

The effect of nurses' occupational safety perceptions on job satisfaction: A research study conducted in Turkey

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Abstract

Objective: To evaluate the effect of nurses' occupational safety perceptions on the level of job satisfaction.

Method: The cross-sectional study was conducted at Acibadem Healthcare Group hospitals in Turkey from January 15 to February 15, 2018, and comprised of professional nurses. Data was collected using the Job Satisfaction Scale and the Occupational Health and Safety Culture Scale. Data was analysed using SPSS 21.

Results: Of the 275 nurses, 210(76.4%) were females and 65(23.6%) were males. The overall mean age was 26.50±5.11 years, mean working experience was 57.08±51.56 months and the mean length of current employment was 31.13±32.86 months. There was a positive correlation between nurses' job satisfaction and occupational safety perceptions ($p<0.001$); between nurses' working conditions and extrinsic satisfaction ($p=0.001$); and between the working conditions and the nurses' general satisfaction ($p=0.008$).

Conclusion: High perceptions of occupational safety among the nurses led to greater job satisfaction within the organisation. Also, working conditions had a direct impact on both extrinsic and general job satisfaction.

Keywords: Occupational safety, Job satisfaction, Nursing, Working conditions. (JPMA 72: 270; 2022)

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Introduction

Job satisfaction as a concept encapsulates "the feelings and positive or negative thoughts that employees have towards their work", while satisfaction generally refers to the achievement of a sense of contentment following the accomplishment of a goal.¹ As a concept, job satisfaction was first introduced in academic literature in the 1920s and gained prominence starting from the 1930s. To date, the effects of job satisfaction have been extensively studied in a variety of disciplines, including psychology, sociology, management and nursing.²

Intrinsic satisfaction includes factors that are related to the intrinsic features of the job, such as success, recognition or appreciation, the work itself, work responsibility and opportunities for advancement and promotion. Extrinsic satisfaction consists of elements related to the working environment, such as company policies and management, supervision, managers, relations with co-workers and subordinates, working conditions and wages.³

Job satisfaction also carries significance in the nursing profession. Various studies have demonstrated the relationship between low levels of job satisfaction and the intention to leave,^{2,4-6} as well as employee withdrawal,

burnout and mental health.^{5,7-9} Greater levels of job satisfaction may result in employees remaining with their organisation for longer periods and are overall more productive in their work.⁵

The prevalent definitions of job satisfaction in the nursing profession are often based on Maslow's Hierarchy of Needs and Herzberg's Two-Factor Theory.² While there are several definitions of nurses' job satisfaction coined by multiple authors, Atwood and Hinshaw defined the concept as "a nurse's perception of subjective feelings about his or her job and working condition".² What is significant for the purposes of the current context is that these definitions do not integrate the nurses' 'perceptions' of job value and other related factors into the assessment of job satisfaction level.²

Factors that may have a negative impact on nurses' job satisfaction include difficult working conditions, excessive sources of work stress, low wages corresponding to the nature of the work done, long and irregular working hours, intensive workload, and abundance of workplace risks, including injury, violence, chemical and biological risk factors.^{5,10}

It has been observed that occupational injuries remain a concern for many organisations due to both human and economic costs.¹¹ In the healthcare sector, the frequency of health professionals encountering occupational risks varies according to job title, department as well as specific tasks undertaken. For example, the staff working at

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radiology or nuclear medicine departments may be at the risk of radiation exposure, while the sterilisation unit staff may be at the risk of mercury and glutaraldehyde exposure. Similarly, the staff of the operating room (OR) may be adversely affected by toxic gases.¹² In the case of nurses, they are more likely to be exposed directly to health risks due to delivering patient-care in person. They are also exposed to biological, chemical and physical hazards, including sharps injuries, exposure to blood and body fluids, and musculoskeletal injuries.¹³

Consequently, the relationship between occupational safety and job satisfaction demands a closer study, given it is previously concluded that lower job satisfaction of nurses may lead to lower quality care and patient satisfaction in certain cases.² It is also known that a low safety climate at workplace may augment the stress levels of employees, which may then have negative impact on job satisfaction.¹¹ A duty should be placed upon healthcare organisations to continuously review and ensure the safety and health of those who receive and provide health services, and intervene by making improvements where necessary.¹⁴

The study of the dynamics within an organisation, including the parameters of efficiency, productivity and continuity — comprehensive indicators in the formation of desirable workplace conditions — also demands the evaluation of factors that affect the level of job satisfaction of the workforce.

The current study was planned to evaluate the effect of employees' safety perception on their job satisfaction, and to see the effect of some socio-demographic characteristics on the job satisfaction level of the nurses.

Subjects and Methods

The cross-sectional, correlational study was conducted at one of the Acibadem Healthcare Group (AHG) hospitals in Turkey from January 15 to February 15, 2018, following the Strengthening the Reporting of Observational studies in Epidemiology (STROBE) criteria.¹⁵ As a result of the Pearson correlation test, a statistically significant, weak positive linear relationship was found between job satisfaction and occupational safety perception ($r = 0.20$; $p < 0.05$).¹⁶ Therefore, a priori power analysis was conducted G*Power software¹⁷ to estimate the sample size with power ($1-\beta$) 0.90 and significance (α) 0.05. In the calculation of the sample size, a 5% margin of error at a confidence level of 0.95 of 410 nurses was found to correspond to 199 nurses. By applying a 10% waste share to the obtained account it was found appropriate to carry out the study with 220 people. This number was exceeded as the study was carried out with 275 nurses.

The sample size was inflated by 10-15% to cover up for possible dropouts. The sample size suggested that the study covered 67% of the entire population.

Approval was obtained from the institutional ethics review committee, and data was collected after taking informed consent from all the subjects. The study used a convenience sampling technique. Those nurses who were employed at one of the Acibadem Health Group Hospitals, with work experience of at least one year and who volunteered to participate in the study were included. Those nurses who were on leave at the time of the study were excluded.

Data was collected using a personal information form (PIF), the Job Satisfaction Scale (JSS) and The Occupational Health and Safety Culture Scale (OHSCS). The PIF consisted of 10 questions about the socio-demographic characteristics of the participants.¹⁸

The JSS was adjusted from the Short Form-Minnesota Satisfaction Questionnaire (MSQ), which is 20-item tool exploring intrinsic and extrinsic job satisfaction factors. It is scored on a 5-point Likert-type scale ranging from 1 = very dissatisfied to 5 = very satisfied.¹⁹

Accordingly, from the questionnaire, the scores for general satisfaction, intrinsic satisfaction and extrinsic satisfaction were obtained. The general satisfaction score was determined by dividing the sum of the scores obtained from the items by 20. The items of this dimension were 1, 2, 3, 4, 7, 8, 9, 10, 11, 15, 16 and 20. The intrinsic satisfaction score was calculated by dividing the sum of the scores obtained from the items comprising the intrinsic factors by 12. The items of this dimension were 5, 6, 12, 13, 14, 17, 18 and 19. The extrinsic satisfaction score was calculated by dividing the sum of the scores obtained from the items comprising extrinsic factors by 8. Cronbach's alpha value in the current study was 0.958.

The 35-item OHSCS is divided into 8 sub-dimensions: Infection Prevention' with 6 items, Management Policies with 7 items, Health Screenings with 6 items, Chemical Safety with 4 items, Safety Training with 5 items, Violence Prevention with 3 items, Food Safety with 2 items, and Fall Prevention with 2 items. The 5-point response ranges from 1 = strongly disagree to 5 = strongly agree. In an earlier study done in Turkey, Cronbach's alpha (α) coefficient was 0.938.¹⁸ The corresponding value in the current study was 0.980.

Data was analysed using SPSS 21. The normal distribution of data was evaluated using the Kolmogorov Smirnov test. Descriptive statistics, including mean, standard

deviation, frequencies and percentages were calculated, while student's t-test was employed for comparisons, while level of relationship between two continuous variables was evaluated using the Pearson correlation test. One-way analysis of variance (ANOVA) was used to evaluate quantitative data in more than two groups. For all tests, level of significance was set at $p < 0.05$.

Results

Of the 275 nurses, 210 (76.4%) were females and 65 (23.6%) were males. The overall mean age was 26.50 ± 5.11 years, mean working experience was 57.08 ± 51.56 months and the mean length of current employment was 31.13 ± 32.86 months (Table-1).

The intrinsic satisfaction score of the staff was $3.12 \pm .77$, the extrinsic satisfaction score was $2.92 \pm .84$ and the general satisfaction score was $3.02 \pm .77$. The mean OHSCS was $3.75 \pm .80$ (Table-2).

There was a significant difference between the working conditions and extrinsic satisfaction ($p = 0.001$) and general satisfaction ($p = 0.008$) (Table-3).

There was a significant positive correlation between the working experience in AHG hospitals and internal satisfaction, external satisfaction and general satisfaction scores (Table-4).

Table-1: Descriptive statistics.

Descriptive Characteristics	Mean	SD
Age (years)	26.50	5.11
Total professional experience (months)	57.08	51.86
Working experience in AHG (months)	31.13	32.86
Average monthly working hours	207.89	32.45
Gender	n	%
Female	210	76.4
Male	65	23.6
Education Level		
High School and Two-year Degree	103	37.5
Bachelors and Above	172	62.5
Marital status		
Married	80	29.1
Single	195	70.9
Working Condition		
Permanent	252	91.6
Contract	23	8.4
Working Shift		
Daytime	99	36.00
Night	10	3.6
Mixed	166	60.4
Manager Gender		
Female	220	80
Male	55	20

AHG: Acibadem Healthcare Group. SD: Standard deviation.

There was a positive correlation between job satisfaction and occupational safety perception ($p < 0.001$). The mean monthly working hours was 207.89 ± 32.45 (Table-5).

Table-2: Distribution of job satisfaction and occupational health and safety culture scores.

Scales	Mean	SD
Job Satisfaction Scale		
Intrinsic Satisfaction	3.12	.77
Extrinsic Satisfaction	2.92	.84
Total Satisfaction	3.02	.77
Occupational Health and Safety Culture Scale		
Infection Prevention	3.71	.80
Management Policies	3.74	.84
Health Screenings	3.65	.87
Chemical Safety	3.80	.92
Safety Training Courses	3.79	.86
Violence Prevention	3.64	.86
Food Safety	3.77	1.01
Fall Prevention	3.77	.99
Total	3.75	.80

SD: Standard deviation.

Table-3: Comparison of some socio-demographic characteristics and job satisfaction scores of staff.

Socio-Demographic Characteristics		Intrinsic Satisfaction Mean \pm SD	Extrinsic Satisfaction Mean \pm SD	General Satisfaction Mean \pm SD
Gender	Male	3.13 \pm .69	2.93 \pm .77	3.03 \pm .70
	Female	3.11 \pm .79	2.91 \pm .86	3.01 \pm .79
	t	-.157	-.257	-.214
	p	.875	.797	.831
Marital Status	Married	3.15 \pm .80	3.03 \pm .82	3.09 \pm .78
	Single	3.11 \pm .76	2.87 \pm .84	2.97 \pm .76
	t	-.419	-1.513	-1.035
	p	.675	.131	.301
Education Level	High School and Two-Year	3.01 \pm .78	2.82 \pm .80	2.92 \pm .75
	Bachelors and above	3.18 \pm .76	2.97 \pm .86	3.06 \pm .78
	t	-1.736	-1.392	-1.632
	p	.084	.165	.104
Working Condition	Permanent	3.13 \pm .76	2.97 \pm .82	3.05 \pm .76
	Contract	2.95 \pm .85	2.27 \pm .84	2.61 \pm .80
	t	1.124	3.936	2.690
	p	.262	.001	.008
Manager Gender	Female	3.12 \pm .77	2.89 \pm .85	3.01 \pm .78
	Male	3.11 \pm .72	3.00 \pm .81	3.05 \pm .73
	t	.117	-.794	-.374
	p	.907	.428	.708
Shift	Night	3.11 \pm .87	2.95 \pm .83	3.03 \pm .84
	Daytime	3.26 \pm .76	3.05 \pm .80	3.15 \pm .75
	Mixed	3.04 \pm .76	2.83 \pm .86	2.94 \pm .77
	F	2.432	1.967	2.396
p	.090	.142	.093	

SD: Standard deviation.

Table-4: Relationship of job satisfaction scores with age and working experience and monthly workload.

	Intrinsic Satisfaction	Extrinsic Satisfaction	Total Satisfaction
Age	r: .085 p: .160	r: .107 p: .077	r: .101 p: .095
Working Experience	r: .134 p: .026	r: .130 p: .031	r: .139 p: .022
Total Professional Experience	r: .039 p: .525	r: .056 p: .356	r: .050 p: .410
Average monthly working hours	r: -.091 p: .133	r: .020 p: .738	r: -.034 p: .569

Table-5: The relationship between occupational safety perception and job satisfaction.

Occupational Safety Perception	Job Satisfaction		
	Intrinsic Satisfaction	Extrinsic Satisfaction	Total Satisfaction
Infection Prevention	r: .618 p: .001	r: .580 p: .001	r: .627 p: .001
Management Policies	r: .603 p: .001	r: .637 p: .001	r: .651 p: .001
Health Screenings	r: .500 p: .001	r: .564 p: .001	r: .559 p: .001
Chemical Safety	r: .465 p: .001	r: .523 p: .001	r: .519 p: .001
Safety Training Courses	r: .531 p: .001	r: .556 p: .001	r: .570 p: .001
Violence Prevention	r: .570 p: .001	r: .600 p: .001	r: .614 p: .001
Food Safety	r: .523 p: .001	r: .579 p: .001	r: .578 p: .001
Fall Prevention	r: .535 p: .001	r: .602 p: .001	r: .597 p: .001
Total	r: .603 p: .001	r: .646 p: .001	r: .656 p: .001

There was a significant positive correlation between the working conditions of the employees and their extrinsic and general satisfaction scores ($p < 0.001$). Both extrinsic and general satisfaction scores of nurses on permanent contracts were higher than those of nurses that were placed on short-term contracts ($p < 0.05$). No significant difference was found between job satisfaction scores and descriptive characteristics, such as marital status, education level and gender ($p > 0.05$).

Discussion

The study reached three main conclusions, indicating a positive and significant relationship of job satisfaction scores with working conditions, working experience in the organisation, and occupational safety perception.

In this respect, the study showed some differences from

other comparable studies. In a study with 255 healthcare professionals employed in three hospitals in Kirklareli, Turkey, male professionals were found to relate more positively to their working environment compared to their female colleagues. It was also observed in the same study that the daytime staff evaluated the working environment more positively compared to the staff that worked in shifts. Accordingly, there was statistically significant relationship between levels of job satisfaction and variables such as gender and working structure ($p < 0.05$).²⁰ In addition, while the intrinsic job satisfaction scores of both groups were equal, it was found that extrinsic job satisfaction scores of daytime staff were higher than those of shift staff, but it was not significant.²⁰

The only sociodemographic characteristic that exerted some level influence over the extrinsic satisfaction scores in the current study was working conditions, namely whether the nurses were employed on a permanent or contractual basis. The reason for higher extrinsic and general satisfaction scores of the nurses that are employed under a permanent contract may be that they are subject to regulations that give them greater rights and benefits under Turkish law.

According to studies, the relationship between job satisfaction and working experience in an organisation vary from organisation to organisation, depending on the working conditions provided by each organisation. For example, a study conducted on 444 nurses employed in 22 elderly nursing homes in Shanghai, China, there was no significant relationship between job satisfaction and working experience in nursing.²¹ On the other hand, a study in Hong Kong, performed on 139 nurses working full-time in a private 400-bed hospital, found a strong and positive relationship between the level of job satisfaction of nurses with age, total professional experience and working experience in that hospital.²² In contrast, the present study found no significant relationship between job satisfaction scores and age.

In Turkey, a study showed that the level of job satisfaction varies depending on the professional working experience and that the level of job satisfaction increases as participants gain more working experience.¹ Consequently, among the group, those that had the highest level of job satisfaction was the participants that had the most working experience.¹ Another study reported that the level of general job satisfaction of healthcare staff with an experience of 20 years and over were higher than the level of general job satisfaction of those with an experience of 10-19 years.²⁰ Overall, the present study found no significant relationship between

job satisfaction and professional experience, but intrinsic and extrinsic satisfaction scores increased along with higher working experience within the organisation.

The current study found a positive correlation between job satisfaction and occupational safety perception, taking into account factors such as occupational safety perception include infection prevention, management policies, health screening, chemical safety, safety training, violence prevention, food safety and fall prevention. The finding is supported by studies done internationally and in Turkey.²³⁻²⁵

Conclusion

The perception of occupational health and safety had a direct and significant impact on the level of job satisfaction among the nurses. The working conditions were also an important factor in job satisfaction. Periodic review of factors affecting job satisfaction and effectiveness of the measures taken would help in increasing job satisfaction.

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