



## Original Article

# Personality characteristics of nurse managers: The personal and professional factors that affect their performance

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### Abstract

**Objectives:** Managers' personalities indicate how they think, perceive reality, and relate to others; these qualities affect their decision making and problem-solving methods. Although there are many studies of leadership and managerial characteristics in the nursing profession, there is a lack of adequate data about personality characteristics. This descriptive study aims to determine the personal characteristics of nurse managers and the personal and professional factors that affect them.

**Methods:** The study population consisted of nurses working in administrative positions at hospitals affiliated with the public hospitals union, in research, and in practice hospitals affiliated with universities and private hospitals in cities in the Marmara Region. The final study sample consisted of nurse managers working in the hospitals that gave permission to conduct the study (excluding the private branch hospitals). The data were collected after obtaining the approval of the Clinical Research Ethics Committee of Çanakkale Onsekiz Mart University (Approval date: 1.7.2015, Decision No: 2015-01) and written official permission from the administrations of the hospitals included in the study. The data were collected using the Five Factor Personality Inventory. The data analysis was carried out using means and standard deviations (SD) as descriptive statistics, one-way analysis of variance for inter-group comparisons, and the independent samples t-test for paired group comparisons. A significance threshold of  $p < 0.05$  was used to evaluate the findings.

**Results:** The study included 900 nurse managers; they obtained the highest mean score on the conscientiousness dimension (Mean $\pm$ SD=4.22 $\pm$ 0.35). This dimension was followed by their mean scores on the agreeableness (Mean $\pm$ SD=4.06 $\pm$ 0.40), intelligence (Mean $\pm$ SD=4.05 $\pm$ 0.37), extroversion (Mean $\pm$ SD=3.50 $\pm$ 0.43), and emotional instability (Mean $\pm$ SD=2.07 $\pm$ 0.53) dimensions. Statistically significant differences were found between the independent variables of age, gender, marital status, education level, work institution, professional experience, institutional experience, managerial experience, administrative position, work unit, and managerial education when compared using the five-factor personality inventory ( $p < 0.05$ ).

**Conclusion:** The nurse managers described themselves as being highly conscientious. Statistically significant differences were found between the five-factor personality inventory mean scores and personal and professional characteristics.

**Keywords:** Nurse manager; personal characteristics; personality; professional characteristics.

Managerial behavior and its effects on an organization are among the primary subjects in management research. Managing people and guiding them toward a certain goal entails understanding their personality and behavioral characteristics. This process requires managers to know themselves

better and to be aware of their own personality characteristics.<sup>[1]</sup>

The ability to understand and to know both one's own self and others constitutes the concept of personality, which in turn refers to all structural and dynamic characteristics seen in an

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individual's reactions to situations they encounter.<sup>[2]</sup> In short, time-related emotional and behavioral changes, personal differences shaped by other people's behaviors, and behaving differently in certain situations arise from personality characteristics.<sup>[3,4]</sup> In the scholarly literature, there are different views on the dimensions that constitute personality. Nevertheless, the individual's genetic and physical structure, cultural factors, group membership, family factors, role behavior, and social status are among the common factors of personality.<sup>[5,6]</sup>

Many theories attempt to explain the development of personality—the main reason causing personal differences—in terms of biological factors and individual experiences. These theories describe initiatives that motivate human behavior. They focus on personality factors and characteristics, and thereby classify people in terms of their unique and consistent similarities and differences.<sup>[8]</sup> Because there are many personality characteristics, everyone has a unique personality structure, and these characteristics influence both their private and professional lives. Persons who are successful both in their private and professional lives have healthy and balanced personalities. Being professionally knowledgeable is not sufficient for good work performance: manners, attitude, and behavior are also deemed important because realizing organizational aims and goals is interrelated with managers' personality structure and characteristics.<sup>[6]</sup> Fred Luthans observed effective managers for four years, and ultimately classified managerial activities in four categories: communication, traditional management, networking, and human resource management.<sup>[7]</sup> Based on that analysis, managers were influenced by several factors and adopted a unique behavior while carrying out those activities. Luthans emphasized that this unique behavior pattern relied on the manager's personality characteristics, which differentiated him/her from others.<sup>[7]</sup>

Distinct managerial styles and behaviors result in different organizational outputs in an institution where resources, opportunities, and conditions are the same.<sup>[9]</sup> Personality of the manager, and the way s/he thinks, perceives reality, and relates to others influence decision-making and problem-solving methods.<sup>[10]</sup> These responses also have a very important effect on employees' performance, success, job satisfaction, and organizational commitment.<sup>[11,12]</sup> At the same time, managers' personality characteristics support organizational outputs, such as work performance, creativity, career development, and leadership effectiveness, which play an important role in organizational success.<sup>[13,14]</sup> For this reason, identifying managers' personality characteristics and determining which of these characteristics are displayed are significant factors in an organization's success. Organizations that use human power in the most efficient and productive way are more successful; the managers and the managed are the two sides of this success: the interaction between these two groups is a psychological process. Those who can assess and use the personality factor well are closer to success. The unique personality characteristics; therefore, they are influenced by different instincts when carrying out different activities, and his difference stems

from personality characteristics. In other words, personality type influences the individual's perception and interpretation of the environment, which results in changes in performance direction and level in diverse activities.<sup>[15]</sup>

In hospitals that operate to achieve specific goals and tasks, manager nurses are required to carry out many functions, such as investigating problems, collecting data, setting goals and targets, planning business, using all resources effectively and efficiently, training and motivating employees, communication, technology management, change and conflict management, measuring results, analysis, and assessment.<sup>[16]</sup> To realize all these, managers need to have personality characteristics that include being organized, having good communication skills, decision-making, risk-taking, investigating, and being flexible and open to change.<sup>[17]</sup> Looking at the relevant literature, although personality characteristics have been analyzed for different professional groups, there are no studies that use a sample of manager nurses. Instead, nurses' leadership and managerial characteristics are examined. This descriptive study was carried out to determine manager nurses' personality characteristics, and personal and professional variables that affect them through the "Five-Factor Personality Inventory".

## Materials and Method

### Research Population and Sample

The research population consisted of manager nurses (care managers, head-nurses, head-nurse assistants, chief nurses, and supervisor nurses) working at hospitals affiliated with the union of state hospitals, university hospitals, and private hospitals in Istanbul, Tekirdağ, Edirne, Bursa, Çanakkale, Kocaeli, Sakarya, Balıkesir, Bilecik, Kırklareli, and Yalova in the Marmara Region. The possible research sample constituted of manager nurses working at hospitals that gave us permission to carry out this study (n=1820). Specialized hospitals, which provide services only in one field (such as oral/dental health, pediatrics, oncology, and psychiatric hospitals) were excluded from the research sample. Voluntary participation was the key criterion for participating in this study, and we aimed to reach all manager nurses (n=900; 49.5%).

### Data Collection Tools

An 11-question personal information form and the Five-Factor Personality Inventory (5FPI) were used to determine manager nurses' personal and professional characteristics.

The Personal Information Form was developed by the researcher based on the scholarly literature.<sup>[2,8-11,15]</sup> It contains multiple-choice questions on participants' age, gender, marital status, education level, institutional affiliation, work experience, institutional experience, work unit, managerial experience, and the status of receiving training on management.

The 5FPI was used to measure participants' personality characteristics. Somer, Tatar and Korkmaz (2004)<sup>[18]</sup> developed the 5FPI using Goldberg's (1992)<sup>[19]</sup> International Personality Item

Pool. That inventory consists of 220 items on a five-points Likert scale, which includes short self-evaluation statements on behavioral, emotional, and intellectual characteristics. Each participant was asked to select one of the following choices according to how she perceives herself: Very Accurate (VA), Moderately Accurate (MA), Neither Accurate nor Inaccurate (?), Moderately Inaccurate (MI), Very Inaccurate (VI). In the 5FPI, 17 specific sub-dimensions are categorized under five main factors to enable a clearer conceptualization of broad factors.<sup>[20]</sup> These are listed as follows: energetic, active, and assertive under the extraversion factor; tolerance, tranquility, reconciliation, and gentleness under the factor of agreeableness; commitment to rules, responsibility/determination, and seeking excitement under the factor of self-control/conscientiousness; emotional instability, tendency for anxiety, and lack of self-confidence under the factor of neuroticism; analytical thinking, sensitivity, and open for change under the factor of openness to experience. In addition to these sub-dimensions, The Sub-scale and Control Items of Social Desirability were included in the test. The items of the Social Desirability Sub-Scale and its control items do not have any effect on the personality scale scores.

Considering the internal consistency and reliability values of the five main factors, Cronbach's Alpha values are high: between 0.88 and 0.96. Internal consistency of the sub-scales varies between 0.76 and 0.93. In this study, Cronbach's Alpha values of the five factors were at a high level: 0.83 to 0.91.

### Data Collection

Data were collected after obtaining the approval of the Clinical Research Ethics Committee of Çanakkale Onsekiz Mart University (Approval date: 1.7.2015, Decision No: 2015-01) and the written official permissions of the hospitals' administration. At the first stage, top-level manager nurses were contacted and informed about the study over the phone and were asked to provide their e-mail addresses. The Internet link address (url) of the scale was sent to top manager nurses via e-mail, and they were asked to forward the e-mail to other middle and low-level manager nurses via the shared communication network of the hospital. The scales completed by manager nurses were automatically uploaded to the system. However, this method could not ensure sufficient response. Therefore, at the second stage, the scales were re-sent to the manager nurses in the low-return institutions via mail. At the third stage, the researcher visited the institutions that did not respond to the questionnaires sent via mail, in person. The researcher handed in the scale, waited for the nurses to fill them out, and re-collected them.

### Data Analysis

In this study, quantitative data was analyzed using the SPSS (Statistical Package for the Social Sciences) 21 package program. Mean and standard deviation (SD) for descriptive statistical methods, one-way variance analysis for inter-group comparisons, and the t-test in independent samples for paired

group comparisons were employed. Results were assessed at the  $p < 0.05$  significance level.

## Results

Personality characteristics of the research sample—manager nurses working at public, private and university hospitals in the Marmara Region—are presented in Table 1. Of the 900 participant nurses, 54.9% were in the 36–45 age group, 92.7% were female, 80.1% were married, and 47.2% had undergraduate degrees (Table 1).

Concerning manager nurses' professional positions, 62.0% worked in state hospitals, 78.0% were low-level manager nurses, and 45.7% worked in a general services unit. Among manager nurses, 47.3% had 11–20 years of professional experience, 56.4% had been working in the same institution for 1 to 10 years, and 84.3% had 10 years and less experience in management. However, only 31.6% had participated in training/seminars on management (Table 2).

Table 3 displays manager nurses' score distribution in the 5FPI factor and sub-factors. The highest mean score was  $4.22 \pm 0.35$  in the factor of self-control/conscientiousness.

There were differences between manager nurses' mean scores in the 5FPI factors and their personal and professional characteristics (Table 4 and 5). There were also differences between manager nurses' mean scores in the 5FPI factors and their gender, age, marital status, education level, affiliated institution, professional experience, institutional experience, level of management, work unit, managerial experience, and training in management. The Bonferroni method, a one-way variance analysis post hoc test, was used to ascertain which of the manager nurses' characteristics led to the score difference among the five factors.

A difference was detected between the factor of extraversion and manager nurses' gender and educational level. Among

**Table 1. The distribution of manager nurses' personal characteristics (n=900)**

Variables	n	%
Age groups		
25–35	309	34.3
36–45	494	54.9
Marital status		
Married	721	80.1
Single	179	19.9
Gender		
Female	834	92.7
Male	66	7.3
Education		
Medical vocational high school	123	13.7
Two-year degree	180	20.0
Undergraduate	425	47.2
Postgraduate	172	19.1

manager nurses' professional characteristics, there was a difference between their affiliated institution, professional experience, work unit, managerial experience, and the status of receiving training on management ( $p < 0.05$ ). These differences arose among female manager nurses, who had postgraduate degrees, worked at private hospitals, had 21 and more years' professional experience and 11 and more years' managerial experience, and reported having been trained in management (Table 4, Table 5).

Statistically significant differences were identified between the agreeableness/compatibility factor and manager nurses' age, gender, marital status, professional and institutional ex-

perience, and their work units ( $p < 0.05$ ). The difference among age groups arose from the age group 46 years old and older (Table 4). Like the mean scores of the extraversion factor, in agreeableness the difference between the durations of professional and institutional experience arose from manager nurses who had been managers for 21 years and more: mean scores increased together with the duration of experience (Table 5). Likewise, female and married manager nurses had higher scores in the agreeableness factor (Table 4).

A statistically significant difference was found between manager nurses' age groups and the factor of self-control/conscientiousness. The source of this difference was the age group of 46 years old and older (Table 4). The self-control/conscientiousness factor was higher for manager nurses who were 46 years old and older, had 21 years and more professional and institutional experience, and 11 years and more managerial experience (Table 5). In addition, the mean self-control score was higher in female and married nurses who also had postgraduate degrees (Table 4).

This study found that there was a difference between manager nurses' professional experiences and the factor of neuroticism, which arose from the group of nurses who had 21 years and above professional experience. The mean neuroticism score was higher in low-level manager nurses with 21 years and higher professional experience (Table 5).

**Table 2. Distribution of manager nurses' professional characteristics (n=900)**

Variables	n	%
Affiliated institution		
State hospital	557	62.0
University hospital	190	21.0
Private Hospital	153	17.0
Professional experience		
1–5 years' experience	62	6.9
6–10 years	131	14.6
11–15 years	199	22.1
16–20 years	226	25.1
21–25 years	175	19.4
≤26	107	11.9
Institutional experience		
1–5 years	256	28.4
6–10 years	252	28.0
11–15 years	159	17.7
16–20 years	124	13.8
21–25 years	74	8.2
≤26	35	3.9
Institutional duty		
Top level manager	79	8.8
Middle level manager	119	13.2
Low level manager	702	78.0
Work unit		
General services	411	45.7
Critical care units	291	32.3
Management	198	22.0
Managerial experience		
1–5 years	593	65.9
6–10 years	166	18.4
11–15 years	88	9.8
16–20 years	30	3.3
21–25 years	15	1.7
≤26	8	0.9
Management training		
Yes	284	31.6
No	616	68.4

**Table 3. Distribution of Mean Factor Scores of the 5FPI and its Sub-dimensions (n=900)**

5FPI Factors and Sub-dimensions	Mean±SD
Extraversion (Total mean score)	3.50±0.43
Energetic	3.36±0.57
Active	4.14±0.54
Assertive	3.14±0.63
Agreeableness/Compatibility (Total mean score)	4.06±0.40
Tolerance	4.28±0.43
Tranquility	3.86±0.56
Reconciliation	3.84±0.60
Gentleness	4.22±0.42
Self-control/Conscientiousness (Total mean score)	4.22±0.35
Regularity	4.46±0.42
Commitment to rules	4.26±0.41
Responsibility/determination	4.50±0.40
Seeking excitement	2.42±0.66
Neuroticism (Total mean score)	2.07±0.53
Emotional instability	2.10±0.61
Tendency for anxiety	2.26±0.65
Lack of self-confidence	1.86±0.49
Openness to experience (Total mean score)	4.05±0.37
Analytic thinking	4.19±0.46
Sensitivity	4.07±0.42
Openness to change	3.89±0.48

5FPI: Five-Factor Personality Inventory; SD: Standard deviation.

**Table 4. Comparison of manager nurses' personal characteristics and their Mean Factor Scores in the 5FPI (n=900)**

	Extraversion	Agreeableness/ Compatibility	Self-control/ conscientiousness	Neuroticism	Openness to experience
Age*					
25-35 (n=309)	3.49±0.41	3.97±0.41	4.12±0.36	2.12±0.51	4.02±0.37
36-45 (n=494)	3.49±0.44	4.09±0.40	4.24±0.33	2.04±0.54	4.05±0.37
≤46 (n=97)	3.60±0.43	4.20±0.33	4.37±0.29	1.20±0.52	4.13±0.30
p	0.67	0.00	0.00	0.50	0.58
F	2.71	14.25	23.47	2.99	2.86
Gender**					
Female (n=834)	3.50±0.43	4.07±0.40	4.22±0.34	2.07±0.53	4.05±0.36
Male (n=179)	3.39±0.45	3.96±0.38	4.06±0.33	2.00±0.49	4.00±0.39
p	0.03	0.03	0.00	0.29	0.27
t	2.10	2.10	3.82	1.04	1.10
Marital status**					
Married (n=721)	3.50±0.43	4.08±0.40	4.23±0.33	2.07±0.51	4.04±0.36
Single (n=179)	3.49±0.43	4.01±0.42	4.13±0.40	2.05±0.60	4.09±0.39
p	0.80	0.03	0.00	0.75	0.07
t	2.42	2.09	3.48	0.31	-1.76
Education level*					
High school + two-year degree (n=303)	3.52±0.45	4.10±0.42	4.24±0.35	2.04±0.52	4.01±0.36
Undergraduate (n=425)	3.46±0.43	4.06±0.39	4.22±0.33	2.08±0.50	4.05±0.36
Postgraduate (n=172)	3.55±0.42	4.02±0.41	4.35±0.38	2.09±0.60	4.10±0.37
p	0.03	0.13	0.02	0.48	0.04
F	3.28	2.05	3.71	0.72	3.23

Significance level  $p < 0.05$ ; \*F: One-way variance analysis result; \*\*t: Independent Sample t-test result.

A difference was identified between manager nurses' educational level and the factor of openness to experience. The source of this difference was the manager nurses with postgraduate degrees (Table 4). There was also a difference, which arose from low-level manager nurses, in the group who had 21 years and above professional and institutional experience (Table 5). Similarly, the factor of openness to experience was high for manager nurses who worked only in the managerial unit and had training in management (Table 5).

## Discussion

Although individuals have common biological structures, they have different attitudes and behaviors, ideas, feelings, and approaches. The concept of "personality" arises at the point when the consequences of these difference are identified. Family, friends, socio-cultural environment, social structure and class factor, reference groups, geographical and physical factors, and environmental factors are effective factors in the formation of personality. An individual's physical and social environment interacts with the characteristics originating from genetic structure, this influences their personality characteristics.<sup>[21]</sup> The present study examined manager nurses' personality characteristics and the personal and professional factors that

affect them. According to the 5FPI findings, the "self-control/conscientiousness factor" score was the highest. Considering these data at the sub-dimensional level, it can be proposed that this type of manager nurses liked to work regularly and in an organized way. They were attentive to details and showed the maximum effort to do their best. However, they did not like taking risks. They preferred an organized work life. They were cautious, abided by the rules, and gave importance to traditional values. Others perceived them as trustworthy people.<sup>[18]</sup>

Manager nurses received the lowest mean score in the "neuroticism" factor. This finding indicated that they had a balanced, consistent, and resistant emotional structure. The scholarly literature claims that persons with these characteristics could find effective ways to cope with their problems, they did not get anxious easily, and they took responsibility for their actions.<sup>[18]</sup> For the manager nurses in our sample, this is an extremely positive combination of qualities through which managers could maintain their emotional balance. In Tozkoparan's (2013)<sup>[22]</sup> study, which was carried out with 370 managers, and in Yıldızoğlu and Burgaz's study (2014)<sup>[23]</sup> on school administrators, the lowest scores were found in the neuroticism factor. Considering the personal characteristics of the participating



**Table 5. Comparison of manager nurses' professional characteristics and their Mean Factor Scores in the 5FPI (n=900)**

	Extraversion	Agreeableness/ Compatibility	Self-control/ conscientiousness	Neuroticism	Openness to experience
<b>Affiliated institution*</b>					
State hospital (n=557)	3.49±0.44	4.08±0.40	4.23±0.34	2.07±0.54	4.04±0.35
University hospital (n=190)	3.46±0.44	4.09±0.40	4.18±0.33	2.13±0.52	4.05±0.38
Private hospital (n=153)	3.56±0.38	4.02±0.40	4.18±0.36	2.01±0.50	4.07±0.39
p	0.04	0.31	0.10	0.07	0.62
F	3.19	1.17	2.25	2.54	0.47
<b>Professional experience*</b>					
1–10 years (n=193)	3.50±0.40	3.93±0.43	4.08±0.38	2.16±0.51	4.02±0.37
11–20 years (n=425)	3.46±0.45	4.04±0.39	4.21±0.33	2.08±0.54	4.00±0.38
≤21 years (n=282)	3.55±0.42	4.18±0.36	4.32±0.31	2.17±0.51	4.14±0.32
p	0.03	0.00	0.00	0.02	0.00
F	3.51	25.24	28.44	6.16	12.76
<b>Institutional experience*</b>					
1–10 years (n=508)	3.49±0.44	4.02±0.41	4.18±0.36	2.07±0.53	4.03±0.38
11–20 years (n=283)	3.50±0.44	4.08±0.39	4.23±0.33	2.07±0.52	4.05±0.36
≤21 years (n=109)	3.53±0.39	4.19±0.34	4.36±0.29	2.08±0.56	4.13±0.30
p	0.68	0.00	0.00	0.90	0.02
F	0.37	9.27	12.66	0.10	3.73
<b>Institutional duty*</b>					
Top- level manager (n=79)	3.48±0.44	4.05±0.41	4.20±0.35	2.09±0.53	4.02±0.36
Middle level manager (n=11)	3.54±0.41	4.09±0.41	4.24±0.31	2.01±0.52	4.07±0.37
Low level manager (n=702)	3.59±0.36	4.14±0.31	4.28±0.34	2.10±0.51	4.21±0.34
p	0.49	0.139	0.124	0.003	0.000
F	3.02	1.98	2.09	5.94	9.75
<b>Unit worked*</b>					
General services (n=411)	3.52±0.42	4.07±0.40	4.22±0.35	2.06±0.51	4.05±0.36
Critical units (n=291)	3.42±0.46	4.01±0.42	4.18±0.35	2.14±0.54	3.98±0.36
Management (n=198)	3.56±0.39	4.11±0.37	4.26±0.32	2.18±0.52	4.13±0.36
p	0.00	0.02	0.04	0.00	0.00s
F	4.46	3.95	3.20	6.50	10.03
<b>Managerial experience**</b>					
1–10 (n=759)	3.49±0.44	4.06±0.41	4.20±0.36	2.08±0.52	4.04±0.37
≤11 (n=141)	3.56±0.40	4.09±0.39	4.29±0.28	2.01±0.54	4.10±0.34
p	0.04	0.37	0.00	0.17	0.06
t	-1.92	-0.87	-2.99	1.37	-1.87
<b>Training on management**</b>					
Yes (n=284)	3.56±0.40	4.05±0.41	4.18±0.37	2.04±0.59	4.12±0.36
No (n=616)	3.47±0.44	4.07±0.40	4.23±0.33	2.08±0.50	4.01±0.36
p	0.006	0.606	0.116	0.092	0.000

Significance level  $p < 0.05$ ; \*F: One-way variance analysis result; \*\*t: Independent Sample t-test result.

manager nurses, most of them were in the 36–45 years age group, female, married, and had undergraduate degrees (Table 1). This finding is like the data obtained in other studies on nurses' personal characteristics in terms of age, gender, and marital status.<sup>[24–26]</sup> In the scholarly literature on managers outside nursing services (such as school administrators, company managers, and hotel managers), most of the samples were of

male managers.<sup>[27–30]</sup> It is striking that after the revision of nursing law, which allowed men to enter the nursing profession in 2007, men began to take roles in nursing management at a rate of 7.3%.<sup>[31]</sup> The scholarly literature on nurses indicated that nurses' educational level constituted a wide array from high school to two-year degrees and to an undergraduate degree.<sup>[24–26,32,33]</sup> In our study, nurses' educational level was high at the

undergraduate level. Considering the years in which we carried out this study, we believe that this finding stemmed from the fact that nurses, who graduated from medical vocational high schools completed two-year programs through distance education programs, and later upgraded to the undergraduate degree through the undergraduate completion program.

Most of the participant manager nurses had 11–20 years of professional experience. They had been working in the same institution less than 10 years. While most of them reported having less than 10 years of managerial experience, it was observed that most of the participants did not receive any education or training on management. Like our findings, the scholarly literature determined that manager nurses had 11–20 years of professional experience and less than 10 years of managerial experience.<sup>[24–26,34]</sup> In the study by Çakmakçı and Vatan (2003),<sup>[32]</sup> although manager nurses' professional experiences were considered sufficient, they were less experienced in management. In contrast to our findings, studies by Öztürk et al. (2009)<sup>[26]</sup> and Yılmaz and Öztürk (2011)<sup>[34]</sup> highlighted that manager nurses received the necessary training on management. Argon and Yürekli (1992)<sup>[33]</sup> found that most of the head nurses had insufficient professional experience. Those researchers observed that head nurses were appointed to their position after a short professional experience. In addition, these nurses did not receive any training other than the management class they took in medical vocational high school. They found that one-quarter of the head nurses did not receive any management training at all. The study by Terzioğlu (2006)<sup>[35]</sup> corroborated our findings and reported that most of the manager nurses did not receive any management training. The relevant scholarly literature consists of studies that focus on private, university, and state hospitals in a single city or studies with a sample that represents a single institution. We believe that those studies' finding on high rates of management training might have stemmed from their limited samples. Our study included 900 manager nurses working in different institutions in the entire Marmara region. Therefore, our finding that manager nurses did not receive education or training is especially important.

Comparing manager nurses' age groups with their mean scores in the 5FPI, a significant difference was detected between the factors of agreeableness/compatibility and self-control. This difference paralleled the manager nurses' ages. It could be argued that as manager nurses got older, their learned and adopted attitudes and behaviors became more consistent. Older individuals begin to prefer a more regular and a quieter work life; as manager nurses got older, they adopted a regular and organized work method. They tended toward working in harmony and cooperation without taking any risks by displaying cautious behaviors, abiding by the rules, giving importance to traditional values, and inspiring trust in their employees. Demir's (2012)<sup>[36]</sup> study wherein the 5FPI was administered to 388 people found a significant difference between the sub-dimensions of self-control/conscientiousness and openness to experience.

In the comparison of genders in the independent variables group and the mean factor score in the 5FPI, statistically significant differences were found between the factors of extraversion, agreeableness/compatibility, and self-control/conscientiousness. The female manager nurses in the present study cohort were more tolerant, sensitive, and gentler than the men, perhaps because women enjoy being together with other people and playing active roles in interpersonal relationships. We believe that women had higher mean scores than men due to their personal characteristics, which are more forgiving, agreeable, open to cooperation, helpful, and inspired more trust in their employees than did the male manager nurses.<sup>[37]</sup> Like our findings, the Demir<sup>[36]</sup> 2012 study found that female university employees who were agreeable, conscientious, and open to experience had higher mean scores than male employees.

When manager nurses' marital status was compared with the mean factor scores in the 5FPI, a statistically significant difference was found in the factors of agreeableness/compatibility and self-control/conscientiousness. Married participants had higher mean scores, which could be related to the binding relationships they have with their partners or children, and to their lives built around responsibilities. Different from our study, Demir's (2012)<sup>[36]</sup> study of university employees indicated that single employees who were more open to experience had higher mean scores than married employees.

Comparing manager nurses' educational level and their mean factor scores in the 5FPI, there were significant differences in the dimensions of extraversion and self-control/conscientiousness. Nurses' mean scores rose in line with their educational level. We believe that increasing their educational level enhanced nurses' self-confidence, their ability to make decisions more freely and comfortably, and made them more sociable and investigative. Collins and Henderson (1991)<sup>[38]</sup> found that as nurses' educational levels increased, their autonomy levels also increased. In contrast, in the research sample of Demir (2012),<sup>[36]</sup> there was no statistically significant difference between the variable of educational level and the factor mean score in the 5FPI.

The comparison of manager nurses' affiliated institutions and their mean factor scores in the 5FPI did not yield any statistically significant difference in the extraversion factor. The highest mean score was seen in private hospitals, followed by university and state hospitals. Manager nurses working in private hospitals were supported more than manager nurses working in other institutions. Therefore, they could act more independently, and they were more confident in management. These manager nurses working in private hospitals were more sociable and competitive, because each nursing service, initiative, or research carried out by manager nurses or their employees contributed to making the institution's services better, which in turn motivated and encouraged them to be more enthusiastic, happier, and more energetic.

There were significant differences in all sub-dimensions when manager nurses' professional experience and their mean fac-

tor scores in the 5FPI were compared. There was an increase in the mean scores along with increasing professional experience. Communicating with more people both in business and social relationships, gaining experience in interpersonal communication, making decisions independently, and the support received from their work units for these decisions may have resulted in an increase in self-confidence and formation of a more independent personality structure. The study by Demir (2012)<sup>[36]</sup> reported that university employees who had worked more than 5 years had higher mean scores in self-control than those who had worked for 5 years or less.

When the institutional experience of manager nurses was compared with their mean factor score in the 5FPI, there were statistically significant differences in the factors of agreeableness/compatibility, self-control/conscientiousness, and openness to experience. Growing institutional experience changed manager nurses' perception of the institution's vision, institutional commitment, and their perception of institutional culture. We believe that this situation made manager nurses more compatible and unprejudiced, more organized, committed to the authority, trustworthy and cooperative.

Comparing manager nurses' managerial experiences with their mean factor scores in the 5FPI, a significant difference was detected in the factors of neuroticism and openness to experience. Neuroticism scores increased in line with advancing position in management. Low-level manager nurses, who are responsible for both patient care and administrative duties, have more stressful work conditions than middle and top-level manager nurses have. They are in communication with all kinds of people, from nurses to doctors and with patients, patient relatives, and other health personnel. We believe that these factors made low-level manager nurses more powerful and resistant and guided them to cope with problems better and to focus on their jobs with more self-confidence. Being open to experience signified that these nurses can adapt to the changes in their work units easily, they were investigative people, and they were able to create a mindful and discerning work environment by sharing ideas with their employees. Whereas top-level manager nurses were expected to have higher mean scores than middle and lower-level manager nurses, it was observed that there was still a traditional management style, where top-level manager nurses were selected by the chief physician without considering the status of training and experience.

Manager nurses' work units and the mean factor scores in the 5FPI were compared; statistical significance was found in all factors. Manager nurses working at critical units such as the intensive care unit, emergency, delivery room, and organ transplantation had the lowest mean scores in the factors of extraversion, agreeableness, self-control/conscientiousness, and openness to experience, whereas the mean score for neuroticism was the highest. We believe that this finding reflected on the fact that these manager nurses worked with more complicated materials, machines, and under more demand-

ing work conditions where they provided services for a more difficult patient group. This situation could have resulted in more frequent mood swings in these manager nurses.

When manager nurses' managerial experiences were compared with their mean factor scores in the 5FPI, statistically significant differences were observed in the factors of extraversion and self-control/conscientiousness. Increasing managerial experience endowed manager nurses with better command of their field. Therefore, they carried out their duties without any hesitation, communicated with their employees better, influenced their employees, worked in a more meticulous and organized way, became committed to the authority, and carried out their duties properly. We believe that this type of manager is preferred more by top-level managers.

Comparing manager nurses' status of being trained on management and their mean factor scores in the 5FPI, statistically significant differences were detected in the factors of extraversion and openness to experience. Features of leadership, which are conveyed in management training, include subjects such as showing attention to people, being tolerant modest, being able to make right and courageous decisions in adverse situations, not panicking, keeping up with changes, being able to change things when necessary, using time efficiently, volunteering to learn new things and share these with others, and practicing good communication skills. These characteristics are also the components of the factors of extraversion and openness to experience.<sup>[39]</sup> We believe that management trainings were influential in bringing these characteristics into light in our study participants who received these trainings, and these trainings were reflected in the mean scores in a positive way. In the scholarly literature, there was at the time of our study no domestic or international publication on manager nurses' personality characteristics. However, in studies carried out with managers in different sectors, there were no significant differences between managers' professional and personality characteristics.<sup>[40,41]</sup>

### Research Limitations

1. Our data encompasses only the managers who were on duty at the time when we carried out this research. Because such duties are never permanent, our study findings reflect the personality characteristics of this group at a given time. Therefore, the data cannot be generalized without further investigation in different areas.
2. Because the scholarly literature on manager nurses' five-factor personality characteristics is narrow and outdated, the Discussion section of this paper is limited to the present researchers' observations and experiences.

### Conclusion

This study was carried out to determine manager nurses' personality characteristics, as well as the personal and professional characteristics that affect them. Findings of this study



indicated that manager nurses received the highest mean score in the 5FPI in the factor of "self-control/conscientiousness", and the lowest from the factor of "neuroticism". There were statistically significant differences between manager nurses' personality and professional characteristics.

In Turkey, manager nurses are appointed based on the chief physician's views. Under this strategy, variables such as personality characteristics, education, and experience, which may influence managers' success in nursing services, are disregarded. For this reason, we believe that the five-factor personality inventory should be used in the selection and placement of manager nurses. The scholarly literature shows that the five-factor model has been useful in measuring diverse behavioral dimensions such as job satisfaction, career satisfaction, motivation, evading work, quitting a job, team work, organizational commitment, job performance, creativity, and coping with stress.<sup>[41]</sup>

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