse manager's responsibility, but direct measures of nursing productivity are not yet available.[2] Nurse productivity is directly related to hospital productivity, as the health sector undergoes rapid structural change.[4] Because nurses are actively responsible for maintaining organizational change, the factors affecting nurse productivity and efficiency should be determined.[5]

Encompassing the norms, beliefs, and basic assumptions that distinguish one organization from another, organizational culture is a powerful tool used to achieve desired organizational goals.[6] Organizational culture categorized by Denison and Mishra[7] as four traits: involvement, consistency, adaptability, and mission. Organizational culture plays an important role in organizational empowerment that affects self-efficacy.[8] Because it is one of the main factors affecting hospital performance, organizational culture is of great importance for nurses, nurse managers, and hospital managers.[9] Nurses play a key role in creating a strong organizational culture, which positively affects the quality and productivity of nursing services.[10] If nurse managers establish a clear organizational culture, nurses may more easily shape their behaviors around it, ensuring continuity of the institution, as well as quality and efficient services.[11]

The studies found that the following organizational factors positively affect nurse productivity: democratic and participatory corporate culture,[12] management leadership behavior,[13-17] organizational support,[18] managerial support,[19] organizational trust,[5] organizational commitment,[5,14] future goals,[20] managers' competence,[5] teamwork, [16,21] working environment [22-24] and adequacy of human resources.[14, 24]

The factors that negatively affect nurse productivity, on the other hand, are: management's dismissal of subordinates' opinions and suggestions,[12, 19] autocratic management style,[19] unfamiliarity with corporate culture,[4] promotion systems based on personal relations rather than merit [24], and insufficient wages.[4,12,24-26]

Few studies have considered nurses' attitudes towards productivity and its affecting factors, and no study has been found on the effect of organizational culture on nurses' productivity attitudes. Therefore, this study contributes to the literature and may help nurse managers develop strategies designed to create and maintain productivity-enhancing organizational culture.

AIM

This study aimed to determine the effects of nurses' sociodemographic characteristics, professional characteristics, and organizational culture on nurses' attitudes toward productivity.

Research questions/hypothesis

- What are the attitudes of nurses towards productivity?
- What are the factors (sociodemographic and professional characteristics and organizational culture) that affect nurses' attitudes towards productivity?

METHODS

Design
This is a descriptive and relational study.

Participants
This study's population consisted of 1,450 nurses with at least six months of experience working in one of four hospitals (one state, one university, one foundation university, and one private hospital) in Istanbul, Türkiye. Data collection forms were distributed to a total of 420 nurses, and the study was completed with a total of 352 nurses who filled out the form completely. In the post hoc power analysis performed with the G*Power (3.1.9.2) program, the effect size was found to be f^2: .85 (large effect), and the power was 100% (1.00), resulting in a sufficient sample size.

Instruments
This study used a data collection form consisting of three parts: the "Individual Descriptive Characteristics Form," the "Denison Organizational Culture Scale," and the "Attitudes Towards Productivity Scale".

Individual Descriptive Characteristics Form
This form contained 16 questions concerning nurses' sociodemographic and professional characteristics (gender, age, marital status, educational status, duration of professional experience, duration of experience in the institution, type of institution, work unit, working style, position, duration of work in the position, satisfaction with the work unit, status of willingness to work in the unit, status of having willingly/unwillingly chosen the profession, satisfaction with salary, satisfaction with the institution, and workload perception).

Denison Organizational Culture Scale

Developed by Denison and Mishra in 1995, this scale is designed to measure organizational culture. The Turkish validity and reliability study of the scale was carried out by Yahyagil in 2004,[27] and the scale consists of 36 items and four basic dimensions: "involvement," "consistency," "adaptability," and "mission." It is a 5-point Likert type scale, with responses ranging from "(1) Strongly disagree," "(2) Disagree," "(3) Undecided," "(4) Agree," and "(5) Strongly agree." Items 4, 12, 18, 24, 30, and 34 are negative items and reverse scored. The scale was evaluated using the mean score method, and the overall Cronbach's alpha coefficient of the scale is 0.89. The Cronbach's alpha value was 0.67 for the sub-dimension of involvement, 0.76 for the sub-dimension of consistency, 0.61 for the sub-dimension of adaptability, and 0.82 for the sub-dimension of mission.[27] In this study, Cronbach's alpha reliability coefficient of the Denison Organizational Culture Scale was found to be 0.94 for the total scale, 0.84 for the sub-dimension of involvement, 0.83 for the sub-dimension of consistency, 0.79 for the sub-dimension of adaptability, and 0.87 for the sub-dimension of mission.

Attitudes Towards Productivity Scale

The Attitudes Towards Productivity Scale Developed by Göktepe and Baykal[28] for nurses' attitudes towards productivity. The Attitudes Towards Productivity Scale consists of 39 questions and five sub-dimensions: "Working Conditions," "Teamwork," "Demands of the Job," "Rewarding," and "Commitment to Profession." It is a 5-point Likert type scale, with responses ranging from: "(1) Strongly disagree," "(2) Disagree," "(3) Undecided," "(4) Agree," and "(5) Strongly agree." Items 1, 2, 3, 4, 12, 13, 16, 17, 18, 20, 22, 23, 24, 25, 26, 27, 28, 31, 32, 33, and 37 are negative items and reverse scored. The Cronbach's alpha coefficient of the scale is 0.88, and the Cronbach's alpha coefficient of the sub-dimensions is 0.81 for commitment to profession, 0.76 for working conditions, 0.76 for job demands, 0.73 for teamwork, and 0.64 for rewarding.[28] In this study, Cronbach's alpha reliability coefficient was found to be 0.88 for the total scale, 0.82 for the sub-dimension of commitment to profession, 0.83 for the sub-dimension of working conditions, 0.77 for the sub-dimension of demands of the job, 0.80 for the sub-dimension of teamwork, and 0.71 for the sub-dimension of rewarding.

Ethical Consideration

Ethics committee approval was obtained from the Koç University Social Sciences Research Ethics Committee (Date: January 4, 2018, Decision no: 2018. 005.IRB3.005), and permissions were received from the authors of both scales. Permission was also obtained from the administrators of the hospitals in which the study was conducted. Participants were informed about the study, with participation being both voluntary and anonymous.

Data Analysis

Data were analyzed using the SPSS 24 (IBM SPSS Corp., Armonk, NY, USA) statistical package program. Number, percentage (%), mean, and standard deviation from descriptive statistics were used in the evaluation of the data. Compliance of numerical variables with normal distribution was evaluated with Skewness and Kurtosis values and the Kolmogorov-Smirnov test. Since Skewness and Kurtosis values were between +2 and -2, the distribution of the data was found to be normal. The relationship between the total and sub-dimension mean scores of the Denison Organizational Culture Scale and the total and sub-dimension mean scores of the Attitudes Towards Productivity Scale were analyzed by Pearson correlation analysis. The effect of independent variables on nurses' attitudes towards productivity was evaluated by multiple regression (backward method). Among the independent variables, a high level of correlation (autocorrelation) was found between age and duration of experience in the profession (r= .86). and therefore, these variables were not included in the regression model. A total of 14 variables were included in the model: duration of professional experience, duration of work in the position, working style, status of having willingly/unwillingly chosen the profession, satisfaction with wages, status of having willingly/unwillingly chosen the unit, perception of workload, type of institution, and satisfaction with the institution. The significance level was determined to be (P <.05).

RESULTS

Characteristics of the participants

The sociodemographic and professional characteristics of the nurses participating in the study are shown in Table 1. Of the participating nurses, 87.8% were women, 35.8% were between the ages of 25-29, and 54.8% were single. Over half (67%) of the nurses held a bachelor's degree, 31.0% worked as a nurse in a university hospital, and 33.2% worked in a private hospital. Most (76.9%) of the participants worked in an inpatient unit, 35.5% worked in 12-hour shifts, 86.6% worked as staff nurses, 88.4% worked willingly in the unit, and 75.6% chose the profession voluntarily. Over half (64.2%) of the participants indicated that they were not satisfied with their wages, 72.7% indicated that they were satisfied with the institution in which they worked, and 72.4% indicated that their perception of workload was greater than their actual working hours (Table1).

Table 1. Nurses' Demographics and Professional Characteristics Variables (n=352)

Variables	n	%
Gender		
Female	309	87.8
Male	43	12.2
Age		
18-24 years	80	22.7
25-29 years	126	35.8
30-34 years	65	18.5
≥ 35 years	81	23.0
Marital status		
Married	159	45.2
Single	193	54.8
Education status		
High School/Associate Degree	71	20.2
Bachelor's Degree	236	67.0
Master's Degree	45	12.8
Total duration of experience		
≤ 2 years	79	22.4
3-5 years	117	33.2
6-10 years	63	17.9
≥ 11 years	93	26.4
Duration of experience in the institution		
≤ 2 years	133	37.8
3-5 years	88	25.0
6-10 years	75	21.3
≥ 11 years	56	15.9
Institution type		
Government Hospital	126	35.8
University Hospital	109	31.0
Private Hospital	117	33.2
Work unit		
Inpatient units	271	76.9
Outpatient units	81	23.1
Work Shift		
8-hour day shifts	103	29.3
12-hour shifts	125	35.5
8–16-hour shifts	124	35.2
Position		
Staff Nurse	305	86.6
Nurse manager	47	13.4
Duration of position		
≤ 5 yıl	245	69.6
6-10 yıl	70	19.9
≥ 11 yıl	37	10.5
Willingness to work in the unit		
No	41	11.6
Yes	311	88.4
Willingness to choose the profession		
No	86	24.4
Yes	266	75.6
Satisfaction with the salary		
Not Satisfied	226	64.2
Satisfied	126	35.8
Satisfaction with the institution		
Not satisfied	96	27.3
Satisfied	256	72.7
Perceived workload		
Heavy	255	72.4
Balanced	97	27.6

Denison Organizational Culture and Attitude Scale on Productivity Scores

Nurses' total mean score for the Denison Organizational Culture Scale was 3.19±.58, with the highest score being 3.30±.64 for the "involvement" sub-dimension and the lowest being 3.10±.66 for the "consistency" sub-dimension (Table 2).

Table 2. Descriptive Statistics for Denison Organizational Culture Scale (n=352)

Scale and subscale		1-5 point	
		Minimum-Maximum score	$\bar{X}$ ± SD
Denison Organizational Culture Scale (Total)		**1.56-4.89**	**3.19±.58**
Subscale	**1. Involvement**	1.56-5.00	3.30±.64
	Empowerment	1.33-5.00	3.35±.74
	Team Orientation	1.67-5.00	3.35±.71
	Capability Development	1.00-5.00	3.18±.80
	2. Consistency	1.33-4.78	3.10±.66
	Core Values	1.00-5.00	3.24±.75
	Agreement	1.00-5.00	3.09±.88
	Coordination and Integration	1.00-4.67	2.98±.71
	3. Adaptability	1.44-4.89	3.17±.61
	Creating Change	1.00-5.00	3.12±.72
	Customer Focus	1.00-5.00	3.29±.77
	Organizational Learning	1.00-5.00	3.29±.77
	4. Mission	1.56-5.00	3.19±.71
	Strategic Direction and Intent	1.00-5.00	3.27±.83
	Goals and Objectives	1.00-5.00	3.16±.85
	Vision	1.33-5.00	3.13±.73

$\bar{X}$: Mean, SD: Standard Deviation

The total mean score for the Attitudes Towards Productivity Scale was 48.97±11.16, with the highest score being 73.06±14.96 for the "commitment to profession" sub-dimension and the lowest being 31.52±16.28 for the "working conditions" sub-dimension (Table 3).

Table 3. Descriptive Statistics for Attitudes Towards Productivity Scale (n=352)

Scale and subscale		0-100 point	
		Minimum-Maximum score	$\bar{X}$ ± SD
Attitudes Towards Productivity Scale (Total)		16.67-87.18	48.97±11.16
Subscale	**1. Commitment to Profession**	12.50-100.00	73.06±14.96
	2. Working Conditions	.00-100.00	31.52±16.28
	3. Demands of the Job	.00-93.75	39.70±17.41
	4. Teamwork	9.38-100.00	61.90±17.75
	5. Rewarding	.00-100.00	41.51±21.60

$\bar{X}$: Mean, SD: Standard Deviation

Correlation Results between the Denison Organizational Culture Scale and the Attitudes Towards Productivity Scale

This study found a positive, significant, and strong correlation (r=0.61; *P* <.001) between nurses' Denison Organizational Culture Scale total score and sub-dimension scores and the Attitudes Towards Productivity Scale and its sub-dimensions scores (Table 4). It was determined that nurses with high Denison Organizational Culture scores had positive attitudes towards productivity (Table 4).

Regression Analysis Results

The results of the regression analyses are detailed in Table 5. Variables affecting the Attitudes Towards Productivity Scale total score were: Denison Organizational Culture Scale's mission and involvement sub-dimension, work unit (*P* <.001), willingness to work in the unit, workload perception, type of institution (*P* <.01), and satisfaction with the institution (*P* <.05). Seven variables explained the variance of the total score of the Attitudes Towards Productivity Scale at a rate of 46% (Table 5).

Table 4. Relationship Between Attitudes Towards Productivity Scale and Denison Organizational Culture Scale

Scale and subscale		Attitudes Towards Productivity Scale (total)		Commitment to Profession		Working Conditions		Subscales Demands of the Job		Teamwork		Rewarding	
		r	*P*	r	*P*	r	*P*	r	*P*	r	*P*	r	*P*
Denison Organizational Culture Scale (total)		.61	<.001	.38	<.001	.19	<.001	.38	<.001	.58	<.001	.57	<.001
Subscale	Involvement	.53	<.001	.36	<.001	.12	.020*	.35	<.001	.54	<.001	.44	<.001
	Consistency	.55	<.001	.28	<.001	.21	<.001	.37	<.001	.50	<.001	.52	<.001
	Adaptability	.51	<.001	.36	<.001	.14	.010*	.28	<.001	.50	<.001	.52	<.001
	Mission	.57	<.001	.35	<.001	.20	<.001	.36	<.001	.51	<.001	.56	<.001

r; Pearson Correlation Coefficient, * *P*<.05

Table 5. Factors Associated with Nurses' Attitudes Towards Productivity

Independent variables	B	SE	(β)	t	*P*	95% Confidence Interval	
						Lower limit	Upper limit
(constant)	-6.53	3.66		-1.785	.075	-13.72	.66
Mission	4.94	.87	.32	5.688	<.001	3.23	6.64
Involvement	3.85	.96	.22	4.006	<.001	1.96	5.74
Work unit	4.48	1.05	.17	4.285	<.001	2.43	6.54
Willingness to work in the unit	4.83	1.42	.14	3.409	.001	2.04	7.62
Workload perception	3.40	1.01	.14	3.359	.001	1.41	5.40
Type of institution	2.92	.98	.12	2.993	.003	1.00	4.84
Satisfaction with the institution	2.45	1.10	.10	2.230	.026	.29	4.62
	R: .68	Adjusted R^2: .46	F: 42.87	*P* <.001	Durbin Watson: 1.82		

B: Beta, β: Standardized Beta, SE: Standard Error, t: t-test

DISCUSSION

This study found that nurses' level of attitude towards productivity was close to a medium level and that level of organizational culture was moderate. Nurses' attitudes towards productivity were determined by the organizational culture scale's mission and involvement sub-dimensions, type of institution, work unit, willingness to work in the unit, satisfaction with the institution, and perception of workload.

This study found that nurses' total mean score of the Attitudes Towards Productivity Scale was close to a

moderate level (48.97±11.16), similar to the results of other studies in the literature.[12,15,26,29,30] Farhadi et al. [31] reported that nurses' perceptions of productivity were below average (44.97±7.43), while Nazari et al.[32] found them to be moderate. In line with these results, it is likely that nurses' attitudes towards productivity may differ due to the different management and institutional structures of the institutions/hospitals in which the studies were conducted.

This study determined that the Denison Oranizational Culture Scale mission sub-dimension positively affected nurses' attitudes towards productivity. Although no studies

in literature focus on the relationship between organizational culture and nurse productivity, when nurses' attitudes towards productivity were examined in line with strategic management and organizational purposes, the leadership behavior of managers,[13] organizational support,[18] and manager performance and leadership style[19] it was found that nurses' attitudes towards productivity positively affect actual productivity. It has been shown that good organization and directing of employees are key factors in increasing productivity[19] while unfamiliarity with corporate culture negatively affects productivity.[4] This finding may be due to the fact that nurse managers should convey the organization's mission to the nurses working under them, as well as that nurses' understanding of the organization's goals and mission will positively affect their productivity.

This study determined that the involvement sub-dimension of the Denison Organizational Culture Scale had a positive effect on nurses' attitudes towards productivity. The literature finds a significant relationship between nurse productivity and participation,[32] teamwork,[33] good relations between managers and nurses,[19] and democratic and participatory corporate culture[12], with these factors positively affecting productivity. It has been found that the toxic leadership behaviors of nurse managers, on the other hand, negatively affect nurse productivity.[1] Therefore, it may be argued that involvement in participatory organizational culture led by nurse managers positively affects nurses' attitudes towards productivity.

This study also found that nurses' attitudes towards productivity were affected by the work unit, with working in day-outpatient units resulting in increased productivity. While the study by Dikmen et al.[24] found no difference between the unit in which nurses work and the factors affecting labor productivity, Durmaz Talay and Harmancı Seren[30] determined that nurses working in specialized units had more positive attitudes towards productivity for the sub-dimension of demands of the job in the Attitude towards Productivity Scale. It has been determined that the working environment[4,23,34] positively affects nurse productivity. When compared to those working in inpatient units, nurses working in day-outpatient units may have more positive attitudes towards productivity due to their patient profile, day shift work, ability to maintain work-life balance, and the difference in workload.

It has been found that nurses' willingness to work in their unit affects their attitudes towards productivity and that nurses who willingly chose their unit have more positive attitudes towards productivity, as confirmed by Durmaz Talay and Harmancı Seren.[30] The literature also suggests

that motivation-enhancing practices increase productivity.[4,18,33] Therefore, it may be argued that nurses' participation in choosing their profession and unit positively affects nurse productivity by increasing their work motivation.

The current study determined that nurses who perceive their workload to be balanced duties and working hours have a more positive attitude towards productivity. Dikmen et al.[24] likewise show that a high workload negatively affects nurses' attitudes towards productivity. Hence, it is likely that giving nurses balanced workloads may improve nurses' attitudes towards productivity and therefore performance.

This study also determined that the type of institution in which nurses work affects their attitudes towards productivity. Previous studies have found that nurses working in private hospitals have a more positive attitude towards productivity than those working in state and university hospitals. [12,29] This may be due to the fact that private hospitals have a more positive working environment and offer more opportunities for nurses.

This study also showed that nurses' satisfaction with the institution affected their attitudes towards productivity. Durmaz Talay and Harmancı Seren[30] also found that nurses who were satisfied with working in their institution were also more positive about productivity. In line with these findings, nurses who are satisfied with their institution and the opportunities it provides may have more positive attitudes towards productivity.

Limitations

Since this study is the first known study on the effect of organizational culture on nurses' attitudes towards productivity, the limited literature on the subject may have limited the discussion section of this study.

The results of this study illustrate the impact of organizational culture on nurses' attitudes towards productivity, showing that nurses are affected by the organizational culture of their hospitals and that organizational culture affects their attitudes towards productivity. In addition, the study found that the unit in which nurses work, nurses' willingness to work in their unit, perception of workload, type of institution, and satisfaction with the institution affect nurses' attitudes towards productivity.

In line with the results of this study, nurses' attitudes towards productivity can improved by ensuring balanced workloads for nurses, organizing and improving working conditions and shift systems for nurses working in inpatient units, improving the work environment for nurses working

in state and university hospitals, and conducting studies designed to improve nurses' satisfaction with their unit and institution. Despite the fact that each organization has its own organizational and managerial culture, educating nurses about the specific organization's goals/mission and supporting nurse involvement can contribute to the improvement of nurses' attitudes towards productivity. Organizational culture is an important factor affecting productivity, and it is recommended that hospital and nurse managers implement activities to create and maintain productivity-enhancing organizational culture. In addition, it is recommended that future research should examine the impact of nurses' attitudes toward productivity on patient, nurse and organizational outcomes.

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