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ΕΡΕΥΝΗΤΙΚΗ ΕΡΓΑΣΙΑ

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Emotional intelligence, self-esteem and transformational leadership in nurses in Cyprus

OBJECTIVE **To explore the relationship between transformational leadership, self-esteem and emotional intelligence of nurses who work in the public hospitals in Cyprus, and to identify possible predictors of the transformational leadership style.** METHOD **The study population consisted of 1,093 nurses (permanent and non-permanent staff) working in the state hospitals in Nicosia, Larnaca, Limassol, Paphos and Paralimni in Cyprus. Socio-demographic data on the participants were recorded, and they completed three questionnaires: the Wong and Law Emotional Intelligence Scale, the Transformational Leadership Scale and the Rosenberg Self-esteem Scale.** RESULTS **The mean age of the participants was 37.1 years and 67.3% were females. The mean transformational leadership score was 3.47; the mean score for the factor "nursing director" was the lowest (3.27), and for the factor "appreciation" the highest (3.68). Transformational leadership was correlated with emotional intelligence and self-esteem, and emotional intelligence was correlated with self-esteem. On multiple regression analysis, higher emotional intelligence and self-esteem and greater age were shown to be associated with a higher transformational leadership score.** CONCLUSIONS **High emotional intelligence and self-esteem scores of nurses are associated with higher scores on the transformational leadership scale. Training of nursing staff in techniques for enhancing emotional intelligence and self-esteem could be a strategy to achieve transformational leadership style.**

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G. Frixou,[1]
G. Charalambous,[2,3]
P. Galanis,[4]
D. Kaitelidou,[4]
D. Sapountzi-Krepia[2]

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[1]General Hospital of Nicosia, Nicosia, Cyprus
[2]Frederick University, Nicosia, Cyprus
[3]Emergency Department, "Hippocratio" General Hospital, Athens, Greece
[4]Center for Health Services Management and Evaluation, Department of Nursing, National and Kapodistrian University of Athens, Athens, Greece

Συναισθηματική νοημοσύνη, αυτοεκτίμηση και μετασχηματική ηγεσία σε νοσηλευτές στην Κύπρο

Περίληψη στο τέλος του άρθρου

Key words

Cyprus
Emotional intelligence
Nurses
Self-esteem
Transformational leadership

Nursing leadership constitutes a powerful investment in the working environment of nurses, as it is a process though which a person influences other members of a team in an effort to reach a shared group goal. In a changing environment these abilities require focused training and the building of an inspirational working environment that takes into account the beliefs, values, attitudes and motivations of the nursing personnel.[1] Transformational leadership is a leadership style that comprises several idealized characteristics and attributes that are considered to be essential for developing a working environment that inspires trust, reliability, organizational commitment and shared governance, which are all considered important for effective unit administration.[2–4]

Transformational leadership has been linked with emotional intelligence, as effective leadership requires various characteristics in the leader, such as dynamism, self-confidence, inspiration and emotional intelligence.[5–8]

The content of nursing practice and management is related to emotional intelligence, as the understanding by nurses of patients' emotions is a prerequisite for the provision of high quality nursing care and decision making.[9–13] High emotional intelligence is also linked with higher job satisfaction of nurses as they manage more effectively their stress and daily conflicts in the work environment.[14–16] A nurse who is capable of understanding the emotions of others, and managing stress and negative feelings, is more able to develop better relation-

ships with colleagues and managers.[17] Such a person reports higher job satisfaction[18] and stronger commitment to the organization[16] and displays better professional performance.[17]

Emotional intelligence is a major predictor of effective transformational leadership, as these two entities share similar conceptual frameworks, based mainly on the role of the emotions.[19–22] In the management literature a correlation between emotional intelligence and transformational leadership is documented.[23–32]

Self-esteem is an "umbrella" trait that includes the self-image at both the cognitive and the behavioral level. Pierce and colleagues[33] have introduced the term "organization-based self-esteem" to describe the degree to which a person believes he(she) is capable, important and deserves to be member of an organization. The self-esteem of nurses is dependent on a supportive work environment.[34]

Emotional intelligence is recognized to be a predictor of transformational leadership in nurses, but it is important to explore other trait characteristics in nurses that may interfere with their perceptions of transformational leadership in their organizations.[32]

The aim of this study was to explore the relationship between transformational leadership, self-esteem and emotional intelligence in nurses who work in the state hospitals in Cyprus, and to identify possible predictors of the transformational leadership style.

MATERIAL AND METHOD

Study design

We conducted a cross-sectional study with a study population of 1,093 registered nurses who were working in the 5 state hospitals in Cyprus. As 1,200 questionnaires were distributed, this represented a response rate of 91%. Nurses who met the following inclusion criteria were selected on the basis of their availability: (a) Willingness to participate, (b) working in a state hospital, and (c) having at least one year of working experience. Nurses were given an explanation of the purpose and the aim of the study, and were informed of their right to withdraw from the study at any time. Written informed consent was obtained from those who agreed to participate and they were asked to complete the questionnaire.

Questionnaires

An anonymous, self-completed questionnaire was administered. The first part of the questionnaire included several questions on the socio-demographic characteristics of the participants, job placement, total working experience as a nurse and in which unit.

They were also asked whether working in that unit was their own choice or not.

The second part of the questionnaire included the Wong and Law Emotional Intelligence Scale (WLES), the Transformational Leadership Scale (TLS) and the Rosenberg Self-esteem scale (RS), all validated in the Greek language.[17]

The WLES[18] contains 16 questions grouped into four factors: self-emotion appraisal, other's emotional appraisal, regulation of emotion and use of emotion. The answers range on a scale from 1 (totally agree) to 7 (totally disagree). The higher the total score, the higher is the emotional intelligence.[18,35]

The TLS was developed by the Nursing Department of the University of Eastern Finland,[36,37] and has been validated for use in the Greek language by Sapountzi-Krepia and colleagues.[38] It consists of 48 questions covering 7 factors: Decision making (5 items), appreciation (4 items), development (7 items), fairness items (3 items), work efficiency and outcomes (10 items), empowerment (9 items), nursing director (11 items). The possible answers on each item range from 1 (strongly disagree) to 5 (strongly agree).

The RS is a widely used self-report scale for the assessment of self-esteem.[39] It contains 10 items that are answered using a 4-point Likert scale format ranging from strongly agree to strongly disagree. The total score ranges from 0 to 30, and a high score indicates high self-reported self-esteem.

In order to assure content and face validity, the questionnaires were given to three experts to comment on the content, the wording and the accuracy of the items. The final version of the questionnaire was then distributed to a pilot sample of 12 nurses for assessment of their degree of understanding.

Ethics

The study protocol was approved by the Cyprus Bioethics Committee (ΕΕΚΒ/ΕΠ/2015/37) and reviewed by the Republic of Cyprus Personal Data Commissioner and the Research Committee of the Republic of Cyprus Ministry of Health.

Statistical analysis

Continuous variables are presented as mean and standard deviation, and categorical variables are presented as numbers and percentages. The independent samples t-test was used to assess whether the means of two groups were statistically different from each other. Pearson's correlation coefficient was used to estimate the correlations between transformational leadership, self-esteem and emotional intelligence. Multivariate linear regression analysis was conducted to explore the predictors of transformational leadership scores, in which case, unadjusted coefficients beta, 95% confidence intervals and p-values were calculated. P-value <0.05 was considered to be statistically significant. Statistical analysis was performed using the Statistical Package for Social Sciences (SPSS), version 21.0 (IBM Corp released 2012; IBM SPSS Statistics for Windows, version 21.0. IBM Corp, Armonk, NY).

RESULTS

The socio-demographic characteristics of the participants are shown in table 1. The mean age of the participants was 37.1 years, and 67.3% were female. The majority were working as staff nurses, while 9.1% had a manager role. One in four reported a Master's degree as the highest level of education.

All the scales used demonstrated high internal consistency reliability: (a) For WLES the total Cronbach's alpha was 0.95 (alpha for subscales: 0.83–0.85), (b) for TLS the total

Table 1. Socio-demographic characteristics of registered nurses working in state hospitals in Cyprus (n=1,093).

Variable	n (%)
Gender	
Female	731 (67.3)
Male	362 (32.7)
Marital status	
Married	572 (52.5)
Single	380 (34.9)
Divorced	83 (7.6)
Cohabiting	53 (4.9)
Widow	2 (0.2)
Highest level of education	
MSc	255 (23.4)
PhD	2 (0.2)
Other postgraduate	14 (1.3)
Position	
Staff nurse	936 (85.9)
Staff nurse with a certified specialty	54 (5.0)
Supervisor	8 (0.7)
Head	83 (7.6)
Deputy matron	9 (0.8)
Staff situation	
Permanent	608 (55.6)
Temporary	485 (44.4)
Working in the unit	
Own choice	201 (22.3)
Not own choice	702 (77.7)
Mean age in years (standard deviation, SD)	37.1 (10.2)
Mean experience as nurses in years (SD)	13.1 (10.1)
Mean experience in the unit in years (SD)	10.2 (14.3)

MSc: Master of Science, PhD: Philosophy Doctorate, SD: Standard deviation

Cronbach's alpha was 0.99 (alpha for subscales: 0.94–0.99) and (c) for RS the total Cronbach's alpha was 0.80.

The relationships between the socio-demographic data and emotional intelligence, self-esteem and transformational leadership scores are shown in table 2. Females scored significantly higher than males in emotional intelligence, self-esteem and transformational leadership. The permanent staff scored higher in emotional intelligence and transformational leadership. The highest academic degree was not related to emotional intelligence or self-esteem, but those with a Bachelor's degree scored significantly higher on transformational leadership. A relationship was demonstrated between the working position and the scores on the three scales; the deputy matrons scored higher on emotional intelligence and transformational leadership, and the supervisors scored higher on self-esteem. The nurses who reported that their work in the current unit was their own decision scored significantly higher on transformational leadership. No difference was observed regarding emotional intelligence and self-esteem. Based on the median age, the participants were divided into two age groups. Those aged >33 years had higher mean scores on all three scales.

Transformational leadership was correlated with emotional intelligence (r=0.284, p<0.001) and self-esteem (r=0.226, p<0.001), and emotional intelligence was correlated with self-esteem (r=0.419, p<0.001).

The mean transformational leadership score was 3.47, while the mean score for the factor "nursing director" was the lowest (3.27) and the mean score for the factor "appreciation" was the highest (3.68). According to multiple regression analysis, higher emotional intelligence (b=0.3, 95% confidence interval [CI]: 0.25–0.38, p<0.001), higher self-esteem (b=0.035, 95% CI: 0.026–0.052, p<0.001) and greater age (b=0.3, 95% CI: 0.2–0.4, p<0.001) were associated with a higher score in transformational leadership. Being a deputy matron was shown to be a strong predictor of transformational leadership score (b=-0.15, 95% CI: -0.1 – -0.17, p<0.001).

DISCUSSION

The results of our study have added knowledge to the literature on nursing administration relating to the role of emotional intelligence and self-esteem in the perception of nurses about transformational leadership.

The study was conducted on a sample of 1,093 registered nurses from all the state hospitals of the Republic of

Table 2. Relationships between socio-demographic characteristics and emotional intelligence, self-esteem and transformational leadership scores in registered nurses working in state hospitals in Cyprus (n=1,093).

Variable	n	Emotional intelligence score	p-value*	n	Self-esteem score	p-value*	n	Transformational score	p-value*
Gender			<0.001			0.009			0.016
Female	717	6.04 (0.67)		703	21.54 (2.82)		708	3.52 (1.03)	
Male	354	5.75 (0.92)		344	20.49 (4.00)		348	3.35 (1.10)	
Staff situation			<0.001			0.198			<0.001
Permanent	583	21.78 (4.29)		596	5.98 (0.83)		593	3.60 (1.00)	
Temporary	471	20.81 (3.66)		482	5.92 (0.70)		470	3.31 (1.11)	
Academic degree			0.708			0.306			<0.001
Bachelor	809	5.95 (0.78)		790	21.27 (4.00)		800	3.55 (1.04)	
Postgraduate studies	267	5.93 (0.77)		262	21.56 (4.13)		261	3.24 (1.09)	
Position			<0.001			0.006			<0.001
Deputy matron	9	6.54 (0.52)		9	19.77 (1.92)		6	4.51 (0.67)	
Head	82	6.21 (0.50)		82	24.17 (4.53)		83	3.58 (0.79)	
Supervisor	6	6.47 (0.51)		5	25.00 (3.87)		8	3.59 (0.91)	
Staff nurse with a certified specialty	51	5.82 (0.80)		50	21.20 (3.63)		54	3.16 (0.92)	
Staff nurse	927	5.90 (0.78)		905	21.10 (3.93)		909	3.41 (1.06)	
Selection of the unit			0.141			0.618			0.004
Not own	692	5.93 (0.78)		679	21.31 (3.94)		682	3.40 (1.05)	
Own	196	5.83 (0.88)		192	21.48 (4.65)		199	3.64 (0.96)	
Age group			0.002			0.007			<0.001
<33 years	492	5.93 (0.66)		492	21.15 (3.78)		482	3.31 (1.11)	
>33 years	473	6.07 (0.76)		473	21.85 (4.88)		471	3.71 (0.99)	

* Independent samples t-test

Values are expressed as mean (standard deviation)

Cyprus, which is the largest reported to date in relevant studies, which ranged from 20 to 535 nurses. The characteristics of our sample are similar to those in other studies, the majority being females, holding a master's degree, and with many years of nursing and administration experience.[40–46]

The psychometric properties of the TLS were excellent, and higher than reported in earlier Greek studies,[38,47] and in other countries.[36,37,48] This is evidence of the stability of the scale across the various countries.

In our study the factor with the highest rating was "appreciation", which refers to how friendly the unit head is with the staff, and whether he(she) respects the rights of the staff and the appreciation of his(her) employees. Florentzou and colleagues[47] reported the same findings, in contrast to Sapountzi-Krepia and colleagues[38] in whose study the factor "fairness" was scored higher. The fact that

emotional intelligence correlated with transformational leadership in our study could explain our findings, given that the factor "appreciation" was correlated strongly with the total transformational leadership score. Emotional intelligence shares a link with many of the elements that comprise transformational leadership.[19]

The factor that was scored lowest was "nursing director", which describes the characteristics of the nursing director (power, reliability, understanding, motivation, strategic leadership, etc.). This finding is supported by other studies literature,[36,37,47,48] and underlines the need for reengineering of the role of nursing director in the state hospitals in Cyprus, placing emphasis on scientific and evidence-based leadership.

We demonstrated a positive correlation between transformational leadership and emotional intelligence and

self-esteem, and between emotional intelligence and self-esteem. These findings are in accordance with Ashraf,[50] who reported that self-esteem as the strongest predictor of transformational leadership, accounting for 51% of the variance in scores. In our study, emotional intelligence was the strongest predictor of transformational leadership, followed by self-esteem. Both the nursing literature[40–46] and the management literature[23–31,37,43,50] also document a strong correlation between emotional intelligence and transformational leadership. The nurses in our sample scored high on emotional intelligence, in accordance with the literature.[40,41,46]

Although the females had higher emotional intelligence, self-esteem and transformational leadership scores than the males,[51,52] gender was not a predictor of transformational leadership.[27,53]

Our study had several limitations. Firstly, the study population consisted only of nurses working in the public sector, and so the results may not represent the situation in the private sector. A convenience sample was used, and thus the results cannot be generalized. The study was cross-sectional, and causal relations between variables could not be established. Finally, self-completed questionnaires as source data in a study can always introduce information bias.

In conclusion, the findings of this study contribute to the in-depth understanding of the impact of emotional intelligence in nurses on the way they perceive the transformational leadership characteristics of their nursing managers. It is essential to develop continuing training programs on emotional intelligence and self-esteem for nurses and for nursing managers, as these are mediators of transformational leadership.

ΠΕΡΙΛΗΨΗ

Συναισθηματική νοημοσύνη, αυτοεκτίμηση και μετασχηματική ηγεσία σε νοσηλευτές στην Κύπρο

Γ. ΦΡΙΞΟΥ,[1] Γ. ΧΑΡΑΛΑΜΠΟΥΣ,[2,3] Π. ΓΑΛΑΝΗΣ,[4] Δ. ΚΑΪΤΕΛΙΔΟΥ,[4] Δ. ΣΑΠΟΥΝΤΖΗ-ΚΡΕΠΙΑ[2]

[1]Γενικό Νοσοκομείο Λευκωσίας, Λευκωσία, Κύπρος, [2]Πανεπιστήμιο Frederick, Λευκωσία, Κύπρος, [3]Τμήμα Επειγόντων Περιστατικών, Γενικό Νοσοκομείο Αθηνών «Ιπποκράτειο», Αθήνα, [4]Εργαστήριο Οργάνωσης και Αξιολόγησης Υπηρεσιών Υγείας, Τμήμα Νοσηλευτικής, Εθνικό και Καποδιστριακό Πανεπιστήμιο Αθηνών, Αθήνα

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ΣΚΟΠΟΣ Η διερεύνηση της σχέσης μεταξύ συναισθηματικής νοημοσύνης, αυτοεκτίμησης και μετασχηματικής ηγεσίας σε νοσηλευτές στην Κύπρο. Επί πλέον, διερευνήθηκαν πιθανοί προσδιοριστές του τρόπου της μετασχηματικής ηγεσίας. **ΥΛΙΚΟ-ΜΕΘΟΔΟΣ** Ο μελετώμενος πληθυσμός περιλάμβανε 1.093 νοσηλευτές (μόνιμοι και με συμβάσεις) που εργάζονταν σε δημόσια νοσοκομεία της Κύπρου (Λευκωσία, Λάρνακα, Λεμεσό, Πάφο, Παραλίμνι). Συλλέχθηκαν τα κοινωνικά και τα δημογραφικά χαρακτηριστικά των συμμετεχόντων. Επίσης, οι συμμετέχοντες συμπλήρωσαν τα ερωτηματολόγια "Wong and Law Emotional Intelligence Scale", "Transformational Leadership Scale" και "Rosenberg Self-esteem Scale". **ΑΠΟΤΕΛΕΣΜΑΤΑ** Η μέση ηλικία των συμμετεχόντων ήταν τα 37,1 έτη, ενώ το 67,3% του δείγματος ήταν γυναίκες. Η μετασχηματική ηγεσία σχετιζόταν με τη συναισθηματική νοημοσύνη και την αυτοεκτίμηση, ενώ η συναισθηματική νοημοσύνη σχετιζόταν με την αυτοεκτίμηση. Η μέση βαθμολογία μετασχηματικής ηγεσίας ήταν 3,47, ενώ η χαμηλότερη βαθμολογία ήταν στην κλίμακα «νοσηλευτική διεύθυνση» (3,27) και η υψηλότερη βαθμολογία ήταν στην κλίμακα «εκτίμηση» (3,68). Σύμφωνα με την πολυμεταβλητή παλινδρόμηση, η αύξηση της συναισθηματικής νοημοσύνης, της αυτοεκτίμησης και της ηλικίας σχετίζονται με αύξηση της μετασχηματικής ηγεσίας. **ΣΥΜΠΕΡΑΣΜΑΤΑ** Η αυξημένη συναισθηματική νοημοσύνη και η αυτοεκτίμηση σχετίζονται με αυξημένη μετασχηματική ηγεσία. Η εκπαίδευση του προσωπικού για αύξηση της συναισθηματικής νοημοσύνης και της αυτοεκτίμησης είναι στρατηγικής σημασίας όσον αφορά στην υιοθέτηση του τρόπου της μετασχηματικής ηγεσίας.

Λέξεις ευρετηρίου: Αυτοεκτίμηση, Κύπρος, Μετασχηματική ηγεσία, Νοσηλευτές, Συναισθηματική νοημοσύνη

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Corresponding author:

P. Galanis, 123 Papadiamantopoulou street, 115 27 Athens, Greece
e-mail: pegalan@nurs.uoa.gr