

Original Article

Turkish Nurses' Perception of Empowerment and Self-Assessment of their Problem Solving Abilities

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Abstract

Objective: This study aimed to describe Turkish nurses' perceptions of empowerment and self-assessment of their problem-solving abilities.

Methodology: The sample included 273 nurses from a hospital established by the Ministry of Health and a university hospital in Turkey. Data were gathered using Demographic Data Form, Perception of Empowerment Instrument and Problem-Solving Inventory.

Results: Turkish nurses' perceived that they were average at solving problems and were moderately empowered. Nurses scored higher on the subscale of responsibility and lower than expected on the subscales of autonomy and participation. Nurses tended to approach the problems directly instead of avoiding them. There was no significant relationship between nurses' perception of empowerment and problem solving self-assessments.

Conclusions: This study shows that there is a need to create policies that encourage nurses to use their problem solving ability, work autonomously, have responsibilities at work, and participate in decision-making processes. For nurse managers wishing to create empowered working environment, both nurses's problem solving ability, autonomy, responsibilities and participation in decisions making are factors that need to be well supported in the process of nurse administration.

Keywords: Empowerment, problem solving, Turkish nurses.

Introduction

The profession of nurses requires them to have a high-perceived empowerment level so that they are able to improve the quality and efficiency of patient care and develop the health care system. The World Health Organization, in the Munich Declaration, emphasized that nurse managers should promote nurses' and midwives' career development, create opportunities for further nursing education, encourage them to participate in decisions related to the national policy, and give them autonomy so they feel empowered (WHO, 2000).

The theme for the International Council of Nurses' Nursing Day for 2014 placed a high value on healthy work environments and the nurses' perception of the encouragement and

empowerment received from the administration, which is important to create healthy work environments (ICN, 2014).

According to Bogaert et al. (Bogaert et al., 2015), the unit nurse managers reported that empowerment had a positive impact on staff nurses' professional attitude and the quality of care and patient safety in their units. Numerous studies have been conducted on empowerment among staff nurses (Wang and Liu, 2015; Purdy et al., 2010; Eo et al., 2014; Laschinger et al., 2010; Houser et al., 2012). According to them, empowerment of nurses is positively associated with organizational commitment (Wang and Liu, 2015), job performance (Purdy et al., 2010), productivity (Eo et al., 2014), patient care quality (Laschinger et al., 2010), and nurses' satisfaction,

which results in patient satisfaction (Purdy et al., 2010; Eo et al., 2014; Laschinger et al., 2010; Houser et al., 2012). Studies also suggest that the turnover rate of nurses decreases when the work environment is empowering (Houser et al., 2012).

Schroeter determined that empowered nurses play an active role in solving problems in their work environments (Schroeter, 2010). Roles of nurses have expanded over the years to include operational, quality-related, and financial responsibilities (Dickerson et al., 2013).

The daily routine of nurses can be unpredictable as there are many problems related to patient care, clinical decisions, and communication with other health care professionals. Therefore, nurses are expected to solve problems effectively without avoiding them, have confidence in their problem solving abilities, and control their emotional reactions and behaviors. Sasaki et al. asserted that patients who were provided care by nurses who solved problems effectively coped with their own problems better (Sasaki et al., 2009).

Recent studies have shown that when the ability to solve problems increased, the staff nurses' personal achievement level increased (Yildiz and Guven, 2009) and the emotional burnout rate and state anxiety level decreased (Erenler, 2007).

On the other hand, several studies found that the nurses who did not solve problems effectively had a greater tendency to have negative experiences such as job dissatisfaction, increasing job stress (Abdollahi, 2016), and burnout (Sasaki et al., 2009).

Theoretical Framework

This study was based on Roller's approach of empowerment (Roller, 2011) and Heppner and Petersen's approach of problem solving (Heppner and Peterson, 1982).

Empowerment

Studies have shown that empowerment affects behaviors and attitudes rather than personal characteristics, and is an important administrative strategy to create healthy work environments. Empowerment consists of three dimensions: autonomy, responsibility, and participation (Roller, 1998; Chandler, 1986), which are associated with individual and environmental perceptions of self-control, participation in

administrative decisions, and personal commitment to work (Roller, 1998).

Participation represents the individual's perceived influence on administrative or strategic decisions and processes in the work environment (Roller, 1998). This dimension strengthens the individual's belief that they can create changes and hold importance in their institution (Chandler, 1986).

Responsibility is defined as the feeling of psychological investment and level of concern, care, and commitment that an individual brings to a task or position (Roller, 1998).

Organizational members who perceive their jobs as meaningful show more commitment and responsibility. Spreitzer stated that unless the responsibilities are clearly defined, members in the organization might avoid work (Spreitzer, 1995).

Autonomy is the level of perceived freedom and self-control while performing the job (Roller, 1998). Spreitzer stated that this dimension is associated with the feeling of having control over one's job (Spreitzer, 1995).

Problem Solving

Heppner and Petersen explain an approach for the self-assessment of problem solving abilities consisting of three dimensions: problem solving confidence, approach-avoidance style, and personal control (Heppner and Peterson, 1998).

Problem solving confidence is defined as the confidence that individuals have in their own abilities at the beginning of solving a problem. In other words, it is an indicator of efficacy while solving problems.

Approach-avoidance style is associated with the individual's tendency to either approach or avoid problem solving (Heppner and Krauskopf, 1987). To approach problem solving is a tendency to identify problems and find ways to solve it (Spreitzer, 1995).

Personal control is defined as the ability to control feelings and behaviors while solving problems. Self-control over emotional reactions and behaviors permit the individual to solve problems effectively (Heppner and Baker, 1997). This dimension describes the ability of maintaining individual control while solving problems (Chandler, 1986).

The Relationship between Empowerment and Problem Solving

The concept of empowerment has gained prominence and processes such as inclusion in decision-making processes, sharing responsibilities, and enabling autonomous problem solving are part of empowerment. The staff should be able to explain their opinions while solving problems that affect them and the institution they work in. Studies show that empowering activities in work environments increase the problem solving ability of the staff, which contributes to effectively solving the problems of the institution.

Having responsibilities reinforces the feeling that solving problems is a necessity. Therefore, feeling responsible has an important effect on the individual's problem solving ability (Bingham, 1998). As an administrative necessity, empowering work environments require the staff to participate in problem solving processes and increase their responsibilities.

To the best of our knowledge, no study has been conducted to identify the perception of empowerment and problem solving abilities. Therefore, the results of this study might have implications for nursing research, education, administration, and practices, and might create awareness in staff nurses and nurse managers about the approaches to enhance empowerment and problem solving abilities.

Materials and Methods

Sample: The participants were selected from two hospitals: one hospital established by the Ministry of Health (Hospital A) and a university hospital (Hospital B).

These were similar in type (general hospital), inpatient bed availability (1000 and over), patient characteristics (the number of inpatients and outpatients), and the number of working nurses, in the capital city of Turkey. The sample consisted of 294 volunteer nurses (150 from the Hospital A and 144 from the Hospital B) employed for at least six months and chosen using a convenience sampling method.

Instruments: The data were gathered using the Demographic Data Form developed by the researchers, the Perception of Empowerment Instrument (PEI) (Roller, 1998), and the Problem

Solving Inventory (PSI) (Heppner and Peterson, 1982).

The Perception of Empowerment Instrument: PEI developed by Roller (Roller, 1998) was used to measure three dimensions of empowerment: autonomy, responsibility, and participation. The Instrument consists of 15 items rated on a five point Likert-type scale (1 = strongly disagree to 5 = strongly agree).

The total possible score ranges from 13 to 65. The scores for autonomy, responsibility, and participation scales range from 3 to 15, 3 to 15, and 7 to 35 respectively. Ozturk (Ozturk, 2010) studied the validity and reliability of the Turkish version of PEI and found that Cronbach's Alpha coefficient was 0.82.

The Problem Solving Inventory: PSI developed by Heppner and Petersen (Heppner and Petersen, 1982) was used to measure the subscales of Problem Solving Confidence, Approach-Avoidance Style, and Personal Control.

The inventory consists of 35 items rated on a six point Likert-type scale (1 = always to 6= never). The total possible score ranges from 32 to 192. Lower scores indicate effective and successful problem solving behaviors and attitudes whereas high scores indicate that individuals believe that they have insufficient problem solving abilities.

The scores on Problem Solving Confidence, Approach-Avoidance Style, and Personal Control scales range from 11 to 66, 16 to 96, and 5 to 30 respectively. Erenler (Erenler, 2007) conducted validity and reliability studies of the Turkish version of PSI and found that Cronbach's Alpha coefficient was 0.77.

Data Collection: Data sheets were given to the nurses by the researcher during their shifts after informing them the purpose of the study and obtaining written informed consent. The nurses filled out the data sheets approximately in ten minutes.

Ethical Considerations: Approval was obtained from the ethics committee and the hospitals. Written informed consent was obtained from the participants. Written permissions were obtained through e-mails for using the PEI from Roller (Roller 1998) and Ozturk (Ozturk, 2010), and PSI from Heppner and Petersen (Heppner and Petersen, 1982) and Erenler (Erenler, 2007).

Data Analysis: Data were analyzed using SPSS 18.0 for Windows. Mean, standard deviation, frequencies, and percentages Mann-Whitney U test, Kruskal-Wallis One Way Analysis of Variance and Pearson's correlation coefficient were used for data analysis. The statistical significance was set to $P < 0.05$.

Results

Descriptive Statistics

We invited 294 nurses to participate in the study, of which 273 completed the data sheets, with a response rate of 92.8%. Among the participants, 92.3% were women ($n=252$), 51% of had a bachelor's degree in nursing ($n=140$), and 82.8% were staff nurses ($n=226$). The mean age was 32.25 years ($SD = 7.07$), mean duration of working as a nurse was 10.94 years ($SD = 8.11$), mean duration of employment in the current hospital was 8.06 years ($SD = 7.23$), and the mean duration of employment in the current department was 4.73 years ($SD = 5.34$).

PEI and PSI Scores

The mean PEI score of the nurses was 45.21 ($SD = 8.05$), and the mean scores on participation, responsibility, and autonomy scales were 21.54 ($SD = 5.04$), 13.23 ($SD = 2.36$), and 10.42 ($SD = 2.41$) respectively. The mean PSI score of the nurses was 90.16 ($SD = 14.40$), and the mean scores on Problem Solving Confidence, Approach Avoidance Style, and Personal Control scales were 29.93 ($SD = 7.12$), 46.39 ($SD = 7.66$), and 13.82 ($SD = 2.93$) respectively. The mean score on the Personal Control scale was higher for the nurses in the Hospital A (14.30, $SD = 3.16$) compared with the nurses in the Hospital B (13.32, $SD = 2.59$) ($t=-2.798$, $p=0.006$) (Table 1).

The Total PEI score was statistically highest (46.56) for the nurses who had been working in the same department for over 11 years ($p=0.043$). The responsibility scores were the highest for

nurses who had been working in the current department for one to five years (13.41, $p=0.034$) and who felt that their workplace was empowering (13.59, $p=0.022$) (Table 2).

The Approach-Avoidance style (46.08, $p=0.029$) and total problem-solving scores (89.59, $p=0.037$) for female nurses were statistically lower than the males. The Approach-Avoidance style (27.11, $p=0.000$) and total problem-solving (80.15, $p=0.004$) scores for the nurses working on the surgical-medical clinics were statistically lower than the others.

The Problem Solving Confidence (28.04, $p=0.033$), Approach-Avoidance style (44.52, $p=0.030$), and total problem-solving (86.26, $p=0.007$) scores for the nurses who have been in the nursing profession for 11 years or more were statistically lowest. Personal Control score (12.87, $p=0.002$) for the nurses who have been in the nursing profession for six to ten years were statistically lowest.

The Problem Solving Confidence (26.89, $p=0.001$), Approach-Avoidance style (42.21, $p=0.000$), and total problem-solving (82.46, $p=0.000$) scores of nurse managers were significantly lower compared with the staff nurses.

The Problem Solving Confidence (27.15, $p=0.001$), Approach-Avoidance style (42.95, $p=0.002$), and total problem-solving (83.45, $p=0.001$) scores for the nurses who received problem solving training were significantly lower compared with others.

The Problem Solving Confidence (27.74, $p=0.001$), Approach-Avoidance style (43.44, $p=0.000$), Personal Control (12.98, $p=0.006$), and total problem-solving (84.17, $p=0.000$) scores for the nurses who experienced their workplace as empowering were significantly lower compared with others (Table 3)

Table 1: The Mean Scores PEI and PSI Scores of The Nurses Based on The Hospitals n=273

	Hospital Ministry Health (n=140)		of University (n=133)		Statistical Evaluation	
	Mean	SD	Mean	SD	t	p
PEI						
Participation	21.11	5.32	21.99	4.70	1.44	.151
Responsibility	13.26	2.21	13.21	2.51	-0.18	.851
Autonomy	10.27	2.48	10.57	2.34	1.00	.318
Total Empowerment	44.65	8.35	45.77	7.73	1.14	.253
PSI						
Problem Solving Confidence	30.27	6.97	29.57	7.29	-0.81	.414
Approach-Avoidance Style	47.02	8.08	45.74	7.16	-1.37	.169
Personal Control	14.30	3.16	13.32	2.59	-2.79	.006
Total Problem Solving	91.60	14.36	88.63	14.34	-1.70	.089

Table 2: The Mean PEI Scores of The Nurses Based on The Demographic Data n=273

Demographic Data		PEI Participation $\bar{X} \pm SD$	Responsibility $\bar{X} \pm SD$	Autonomy $\bar{X} \pm SD$	Total $\bar{X} \pm SD$
Age					
20-29		22.00±5.30	13.18±2.29	10.65±2.50	45.83±8.49
30-39		21.58±4.86	13.25±2.57	10.35±2.43	45.19±8.01
>40		20.38±4.88	13.31±1.82	10.09±2.15	43.79±7.13
Statistical Evaluation	KW	4.202	0.908	2.520	3.949
	p	0.122	0.635	0.284	0.139
Gender					
Female		21.67±5.01	13.23±2.37	10.49±2.41	45.40±8.08
Male		19.90±5.18	13.28±2.21	9.52±2.37	42.71±7.45
Statistical Evaluation	U	2223.5	2618.0	2088.5	2148.0
	p	0.223	0.930	0.106	0.152
Clinical Area					
Surgical		21.23±5.31	12.85±2.71	10.26±2.61	44.35±8.61
Medical		21.88±5.33	13.63±1.99	10.71±2.35	46.23±8.07
Surgical - Operating Room	Medical Room	21.61±4.94	13.92±1.38	10.76±2.21	46.30±7.58
Emergency		21.70±3.01	13.05±1.84	10.40±2.21	45.15±5.67
Intensive Care		21.95±3.26	13.28±2.53	9.80±2.18	45.04±6.59
		21.43±5.58	13.16±2.51	10.43±2.43	45.03±8.67
Statistical Evaluation	KW	0.412	6.384	4.175	2.136
	p	0.995	0.271	0.525	0.830
Education					

Health Vocational High School		21.64±5.01	13.24±2.53	10.48±2.47	45.37±8.65
Associate Degree in Nursing		21.00±4.79	13.30±1.99	10.24±2.37	44.54±7.37
Bachelor Degree in Nursing		21.95±4.74	13.45±2.10	10.69±2.29	46.10±7.11
Master Degree of Nursing		22.06±5.56	13.19±2.37	10.40±2.51	45.66±8.76
Bachelor and Master Degree, other		20.69±5.01	12.91±2.89	10.17±2.50	43.78±4.48
Statistical Evaluation	KW	2.466	0.804	1.697	2.377
	p	0.651	0.938	0.791	0.667
Years in Nursing					
1-5		22.08±5.29	13.26±2.35	10.55±2.46	45.91±4.86
6-10		21.45±4.10	12.89±2.28	10.38±2.46	44.72±7.18
11-15		22.05±5.08	13.38±2.78	10.68±2.13	46.12±7.71
>16		20.50±5.25	13.35±2.09	10.07±2.53	43.92±8.37
Statistical Evaluation	KW	5.767	5.011	2.678	5.571
	p	0.124	0.171	0.444	0.134
Years at Hospital					
1-5		21.77±5.17	13.38±2.18	10.57±2.40	45.73±8.10
6-10		20.69±4.59	12.76±2.64	9.98±2.39	43.49±8.05
11-15		22.66±4.54	13.02±3.14	10.64±2.49	46.33±7.71
>16		20.92±5.53	13.65±1.37	10.34±2.43	44.92±8.11
Statistical Evaluation	KW	5.047	3.418	2.124	4.333
	p	0.168	0.332	0.547	0.228
Years on Unit					
1-5		21.60±5.03	13.41±2.13	10.48±2.37	45.51±7.93
6-10		20.46±4.38	12.60±2.42	9.68±2.55	42.75±7.61
>11		22.51±5.66	13.08±3.20	10.97±2.36	46.56±8.80
Statistical Evaluation	KW	3.683	6.784	5.612	6.271
	p	0.159	0.034	0.060	0.043
Title at Hospital					
Nurse	Manager	21.78±5.40	13.46±2.06	10.40±2.34	45.65±8.25
Staff Nurse		21.49±4.97	13.19±2.42	10.42±2.43	45.10±8.03
Statistical Evaluation	U	5131.5	5047.5	5178.5	5153.5
	p	0.715	0.562	0.786	0.749
Shifts					
Always at 8-16		21.22±4.81	13.02±2.28	10.32±2.46	44.58±8.07
Alternate 8 hours shifts		20.57±4.61	13.73±2.10	10.31±2.30	44.62±7.36
Alternate 8 and 24 hours shifts		22.00±5.25	13.20±2.46	10.50±2.44	45.70±8.26
Statistical Evaluation	KW	5.551	4.613	0.967	2.261
	p	0.062	0.100	0.617	0.323
Receiving Problem Solving Training					
Yes		20.58±5.92	13.23±1.97	10.08±2.60	43.91±9.04
No		21.73±3.79	13.23±2.43	10.48±2.38	45.47±7.84
Statistical Evaluation	U	4606.0	4918.5	4807.0	4650.5
	p	0.207	0.502	0.392	0.242
Empowering Activities at the Hospitals					
Yes		22.20±4.98	13.59±2.34	10.55±2.63	46.35±8.32
No		21.29±5.05	13.10±2.36	10.37±2.34	44.77±7.93
Statistical Evaluation	U	6507.5	6140.5	7023.0	6424.5
	p	0.139	0.022	0.554	0.105

Table 3. The Mean PSI Scores of The Nurses Based on The Demographic Data n=273

Demographic Data	PSI				
	Problem Confidence $\bar{X} \pm SD$	Solving Approach-Avoidance Style $\bar{X} \pm SD$	Personal Control $\bar{X} \pm SD$	Total $\bar{X} \pm SD$	
Age					
20-29	30.60±7.28	47.31±6.63	14.30±2.88	92.22±13.33	
30-39	30.11±6.76	46.32±7.84	13.39±2.81	89.83±14.22	
>40	27.90±7.61	44.59±9.01	14.04±3.28	86.54±16.61	
	KW	4.517	3.874	5.922	4.427
Statistical Evaluation	p	0.105	0.144	0.052	0.109
Gender					
Female	29.76±7.18	46.08±7.52	13.74±2.86	89.59±14.20	
Male	32.00±6.22	50.14±8.47	14.80±3.62	96.95±15.38	
	U	2108.5	1886.5	2083.0	1920.5
Statistical Evaluation	p	0.122	0.029	0.103	0.037
Clinical Area					
Surgical	30.34±7.76	45.83±7.75	13.57±2.90	89.74±15.33	
Medical	30.56±6.45	47.00±6.98	13.75±2.70	91.31±12.82	
Surgical - Medical	27.11±6.84	39.65±5.42	13.38±3.13	80.15±10.55	
Operating Room	30.95±9.15	50.15±8.15	14.55±3.18	95.65±17.04	
Emergency	29.85±6.71	49.28±8.46	14.80±3.12	93.95±16.54	
Intensive Care	29.56±6.10	47.40±6.81	13.90±2.98	90.87±12.29	
	KW	5.266	28.983	5.069	17.104
Statistical Evaluation	p	0.384	0.000	0.407	0.004
Education					
Health Vocational High School					
Associate Degree	29.53±5.87	46.48±7.66	14.40±2.91	90.42±13.39	
Bachelor Degree of Nursing	29.84±8.14	46.72±8.13	14.06±2.68	90.62±16.35	
Master Degree of Nursing	31.28±7.33	48.03±8.14	14.18±3.52	93.50±14.64	
Bachelor and Master Degree out of Nursing	30.39±6.73	45.84±6.96	13.50±2.57	89.74±13.09	
	27.82±7.10	44.41±7.14	12.97±2.64	85.21±13.71	
	KW	6.643	6.533	5.283	10.006
Statistical Evaluation	p	0.156	0.163	0.259	0.040
Years in the nursing					
1-5	31.22±7.15	47.75±7.00	14.75±3.17	93.73±13.62	
6-10	30.70±7.67	47.34±7.16	13.36±2.45	91.41±15.08	
11-15	29.40±6.23	45.57±6.69	12.87±2.48	87.85±11.36	
>16	28.04±6.98	44.52±9.11	13.70±2.98	86.26±15.85	
	KW	8.751	8.975	14.994	12.039
Statistical Evaluation	p	0.033	0.030	0.002	0.007
Years at Hospital					
1-5	31.17±7.44	47.59±7.23	14.43±3.02	93.20±14.30	
6-10	30.11±7.13	47.55±6.93	13.69±2.58	91.37±14.03	
11-15	29.43±5.73	45.33±7.14	12.61±2.45	87.38±11.24	
>16	26.09±5.97	41.82±8.82	13.19±3.14	81.12±14.16	
	KW	16.307	18.953	16.564	21.744
Statistical Evaluation	p	0.001	0.000	0.001	0.000
Years on Unit					

1-5		30.74±7.30	47.42±7.46	14.21±2.91	92.39±14.23
6-10		29.35±6.78	44.75±7.02	13.04±2.69	87.15±13.31
>11		26.43±5.42	43.08±8.29	12.78±3.00	82.29±13.41
	KW	12.264	12.953	14.262	16.936
Statistical Evaluation	p	0.002	0.002	0.001	0.000
Title at Hospitals					
Nurse	Manager	26.89±6.49	42.21±6.91	13.36±2.65	82.46±12.05
Staff Nurse		30.56±7.10	47.26±7.53	13.92±2.99	91.76±14.36
	U	3687.0	3256.5	4616.0	3295.5
Statistical Evaluation	p	0.001	0.000	0.155	0.000
Shifts					
Always at 8-16		30.84±7.91	46.40±7.26	13.65±2.78	90.91±15.01
Alternate 8 hours shifts		29.51±6.57	46.71±8.08	14.46±2.85	90.68±14.28
Alternate 8 and 24 hours shifts		29.57±6.84	46.30±7.79	13.72±3.03	89.60±14.18
	KW	1.484	0.106	3.151	0.346
Statistical Evaluation	p	0.476	0.948	0.207	0.841
Receiving Problem Solving Training					
Yes		27.15±6.55	42.95±8.01	13.34±2.78	83.45±13.74
No		30.49±7.12	47.09±7.41	13.92±2.96	91.51±14.18
	U	3658.5	3745.5	4558.0	3658.5
Statistical Evaluation	p	0.001	0.002	0.172	0.001
Empowering Activities at the Hospitals					
Yes		27.74±6.31	43.44±7.12	12.98±2.50	84.17±13.08
No		30.74±7.25	47.49±7.58	14.14±3.03	92.38±14.26
	U	5407.5	5064.0	5791.0	4708.0
Statistical Evaluation	p	0.001	0.000	0.006	0.000

The correlation between the PEI and PSI scores was not statistically significant ($p=0.612$).

Discussion

The results indicate that the nurses perceived moderate levels of empowerment and problem solving abilities. These results are consistent with several researches conducted in Turkey on nurses' perceptions of empowerment (Ozturk, 2010; Durukan et al., 2010) and problem solving (Yildiz and Guven, 2009; Erenler, 2007; Erkuş and Bahçecik, 2015). Feeling empowered and having the confidence to effectively solve problems is crucial for nurses to become pioneers in their professional life and provide quality patient care. Laschinger et al. (Laschinger et al., 2012) stated that empowered nurse managers devote themselves to improve patient care quality and have the potential to become effective leaders in the future.

In this study, while nurses scored high on the responsibility scale, they scored low on the

autonomy and participation scales. Dickerson et al. (Dickerson et al., 2013) indicated that both staff nurses and administrators expressed that job satisfaction increased when nurses were given more responsibilities. Oliver et al. (Oliver et al., 2014) suggested that nurse managers should assist in developing ways to increase staff nurses' involvement in key areas of responsibility. Houser et al. (Houser et al., 2012) have found that the units in which nurses reported high levels of participation in decision-making processes had fewer cases of infections and pressure ulcers. The findings of the present study could be attributed to possibility that the administrators did not create empowering policies for nurses or include them in decision-making processes (regarding committee, commission, etc.), and even if they did, they were passive and did not encourage them to be sufficiently autonomous.

Nurses reported an average level of confidence in their problem solving abilities and control over emotional reactions and behaviors. Further, they

reported a tendency to approach and solve rather than avoiding them. Erenler's (Erenler, 2007) study is consistent with the findings of our studies that most nurses reported not having received any training to enhance problem-solving abilities.

The nurses at the Hospital B approached problems more effectively and were successful in controlling their emotions and behaviors while solving a problem. In contrast, Erenler (Erenler, 2007) found no differences between the nurses' perceptions of problem solving at a training research hospital and Ministry of Health hospital. Lately in Turkey, staff nurses do not want to work in university hospitals because of inequalities in employee rights and supplementary salaries. Nurses who are working there have to deal with the increasing workload and working hours. This enables the nurses at these hospitals to provide practical and effective solutions.

The total perception of empowerment was higher for the nurses who had been working in the same department for over 11 years. This finding shows that the working experience of nurses in the same department affected the perception of empowerment positively. The perception of responsibility was the highest for nurses who had been working in the current department for one to five years. According to these results, this group consisted of newly graduated or employed nurses. Bisholt (Bisholt, 2012) suggests that newly graduated nurses are more anxious and fear making mistakes while adapting to their professional roles. Therefore, they feel more responsible towards their work.

The nurses who felt that their workplace was empowering felt more responsible than the others did. This finding might be because the nurses are members of administrative commissions or committees, participate in clinical and administrative decisions, or are encouraged to participate in social and educational activities.

According to the findings while female nurses tended to approach and solve problems, males tended to avoid them. Yavuz et al. (Yavuz et al., 2010) found that female prospective teachers were more confident of their problem solving skills than male teachers. Since working women have to find practical solutions to implement their

domestic and professional responsibilities, it might improve their problem solving ability.

The nurses on the operation rooms assessed themselves as the most unsuccessful problem solvers. Since they always work in a team, it might affect their individual problem solving ability. In contrast, the nurses in both the internal-external clinics assessed themselves as the most successful problem solvers. This might be because they face patient instability and complexity in these clinics, which develops their problem solving ability. In contrast to this, Erkuş (Erkuş and Bahçecik, 2015) found that the nurses' in the outpatient clinic had lower problem-solving scores than the others.

Those who have been in the nursing profession for 11 years or more assessed themselves as the most successful problem solvers. Erkuş (Erkuş and Bahçecik, 2015) suggested that problem solving self-assessment was higher for nurses in the profession for over ten years, even though there was no statistically significant difference. It is believed that the duration of working experience positively affects the assessment of problem solving. This could be because nurses who have worked for longer have increased knowledge, experience, and practice

The assessment scores of nurse managers were significantly lower compared with the staff nurses. In contrast, Erkuş (Erkuş and Bahçecik, 2015) reported that staff nurses' scores were lower compared with the managers. Nurse managers handle many administrative, institutional, and complex problems; therefore, they need to possess sufficient knowledge and experiences that develop their problem solving abilities. On the other hand, in Turkey, to become nurse managers, nurses need at least ten years of working experience as a staff nurse. In this study, the nurse managers also overlap with the group working for over 11 years. Therefore, our two findings are consistent.

The nurses who received problem solving training had lower scores on the individual subscales and the total problem-solving inventory score compared with others. This is not surprising as the study by Ginevra et al. (Ginevra et al., 2015) also suggests that training improves individual problem solving appraisals and critical learning strategies.

The nurses who experienced their workplace as empowering assessed themselves as better at problem solving. These nurses have participated in commissions or administrative decisions processes. In Regan and Rodriguez's (Regan and Rodriguez, 2011) study, 57% of nurses reported that receiving guidance and recommendations to solve problems is empowering. This shows that activities such as encouraging nurses' professional developments, allowing nurses to be autonomous, include them in institutional decisions empowers them and affects their problem solving assessments.

The results indicate that the nurses who experienced their workplace as empowering assessed themselves as having higher problem solving abilities than the others. However, it is important to keep in mind that these two perceptions promote each other but show no statistical correlation.

Conclusion

Our findings demonstrate that nurses feel empowered when they are given autonomy and responsibilities to participate in clinical and administrative decisions. Further, when they feel empowered, they assess themselves as effective problem solvers. Therefore, it is crucial for nurse managers to create opportunities for staff nurses' personal and professional development and design administrative regulations supporting their autonomy, responsibility, and participation in decisions. Future research could study the positive and negative impact of when nurses perceive themselves as empowered and effective problem solvers.

Limitations

This study was conducted only two hospitals: a university hospital and a hospital by the Ministry of Health and the results are limited to nurses' perceptions and self-assessments.

References

Abdollahi, A., Talib, M.A, Carlbring, P., Harvey, R., Yaacob, S.N., & Ismail, Z. (2016). Problem-solving skills and perceived stress among undergraduate students: The moderating role of hardiness. *Journal of Health Psychology* 1–11.

Bingham, A. (1998). Improving children's facility in problem solving. (Translated by A. F. Oğuzkan). Istanbul: Ministry of National Education Publications

Bisholt, B.K.M. (2012). The professional socialization of recently graduated nurses' experiences of an introduction program. *Nurse Education Today* 32:278-282.

Bogaert, V.P., Peremans, L., Wit, M., Heusden, D., Franck, E., Timmermans, O., et al. (2015). Nurse managers' perceptions and experiences regarding staff nurse empowerment: a qualitative study. *Front. Psychol* 14(6):1-10.

Chandler, G.E. (1986). The relationship of nursing work environment to empowerment and powerlessness. Doctoral dissertation. Utah: College of Nursing University. <http://content.lib.utah.edu/utils/getfile/collection/etd1/id/1204/filename/935.pdf>. Updated June 5, 2011. Accessed June 5, 2011.

Dickerson, P.G., Houser, J., Thomas, E., Casper, C., Brack, L.E., Wenzel, M., et al. (2013). The value of staff nurse involvement in decision making. *J Nurs Adm* 43(5):286-292.

Durukan, S., Akyürek, Ç., & Coşkun, E. (2010). The determination of organizational trust, empowerment and commitment levels of nurses working at Hacettepe University adult hospital. *Suleyman Demirel University The Journal of Faculty of Economics and Administrative Sciences* 15(3):411-434.

Eo, Y.S., Kim, Y.H., & Lee, N.Y. (2014). Path analysis of empowerment and work effectiveness among staff nurses. *Asian Nurs Res* 8:42–48.

Erenler, A.G. (2007). The relation between problem solution skills and concerns of emergency service nurses. Master's Thesis of Marmara University, Istanbul

Erkuş, B., Bahçecik, N. (2015). Level of critical thinking and problem solving skills of administrator nurses and nurses who work at private hospitals. *Journal of Marmara University Institute of Health Sciences* 5(1):1-9.

Heppner, P.P. & Petersen, C.H. (1982). The development and implications of a personal problem solving inventory. *Journal Of Counseling Psychology* 29(1):66–75.

Heppner, P.P. & Krauskopf, K. (1987). An information processing approach to personal problem solving. *The Counseling Psychologist* 15:34-37.

Heppner, P.P. & Baker, C.E. (1997). Applications of the Problem Solving Inventory. *Measurement and Evaluation in Counseling and Development* 29(4):229-241.

Houser, J., Erkenbrack, L., Handberry, L., Ricker, F., & Stroup, L. (2012). Involving nurses in decisions improving both nurse and patient outcomes. *J Nurs Adm* 42:375-382.

Ginevra, M.C., Nota, L., Heppner, P.P., Heppner, M., & Soresi, S. (2015). The relationship of personality type, problem-solving appraisal, and

- learning strategies. *Journal of Career Assessment* 23(4):545-558.
- Laschinger, H.K.S., Gilbert, S., Smith, L.M., & Leslie, K. (2010). Towards a comprehensive theory of nurse/patient empowerment: Applying Kanter's empowerment theory to patient care. *J Nurs Manag* 18:4-13.
- Laschinger, H.K.S., Wong, C.A., Grau, A.L., Read, E.A., & Pineau, S.L.M. (2012). The Influence of leadership practices and empowerment on Canadian nurse manager outcomes. *Journal of Nurse Management*, 20(7):877-88.
- Oliver, B., Gallo, K., Griffin, M.Q., White, M., & Fitzpatrick, J. (2014). Structural empowerment of clinical nurse managers. *J Nurs Adm* 44(4):226-231.
- Ozturk, H. (2010). Perception of empowerment of intensive care nurses and their evaluations of empowerment in their workplace. Master's Thesis of Hacettepe University, Ankara
- Purdy, N., Laschinger, H.K.S., Finegan, J., Kerr, M., & Olivera, F. (2010). Effects of work environments on nurse and patient outcomes. *J Nurs Manag* 18(8):901-913.
- Regan, L.C., Rodriguez, L. (2011). Nurse empowerment from a middle-management perspective: Nurse managers' and assistant nurse managers' workplace empowerment views. *The Permanente Journal* 15(1):e101-e107.
- Roller, K. (1998). Measuring empowerment: The Perception of Empowerment Instrument (PEI). <https://www.nhqualitycampaign.org/files/PEI.pdf>. Updated June 1, 2011. Accessed June 1, 2011.
- Schroeter, K. (2010). Structural empowerment: The magnet model applied to perioperative nursing. *AORN J* 92(2):220-223.
- Sasaki, M., Higashiguchi, K.K., Morikawa, Y., & Nakagawa, H. (2009). Relationship between stress coping and burnout in Japanese hospital nurses. *J Nurs Manag* 17:359-365.
- Spreitzer, G.M. (1995). Psychological empowerment in the workplace: Dimensions, measurement, and validation. *Academy of Management Journal* 38(5):1442-1465.
- The International Nurses Day Theme for 2014: Nurses: A Force for Change – A vital resource for health. http://www.icn.ch/images/stories/documents/publications/ind/IND_Kit_2014.pdf. Updated July 15, 2011. Accessed July 14, 2011.
- Wang, S. & Liu, Y. (2015). Impact of Professional nursing practice environment and psychological empowerment on nurses' work engagement: test of structural Equation modelling. *J Nurs Manag* 23:287-296.
- World Health Organization. Munich Declaration: Nurses and midwives: a force for health, 2000. http://www.euro.who.int/__data/assets/pdf_file/0007/53854/E93016.pdf. Updated July 14, 2011. Accessed July 14, 2011.
- Yavuz, G., Arslan, C., & Gulden, D.C. (2010). The perceived problem solving skills of primary mathematics and primary social sciences prospective teachers. *Procedia-Social and Behavioral Sciences* 2:1630-1635.
- Yildiz, H. & Guven, M. (2009). Research on Burnout Level Of Nurses And Their Problem Solving Skills *J NWSA* 4(4):1-20.