Relationship between Nurse Managers' Psychological Capital and their Ability to Create Healthy Work Environment as Perceived by Nurses

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Abstract: Background: nurse managers play a very important role in creating healthy environment for nurse's work. Nurse Managers may face a lot of challenges in this role, so their psychological capital should be considered. **Purpose:** To assess the relation between nurse managers' Psychological Capital (Psy Cap) and their ability to create a healthy work environment as perceived by nurses. **Methods:** A descriptive correlational research design was used. **Sampling:** A convenient sample of 70 nurse managers and 130 nurses were selected from Menoufia University Hospital at Shebin El-Kom. **Instruments:** Two data collection instruments were used. Instrument one: Psychological Capital Questionnaire (PCQ). Instrument two: Practice environment Scale (PES). **Results:** more half of nurse Managers (60%) had moderate level of psychological capital and (63%) of nurses perceived moderate favorable practice environment. **Conclusion:** There was a positive relation between nurse managers' psychological capital and nurses practice environment. **Recommendations:** This study can be applied in other setting on a larger number of nurse managers to assure the generalizability of results

Keywords: Psychological capital, Practice environment, Nurse Managers, Nurses.

Introduction

Nursing is seen as a stressful profession, and nurses have consistently scored higher than other workers in terms of workplace stress. With their high levels of work-related stress, burnout, and bad health, the nursing profession is closely associated with stress and psychological difficulties. Most nurses work in a challenging atmosphere, which over time would reduce their productivity and capacity to provide quality patient care. (Percunda& Putri, 2020)

A nurse manager is primarily in charge of managing nursing staff and scheduling work in a clinical setting. The role of nurse manager has grown more challenging and stressful (Udod, 2017). Role complexity, significant job demands, a lack of power, emotional disturbances, and value conflicts are the causes of the stress(Goldsby et al, 2020) promoting a healthy work atmosphere so that nurses can perform at their peak and provide patients with high-quality care (Aydogdu & Luiza, 2020). One possible alternative is the role a nurse manager's psychological capital may play in enabling them to function under stress and foster healthier work conditions (Derksen, 2018).

"Building positive psychological states among nurses that are characterized by

having the confidence to succeed at difficult tasks; making a positive attribution about succeeding now and in the future; persisting towards goals and rerouting paths to goals to succeed" is the definition of psychological capital. Each element of psychological capital supports the others and improves nurses' ability to deal with stressful situations in the workplace (Rabenu, 2017).

Positive relationships exist between psychological capital and job performance, well-being, and job satisfaction. Stress, turnover intentions, burnout, anxiety, depression, negative affect, substance misuse, and counterproductive workplace behaviors including workplace bullying were found to have a negative correlation with psychological capital (Ibrahim et al, 2020).

In recent years, a constructive psychological alteration give nurse managers a new viewpoint, in that if nurses' talents and capacities are strengthened, they will be more concerned and experience better psychological well-being.. Nurses' psychological capital is an important positive psychological concept that refers to the positive mental health of nurses (Pan et al, 2017)

A favorable work environment gives nurses access to resources for their jobs and predicts nurses' work involvement favorably. (Zeleníková et al, 2020). Positive psychological states such as work engagement are good indicators of favorable job performance, behaviors, and attitudes. Positive psychological states such as job engagement are good predictors of workplace performance, behaviors, and attitudes (Qi and Wu, 2018). Nurses with a favorable work environment, compared to those who work in unhealthy environments, they will offer patients better nursing care, be more committed to their organizations,

be happier at work, be less likely to leave their jobs, and improve the clinical learning environment for nursing students. (Karatepe et al, 2017) Psychological Capital could help nurses to keep a great degree of engagement in organizations (Wirawan et al., 2020). Resources are necessary for nurses who work in public hospitals to achieve their objectives and handle challenging duties. Positive psychological states including hope, efficacy, resiliency, and optimism give nurses resources to use in difficult circumstances. Hence, these four psychological issues will provide resources and help nurses overcome difficult tasks, such as demanding career-related activities, at public hospitals (e.g., career self-exploration). As a result, they will have enough psychological resources to cope with difficult job expectations and tasks (Daswati et al., 2022).

Significance of the research:

Positive attitudes among nurses, such as job satisfaction, commitment, and mental well-being at work, are strongly correlated with psychological capital (Paliga, 2022). In addition to reducing their stress symptoms, strategies focused at increasing staff nurses' psychological capital can help keep turnover rates low (Kim & Kweon, 2020).

Several studies have demonstrated that nurses with high psychological capital can manage stressors. (An et al, 2020). Also, psychological capital influences nurses' coping mechanisms and alleviates burnout among nurses. (Zhu, 2021). The nurses with the greatest psychological capital scores are more likely to develop effective coping mechanisms. (Metwaly et al, 2018). So, the study's objective is to study the relation between nurse managers' Psychological Capital (Psy Cap) and nurses' perception of nurse managers'

capacity to foster healthy work environment.

Purpose of study

To assess the relation between nurse managers' Psychological Capital (Psy Cap) and their ability to create healthy work environment as perceived by nurses.

Research Question
1. What is the level of nurse managers' Psychological Capital?
2. What is nurses' perception of their work environment?
3. What is the relation between nurse managers' PsyCap and their ability to create healthy work environment as perceived by nurses?

Method

Research Design:

A descriptive, correlational research design was used to meet the purpose of the current study.

Setting:

The study was conducted in Menoufia Main university hospital at Shebin El-Kom city / Menoufia Governate. There are 142 beds spread across seven floors of the main university hospital. The medical, urology, kidney dialysis, orthopedic, ophthalmology, ENT, and toxicology departments offer services to the local population, together with three operating rooms. The study was conducted in general departments and critical care units of the hospitals.

Sampling:

A convenient sample of nurse managers was chosen in order to assess nurse managers' PsyCap(n: 70) all nurse managers in the hospital participated in the study. To measure nurses practice environment a convenient sample of nurses was

selected from the same nurse managers departments (n: 130). Nurses were chosen because they are in the best position to assess their workplace and their manager's competence. Number of nurses participated in the study calculated using the formula below:

Unlimited population: $n = \dfrac{z^2 \times \hat{p}(1-\hat{p})}{\varepsilon^2}$

Where
z is the z score
ε is the margin of error
n is sample size
p̂ is the population proportion
N is the population size
p for the population proportion is 1.08, while z for a 95% confidence level is 1.96.
.ε for the margin of error is 0.051; N for the population size is 1200 nurses.

$$n = \dfrac{1.96^2 \times 1.08(1-1.08)}{0.051^2} = 127.65$$

The calculated sample was 130 nurses.

Data Collection Instruments:

Two instruments were used to study relationship between nurse managers Psychological Capital (Psy Cap) and their ability to create healthy work environment as perceived by nurses.

Instrument one: Psychological Capital Questionnaire (PCQ). It was developed by Luthans et al. (2007). It included scales for self-efficacy, resilience, optimism, and hope. The PCQ consists of 24 items, with six items each subscale. The Likert scale, which has six points, makes up the scale. When asked to rate their level of agreement, respondents (from strongly agree to strongly disagree).

Scoring system: The total scores of PCQ range between 24 and 144. Scores 24-64 indicated low level of psychological capital, 65-104 indicated moderate level of psychological capital

and 105-144 indicated high level of psychological capital.

Instrument two: The second instrument was Practice Environment Scale (PES). It was developed by Lake (2002). This scale was used to evaluate nurses' opinions of a positive work environment, the skills of their nurse managers, and their support. The PES had 31 items broken down into five subscales, including 5 items for nurse management leadership and support of nurses, 4 items for staffing and resource adequacy, 3 items for collegial nurse-physician interactions, and 9 items for measuring nurse participation in hospital affairs. The Likert scale, which has four points, makes up the scale. Ratings of respondents' levels of agreement (strongly agree, agree, disagree, and strongly disagree).

Scoring system: The total scores of PES range between 31 and 124. Scores 31-62 indicated unfavorable practice environment, 63-93 indicated moderately favorable practice environment and 94-124 indicated favorable practice environment.

Validity of instruments

The instruments of this study tested for validity through the dissemination of the instruments to a panel of experts consisted of three professors and two assistant professors from nursing administration department. The study instruments were considered valid from the experts' view.

Reliability of instruments

Reliability of research tools described in the Alpha Coefficient test (Chronbach alpha). The Psychological Capital Questionnaire's Cronbach's alpha was 0.87, and the Practice Environment Scale's was 0.75, indicating that the measures were highly reliable for the study's objectives.

Pilot Study

A pilot study was performed on 7 nurse managers and 13 nurses to assess the usefulness and applicability of the study instruments, spot any issues, and determine how long it will take to complete the questionnaire in the study population. No questions were changed or clarified based on the findings of the pilot study, and they were all included in the study sample.

Ethical Consideration

After receiving official approval from the chosen hospital, the study was approved by the faculty of nursing's ethical research committee. Data were then collected. The study participants were guaranteed confidentiality thanks to the anonymity of the data collection. Participants were given the assurance that taking part was voluntary and that doing so would carry no risks. Prior to collecting data, consent forms were also gathered from each participant and a brief explanation of the study was given to each one.

Data collection procedure

Data were gathered via questionnaires after receiving official written consent from the chosen hospital. The study included all nurse managers and registered nurses who agreed to participate. It took between 5 and 10 minutes for each nurse manager and every nurse to complete the questionnaires that were designed for both of them. Data collection took place in the morning, afternoon, and night shifts on average five days per week for six months between March and August 2022.

Statistical analysis

Statistical Package of Social Sciences (SPSS) version 25 was used to examine, code, enter, analyze, and

tabulate the data. According on the type of variables, both descriptive statistics (frequency, percentage, mean, and standard deviation) and inferential statistics (Pearson correlation test and independent t test) were utilized. The 0.05 cutoff was used to determine the statistical significance threshold.

Results

Table 1:- showed how nurses and nurse managers were distributed based on their characteristics. The table showed that the majority of nurse managers and nurses were females (78.6%, 76.9%) respectively. More than half of nurse mangers aged from forty to fifty (54.1%) years , while between the ages of 20 and 30, more than half of nurses (69.2%) years old .Also, the majority of the two study sample had bachelor degree in nursing (84.3%,89.2%) respectively. Most of both study sample worked in critical units (54.3%, 63.8%) respectively.

Table 2:- illustrated percentage distribution of nurse managers according to psychological capital subscales. The table showed that the efficacy subscale had the greatest mean score (25.88), whereas the lowest mean score (23.5) as for hope subscale, While the total mean score of nurse managers psychological capital was (97, 45).

Table 3: Presented level of nurse managers' psychological capital. The table showed that 60% of nurse managers had moderate psychological capital, while no one showed low psychological capital.

Table 4:- illustrated mean and standard deviation of nurses' perception of their healthy practice environment subscales. The table showed that the collegial nurse-physician relations subscale had the lowest mean score (5.23), while the nursing foundations for quality of care subscale had the highest mean score (20.55).

Figure 1:- highlighted the level of healthy practice environment according to nurses' perceptions. The figure showed that the majority of nurses (63%) had moderate favorable practice environment.

Table 5:- indicated health practice environment of nurses having different characteristics. The table showed nurses having different genders and working units had statistically significant differences (.005, .287) Also, nurses with different age, education and experience had very highly statistically significant differences (.000).

Table 6:- showed psychological capital of nurse managers having different characteristics. The table evidenced a statistically significant relationship between gender and experience (.002) and total psychological capital mean while age, education and working unit had very highly statistically significant association with total psychological capital.

Table 7:- illustrates correlation between total psychological capital and total practice environment. As indicated in the table, there was a very significant positive correlation between total psychological capital and total practice environment (0.567**).

Table1: Distribution of nurse managers and nurses according to their characteristics

Items	Nurse managers		Staff nurse	
	N	%	N	%
Gender				
Male	15	21.4	30	23.1
Female	55	78.6	100	76.9
Age				
20 - < 30	6	8.6	90	69.2
30 - <40	26	37.1	31	23.8
40 – 50	38	54.3	9	6.9
Education				
Associate degree	-	-	7	5.4
Bachelor	59	84.3	116	89.2
Master	11	15.7	7	5.4
Experience				
1 - <5	-	-	26	20.0
5 - <10	10	14.3	24	18.5
10 - <15	38	54.3	58	44.6
15 - 25	22	31.4	22	16.9
Working unit				
Critical units	38	54.3	83	63.8
General ward	32	45.7	47	36.2
Total	71	100.0	130	100.0

Table 2: Mean and standard deviation of nurse managers' psychological capital subscales

Items	M ± SD	Minimum	Maximum
Efficacy	25.88±5.82	18	36
Hope	23.50±1.66	18	30
Resilience	24.02±3.035	20	31
Optimism	23.98±3.56	12	30
Total psychological capital	97.45±10.78	75	120

**Table 3: Level of nurse manager's psychological capital**

Items	N	%
Low psychological capital (24-64)	0	0
Moderate psychological capital (65-104)	42	60
High psychological capital (105 -144)	28	40
Total	70	100

Table 4: Mean and standard deviation of nurses' perception of their healthy practice environment subscales

Items	M ± SD	Minimum	Maximum
Staff nurses' participation in hospital affairs	18.18 ± 3.24	9.00	25.00
Nursing foundations for quality of care	20.55 ± 4.99	14.00	38.00
Nurse manager ability leadership and support of nurses	10.60 ± 2.31	7.00	20.00
Staffing and resource Adequacy	10.87 ± 1.20	7.00	16.00
Collegial nurse-physician relations	5.23 ± 1.83	3.00	10.00
Total healthy work environment	65.46±12.24	45.00	104.00

Figure 1: level of healthy practice environment according to nurses perceptions (N=130)
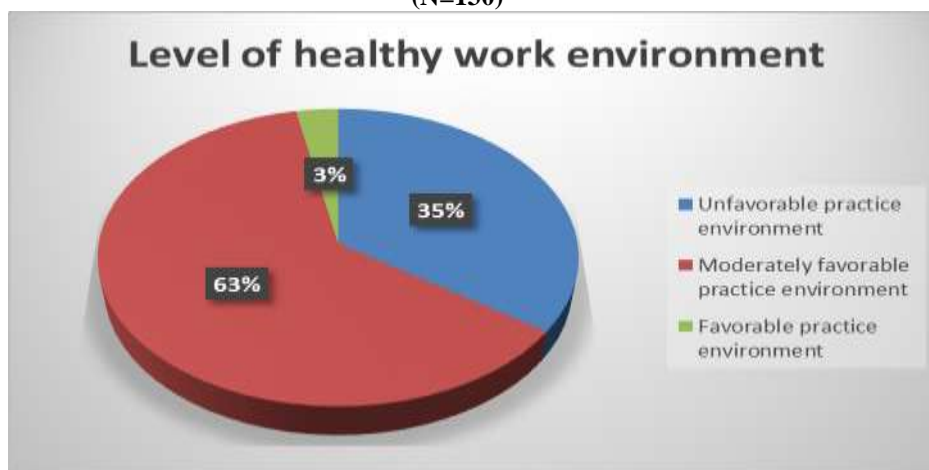
Table5: Health Practice Environment of nurses having different characteristics

Characteristics		Mean score of healthy work environment				
		M	SD	T	f	P
Age	20-<30Y	65.2	8.4		8.612	.000**
	30-<40Y	70.0	18.8			
	40-50 Y	51.8	1.0			
Gender	Male	59.9	8.9	-2.881		.005*
	Female	67.1	12.6			
Education	Associate degree	53.4	7.9		8.612	.000**
	Bachelor	67.0	11.8			
	Master	51.2	4.0			
Experience	1-<5Y	59.5	8.8		10.349	.000**
	5-<10Y	54.8	7.1			
	10-<15Y	70.5	13.5			
	15-25Y	70.6	2.0			
Working unit	Closed units	66.3	7.8	1.069		.287*
	General ward	63.9	17.5			

*P ≤0.05 level (2-tailed).
**p ≤0.01 level (2-tailed).

Table 6: Psychological capital of nurse managers having different characteristics

Characteristics		Mean score of psychological capital				
		M	SD	T	f	P
Age	20-<30Y	89.1	2.9		34.278	.000**
	30-<40Y	89.1	3.0			
	40-50Y	104.4	9.9			
Gender	Male	89.0	2.2	-3.697		.000**
	Female	99.7	11.0			
Education	Bachelor	99.1	10.9		10.076	.002*
	Master	88.5	2.6			
Experience	5-<10Y	89.5	2.3		10.076	.002*
	5-<10Y	92.9	9.0			
	15-25Y	108.9	5.4			
Working unit	Closed units	104.6	9.7	8.736		.000**
	General ward	88.9	2.9			

*P ≤0.05 level (2-tailed).
**p ≤0.01 level (2-tailed).

Table 7: Pearson correlation between nurse managers' psychological capital and nurses' perception of their healthy practice environment.

Item	Total healthy work environment	
	r	P
psychological capital Total	.567**	.000

Discussion

Nurse manager role is being able to create a healthy work environment for nursing staff and they can use Psychological Capital as a new solution for developing more effective and healthy work environment, the research findings revealed that the only significant predictor of a nurse manager's ability to create a healthy workplace was efficacy, according to the staff nurses (Derksen, 2018).

For nurse managers' according to the findings of the current study, the efficacy subscale had psychological capital's greatest mean score (25.88), while the hope subscale had its lowest mean score (23.5). While the total mean score of study sample PsyCap was 97, 45. This could be attributed to their increased self-efficacy which increases nurses' self confidence in identifying and solving complex problems related to their work.

This result was on identical line with Kaya & Bacaksiz (2021) who discovered the nurses' highest score was on the efficacy subscale, followed by hope subscale. But this, on the other hand was contradicted with Liao& Liu, 2019 who showed that psychological capital of nurse managers was only 4.1997. This was related to their low self-efficacy score (4.3943), resilience (4.0447) and optimism (4.3252), while sophomores' self-efficacy, high hope score (4.0790), and optimism scores were the lowest.

The results of the current study indicated that all nurse managers had average psychological capital, and none had low psychological capital. They may have reported less stress at

work due to a good organizational atmosphere and effective communication between nurses and their managers. But this outcome was consistent with Abou Elyazied etal. 2022) who demonstrated that slightly more than half of those who participated in the study nursing students (50.7%) had a moderate psychological capital. Also, nearly half of them (43.7%) had significant levels of psychological capital.

According to the current study, the majority of staff nurses had moderate favorable practice environment, while only of staff nurses had favorable practice environment. This might be because those nurses were performing their practice with more autonomy, more environmental control, and a positive working relationship with the medical staff. This result agreed with Ibrahim & Abohabieb (2020) who illustrated About one-fourth one fourth of the nurses who were investigated thought their work environment was good (24.3%), while another one-fourth of the examined nurses (23.5%) thought their work environment was poor (52.2%). This means that slightly more than half of the staff nurses (52.2%) thought their work environment was average. On the other side this result contradicted with Gad & Reda (2018) who showed that 71.58% of staff nurses expressed poor perceptions of characteristics of the nursing practice environment 1.26% of them possessed high level of perception.

The existing study showed that the correlation between was statistically negative between level of education and total psychological capital. This result could be from that diploma nurses have more experience in dealing with patient and other medical team thus they have more psychological capital while there was highly

statistically positive correlation between experience in years and total practice environment. This may be due to that when years of experience increase this leads to better practice environment. This result was congruent with Gad & Reda (2018) who discovered that the highest percentage (33.05%) had experience in years from 15 to <25 years had low perception level of nursing work environment.

The present study's findings suggested that there was highly statistical significance correlation between overall psychological capital and total practice environment. This finding indicated that when psychological capital level increases practice environment will be better. This result was compatible with Holtzhausen etal (2020) who found significant correlations between practice environment and psychological capital. This result contradicted with Derksen (2018) who demonstrated that according to their nursing staff, a nurse manager's PsyCap is not a reliable measure of the health of the workplace. Despite the fact that there is data to support their importance in creating a healthy workplace.

Conclusion

The study concluded that near half of Nurse Managers had moderate level of psychological capital, near two thirds of nurses perceived moderate favorable work environment and there was positive relationship between total psychological capital and total healthy work environment.

Recommendation

According to the study findings, it's recommended that;

1) Nursing managers should create a productive workplace which is manifested by excellence of leadership, effective system at

work, no interpersonal conflict, and provides assistance to nurses.

2) Nursing managers should attend psychological capital training programs as it will assist nurse managers to enhance the general well-being of nurse managers and help them deal positively with difficult situations.

3) Particular focus should be placed on leadership development initiatives that enable nurse managers to succeed in their job-related tasks for encouraging a favorable working atmosphere.

4) For future research there might be new techniques to evaluate nurse manager effectiveness and PsyCap.

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