



The effects of education and training on self-esteem of nurse leaders

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ABSTRACT

Introduction: A successful leader must have high self-esteem. The main aims of this study were to identify changes in the self-esteem of nurse leaders in Slovenia from 2001 to 2011 and to determine homogeneous groups of leaders with similar personal characteristics.

Methods: The study used a version of a personal characteristics questionnaire with 16 self-descriptive statements. Two surveys were conducted among nurse leaders in Slovenian public hospitals, one in 2001 and the other in 2011. Relationships between variables were analysed using chi-square tests for categorical variables and the one-way analysis of variance for quantifiable variables. Factor analysis was used to determine groups of leaders with similar personal characteristics.

Results: A total of 327 nurse leaders participated in the survey in 2001 and 296 filled in questionnaires in 2011. The analysis showed that the level of self-assessment of personal characteristics among nurse leaders in Slovenian public hospitals was significantly higher in 2011 than in 2001, and that differences among individual leaders decreased in most areas. Based on the assessments of personal characteristics, four groups of nurse leaders were established: task-oriented, knowledge and creativity oriented, relationship oriented and extroverted nurse leaders. In the 2011 data, the groups of personal characteristics were much more clearly defined. These groups were established in accordance with leadership theory and research from other fields.

Conclusions: The positive effects of better education and training are visible in nurse leaders in terms of both their higher self-esteem and in the establishment of more homogeneous groups of leaders.

Keywords: education; nursing; leadership; self-esteem; Slovenia

INTRODUCTION

Only a leader with high self-esteem can be a good leader as high self-esteem is the foundation on which

he or she builds positive relationships with colleagues and superiors and is able to influence them. The leaders who are capable of appropriately motivating their co-workers to achieve targets are key elements of the excellence, efficiency and effectiveness of every organization (1-3). Increasing attention is therefore being paid to leadership in nursing (4).

Leadership styles have significantly changed over the past 25 years, and nurse leaders must also adapt

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accordingly. The autocratic style of leadership, which prevailed in nursing in the past, needs to be replaced with more democratic leadership styles: transformational, sharing, authentic, servant, etc. (5,6). In addition to high integrity, all these leadership styles call for leaders with high self-esteem as only such leaders are capable of sharing leadership with their subordinates and patients. Because only secure leaders, which have a strong sense of self-worth are able to give themselves away (7).

Defining self-esteem is beyond the scope of this article. Our study used the concept of self-esteem in its broadest sense: 'Positive self-concept can be equated with a positive self-evaluation, self-respect, self-esteem, self-acceptance, while a negative self-concept becomes synonymous with a negative self-evaluation, self-hatred, inferiority and a lack of feelings of personal worthiness and self-acceptance' (8). In this way, concepts like 'self-concept', 'self-perception', 'self-attitude' and 'self-esteem' become synonymous and, if considered attitudes toward self, can be seen to exist on a positive—negative continuum, or scale (9).

Leaders with low self-esteem who doubt their abilities, knowledge and views do not get respect and appreciation and are not satisfied with themselves (10). Insecure leaders are dangerous – to themselves, their followers, and the organizations they lead – because a leadership position amplifies personal flaws (11). If a leader cannot rely on his or her own abilities, he or she will doubt others' abilities, and in turn cause mistrust in them as well (12).

Individuals' self-esteem is shaped gradually through their psychological development and interaction with their environment from early childhood, through adolescence and maturity (13). An individual's self-esteem is the basis for the development of professional self-confidence and the two influence each other throughout one's professional career (14). Therefore, the creation of a professional group of self-confident and balanced leaders is a process influenced by many factors the results of which only become apparent over a longer period of time. However, appropriate education and training are key factors in this process.

The development of professions has been most pronounced within the health care system (15). An

important characteristic of professionalism is the integrity of systematic and generalized knowledge which must be used by professionals to solve different problems (16,17). The basis for the nursing profession and nurses' knowledge is a good educational system that must be supplemented with continuing education following graduation and should be provided by professional associations and health care organisations (18). The significance of continuing education and development after graduation has been emphasized since the beginning of the nursing profession (19), including among others, within international nursing organisations (20).

The health care system in Slovenia employs 16.783 nurses, or 36.6% of all employees in health care (21). The field of education in nursing in Slovenia has changed significantly since 2000. In 2000 Slovenia had two nursing colleges with 974 students, while in 2010 there were three faculties and three nursing colleges with 2.435 students (bachelor of science in nursing, master of nursing) (21,22). The higher number of colleges and faculties also resulted in an increased scope of research into leadership in nursing.

Leadership training programmes within professional organisations have also undergone significant changes resulting in a greater awareness of the importance of good leadership. In 2000, the Professional Group of Nurses in Management was established as part of the Nurses and Midwives Association of Slovenia (23). Its aim is to provide nursing leaders with modern knowledge, attitudes and skills relating to the management of organisations and human resources. Nurse leaders now have more opportunities to meet and exchange leadership experiences and ideas. Such meetings are intended both for training and for shaping and reinforcing their professional self-confidence and the homogeneity of their professional group.

These changes will undoubtedly lead to significant improvement in leaders' self-esteem. We were interested in (research questions):

- whether there were significant changes in the self-assessment of personal characteristics between 2001 and 2011 that would indicate changes in leaders' self-esteem?

- whether it was possible to determine homogeneous groups of leaders with similar characteristics based on self-assessments of personal characteristics?

METHODS

Study design

This study was part of a larger research project entitled ‘Leaders in Nursing’ conducted between the autumn of 2010 and the spring of 2011. The authors of the study had previously obtained approval from the Management Board of the Nurses and Midwives Association of Slovenia and the managements of individual hospitals. The survey was conducted at the 15 largest Slovenian public hospitals: two university medical centers, six general hospitals, and seven specialized hospitals. These institutions employ 87% of all hospital nurses in Slovenia. The participating institutions employ 526 nurse leaders, 296 of whom (56% the sample) answered the questionnaire (Table 1).

A comparative study (13) entitled ‘Nurses in Slovenia’ was conducted on a representative sample of nurses in 2001. A sample of 2,450 nurses in Slovenia was established based on the National Register of Nurses and Midwives. A total of 1,067 nurses (44% of the sample) participated in the survey. A secondary data analysis was used to include in Sample 2 only 327 nurse leaders who were employed in public hospitals in 2001.

Statistically significant differences between the samples were recorded at the leadership level ($\chi^2=7.32$, $p=0.039$). The larger share of team leaders in the 2011 sample was the consequence of a reorganisation of nursing care in hospitals aimed at increasing the importance of team work.

The greatest changes in the population of nurses in Slovenia occurred in the area of formal education. The difference is even more pronounced in the group of nurse leaders, which is also reflected in the sample (statistically significant differences at $\chi^2=287.0$, $p=0.0001$). In 2001, 17.5 % of nurse leaders had at least a university education, while in 2011 their share rose to 85.2%.

In terms of gender ($\chi^2=0.22$; $p=0.638$) and age ($\chi^2=3.1$, $p=0.379$), there were no statistically significant differences between the samples.

TABLE 1. Demographic data on the sample of nurse leaders

	Sample 1 – nurse leaders in 2011		Sample 2 – nurse leaders in 2001	
	Number	%	Number	%
Leadership level				
Head nurse and heads of departments	19	6.4	30	9.2
Ward head nurses and nurses supervising several teams	111	37.5	149	45.6
Team leader nurse	166	56.1	148	45.3
Gender				
Female	273	92.2	302	92.4
Male	23	7.8	22	6.7
N/A	0	0.0	3	0.9
Education				
Secondary school	6	2.0	95	29.1
Professional college degree	38	12.8	172	52.6
University degree	216	73.0	45	13.8
Specialisation, master's degree, doctorate	36	12.2	12	3.7
N/A	0	0.0	3	0.9
Age				
Under 30	40	13.5	60	18.3
30 to 40	93	31.4	102	31.2
41 to 50	101	34.1	110	33.6
Over 50	59	19.9	55	16.8
N/A	3	1.0	0	0.0
Total	296	100.0	327	100.0

Measurement instrument

To enable direct comparison, in 2011 the study used the same group of statements that were used in 2001 and other studies of the population of nurses in Slovenia (13, 24). The study focused on personal characteristics relating to:

- leaders’ self-image (self-satisfaction and personal-self (25), personal self-esteem (26), self-image and self-values (27), self-mastery (28), agreeableness/neuroticism/conscientiousness (29,30) – item number 1-9 (Table 2),
- leaders’ opinion about their relationships with others: social self (25), social self-esteem (26), interpersonal values (27), people skills (28), extraversion/openness (29, 30) – item number 10-16 (Table 2).

TABLE 2. Comparison of assessment results between years and groups of nurse leaders

Item no.	To what degree, in your opinion, are you...	Mean		Std. deviation		Index - mean (2001=100)	Index - std. deviation (2001=100)	Differences between groups according to the F-test (ANOVA)			
		Year		Year				Leadership level	Education	Age	Gender
		2011	2001	2011	2001						
A	B	C	D	E	F	G	H	I	J	K	L
1	Reliable	2.92	2.80	0.26	0.41	104.3	64.1				
2	Diligent	2.83	2.56	0.40	0.53	110.5	76.0				**
3	Responsible	2.94	2.82	0.24	0.39	104.1	61.8				**
4	Practical	2.83	2.58	0.39	0.53	109.5	72.9	*	*		
5	Independent	2.83	2.62	0.38	0.50	108.1	75.6				**
6	Intelligent	2.47	2.15	0.51	0.39	114.8	130.0				
7	Educated	2.40	2.13	0.49	0.37	112.9	132.0	*/**	*		**
8	Reasonable	2.81	2.57	0.39	0.51	109.3	77.7				
9	Creative	2.58	2.25	0.50	0.49	114.9	101.5				
10	Understanding	2.82	2.68	0.39	0.48	105.0	80.6	*			
11	Sociable	2.57	2.34	0.52	0.55	109.6	94.1				**
12	Willing to put your ideas into practice	2.40	2.11	0.50	0.53	113.7	95.2				
13	Interested in social issues	2.49	2.15	0.53	0.55	115.7	97.7		**	*/**	
14	Critical	2.64	2.52	0.49	0.55	105.1	90.1			*	
15	Articulate	2.43	2.16	0.51	0.50	112.4	101.2			*	
16	Interested in new fields of study	2.62	2.43	0.52	0.59	107.8	88.3		*		

* - Year 2011: difference between groups is significant at p<0.05. ** - Year 2001: difference between groups is significant at p<0.05

The study used a version of a personal characteristics questionnaire with 16 self-descriptive statements (Table 2). The statements were formulated so that they expressed positive self-esteem. The respondents used a three-grade scale to answer the following question: "To what degree, in your opinion, are you..." (1 - Not at all, 2 - Moderately, 3 - Very).

Statistical analysis

The data was analysed using SPSS 19.0. Descriptive statistics were used to describe the sample. Internal consistency was examined using the Cronbach's alpha. Factor analysis was used to determine groups of leaders with similar personal characteristics. In the factor analysis, principal component analysis with varimax rotations was used to examine which factors of the scale comprised coherent groups of items (31,32). The Kaiser-Meyer-Olkin (KMO) test and Bartlett's test of sphericity was applied to measure sampling adequacy (33). Relationships between variables were analysed using chi-square

tests for categorical variables and the one-way analysis of variance for quantifiable variables (ANOVA). A significance level of alpha = 0.05 was used for all statistical tests.

Reliability and validity of measurement instrument

First, we verified the degree of reliability of the measurement instrument. Cronbach's Alpha was 0.79 in 2011 and 0.81 in 2001. The value indicated a high level of reliability of the measuring instrument. A similar degree of reliability was produced by the questionnaire in studies on nursing students and nurses conducted in previous years (13,24).

Factor Analysis was applied to determine the construct validity of the measurement instrument. The KMO measure of sampling adequacy was 0.822 in 2001 and 0.793 in 2011 and indicated that factor analysis was appropriate. Bartlett's test was significant (p-value less than 0.005). This indicates good construct validity.

Ethical consideration

The study was approved by the Honorary Court of Arbitration of the Nurses and Midwives Association of Slovenia. Participants were assured that there was no risk from participating in the study and that their responses would be treated confidentially.

RESULTS

Changes in the self-esteem of nurse leaders

The average ratings of the detected personal characteristics increased in 2011 as compared to 2001 in all areas (Table 2). Nurse leaders in 2011 were significantly more interested in social issues, and they saw themselves as more creative and intelligent and more willing to put their ideas into practice. The results of the analysis clearly show that the self-esteem of the observed leaders increased significantly.

The order of importance of individual personal characteristics did not change in any significant way. Most nurse leaders in both years believed they were responsible, reliable and, at least, sufficiently educated and willing to put their ideas into practice.

A comparison of standard deviations in 2001 and 2011 shows in which areas the differences between nurse leaders increased and in which they decreased. The variability of assessment results decreased, which indicates a higher homogeneity of the observed group. The greatest decreases were recorded in the areas of responsibility (38.2%) and reliability (35.9%) (Colum H in Table 2). Differences between the results of the self-assessments of personal characteristics among nurse leaders increased in the areas of education (32.0 %) and intelligence (30.0%).

We examined whether the self-assessments of personal characteristics had been influenced by the level of leadership, gender, education or age. Statistically significant differences were evident in the following areas (year 2011):

- Nurse leaders at the highest leadership levels said they were more practical and educated, but less understanding.
- Nurse leaders with the highest education said they were more educated, practical and more

interested in new areas of work, but less interested in social issues.

- Older nurse leaders assessed they were more critical and more interested in social issues, but less articulate.
- No differences between genders were apparent in any of the areas.

The differences between the genders were greater in 2001: the women said they were more educated, responsible and diligent, but less independent and sociable than men.

Statistically significant differences between the results of the self-assessments of personal characteristics between groups defined according to the level of leadership, gender, education and age were evident only in a small number of areas. Therefore, differences between these groups cannot be seen as the reason for such a pronounced increase in self-esteem between 2001 and 2011.

Homogeneous groups of nurse leaders with similar characteristics

By using factor analysis we were able to define groups of personal characteristics, and each of these groups was characteristic of one of the groups of nurse leaders. The Principal Component Analysis (PCA) method was applied to the extraction of components. According to Kaiser criterion, only the factors that have eigenvalues greater than one are retained. Four factors were extracted that accounted for 49.5% (2011) and 50.4% (2001) of total variability. Varimax rotation was applied in order to optimize the loading factor of each item on the extracted components.

In the 2011 data, we defined four groups of nurse leaders. The first group comprised leaders who believed they were reliable, responsible, practical and independent. This group was oriented towards the management of tasks, work, procedures, but less so towards the leadership of people. They are believed to be conscientious and precise.

The second group comprised leaders who believed they were intelligent, educated, creative and reasonable. These leaders are defined by knowledge, on which they also base their actions. They are supposed to be characteristically self-restrained and emotionally stable.

The third group comprised leaders who believed they were understanding and sociable. Their primary leadership style is people-oriented and inclusive. They are open and kind to people around them. Their actions are defined by empathy.

The fourth group comprised leaders who were willing to put their ideas into practice, interested in social issues and critical, as well as interested in new areas of work and articulate. Leaders in this group are characteristically outward-oriented and tend to shape and influence relationships with other people. Their actions are supposedly defined by their extroverted nature.

The results of the factor analysis for 2001 data paint a slightly different picture (Table 3). Here, four factors stand out as well. The first factor, which could arguably be linked to extraverted nature and intelligence, clearly stands out. The groups of characteristics defined on the basis of the remaining factors would be difficult to relate to the personal characteristics of a leader. In the 2011 data, the groups of characteristics were much more clearly defined and in accordance with the theory of leadership in other fields.

DISCUSSION

The analysis shows that the self-assessments of personal characteristics, on the basis of which the self-esteem of a group of nurse leaders was evaluated, improved between 2001 and 2011 (first research question). In both observed periods (2001 and 2011) the highest ratings were assigned to personal characteristics related to the nature of work in nursing (reliability and responsibility). Other research also shows personal characteristics related to work be the most important for workers in nursing care (34,35).

The greatest increase was recorded in characteristics indicating leaders' high self-esteem: the share of nurse leaders who believed they were intelligent, creative and interested in social issues increased from 2001 to 2011. Differences between assessment results were smaller than in 2001. This is indicative of the creation of a more homogenous and successful group of leaders as a solid and realistic self-image is one of the key characteristics of a good leader (36). Professional identity, which is shaped by the educational process (37) can only be preserved through appropriate organized continuing

TABLE 3. Rotated component matrix

To what degree, in your opinion, are you...	Component – 2011 ^a				Component – 2001 ^a			
	1	2	3	4	1	2	3	4
Reliable	0.74							0.55
Diligent	0.63					0.74		
Responsible	0.61							0.58
Practical	0.56				0.40			
Independent	0.55						0.48	
Intelligent		0.84			0.63			
Educated		0.77			0.46			
Reasonable		0.38				0.49		
Creative		0.37			0.61			
Understanding			0.71			0.64		
Sociable			0.64				0.74	
Willing to put your ideas into practice				0.70	0.70			
Interested in social issues				0.58	0.51			
Critical				0.50				0.76
Interested in new fields of study				0.44	0.55			
Articulate				0.41			0.75	
Total variance explained		49.5%				50.4%		
Cronbach's Alpha		0.79				0.81		

^aExtraction Method: Principal Component Analysis; Rotation Method: Varimax with Kaiser Normalization

education programs (38). A nurse's career path from graduation to the highest leadership position takes 10-15 years (39). The positive dimensions of improved self-esteem and better training and education will only start to show results after a few years, which needs to be confirmed through additional research.

By using the factor analysis of the 2011 data, we defined four groups of nurse leaders with similar personal characteristics (second research question). The data shows three groups that are most often defined as positive for leadership in the Big Five model (10,40,41): extraversion (fourth factor), conscientiousness (first factor) and openness (third factor). Other studies also confirm that those factors are most directly linked to leadership (29,30,40).

The main limitation of our study was that it included only nurse leaders in hospitals. Therefore, a similar method should be employed to study the self-esteem of all nurses and compare it to that of nurse leaders. Furthermore, the study does not answer the question whether the higher self-esteem of leaders resulted in better leadership in health care. Studies in other areas show that high self-esteem has a positive impact on the quality of leadership, but there are many other factors influencing leadership (10,11).

CONCLUSIONS

Our analysis shows that in the period between the two studies (2001 and 2011) a group of leaders with high self-esteem was formed within the nursing profession in Slovenia. This was undoubtedly partly due to the activities of professional associations and the expansion of the network of colleges and faculties. There were 3,209 nurses with a university degree, specialisation and masters' or doctoral degrees in Slovenia in 2001 compared to 5,576 in 2011 (21,22). Since 2005, increasing numbers of nurses have been coming out of faculties with a university education and are gradually assuming important leadership positions in health care organisations. Better support from professional organisations, leadership and management oriented training and higher formal education have all contributed to the higher self-esteem of nurse leaders. Clearly, the key part of responsibility now falls on health care organisations, which need to ensure that this

potential is realised in the form of a higher quality of nursing care.

COMPETING INTERESTS

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