

## EFFECT OF PSYCHOLOGICAL CAPITAL EDUCATIONAL PROGRAM ON WORK ENGAGEMENT AMONG STAFF NURSES

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### Abstract

**Background,** Psychological Capital is seen as a core concept in the positive organizational behavior (POB) Psychological capital is considered an important composite construct that can help in addressing human capital issues in organizations. According to, Psy Cap places emphasis on the positive nature and strengths of an employee and the role that he or she has in stimulating levels of grow. Nurses need to educated psychological capital to improve work engagement levels which has a significant impact on patients and organization' outcomes. This study aims to assessing the effect of educational program regarding psychological capital on work engagement. **Design:** A quasi-experimental study design was used. **Setting:** The study was conducted at 5 critical care units. In Ain Shams specialized hospital that affiliated to Ain Shams University hospitals? **The sample included** 129 nurses out of 190 who working in above mentioned setting **Tools for data collection** three tools were used for data collection, namely: Psychological capital Knowledge questionnaire, psychological capital questionnaire, Work engagement questionnaire. **Results:** more than two third (53.5%) of studied nurses were in the age group <40 years. slightly more than three quarter (88.4%) of studied nurses were female and slightly more than half (51.9%) had diploma. Additionally, slightly more than third (39.6%) were years of experience <20 years. slightly less than half (49.6%) of nurse's knowledge about psychological capital. It marked improvement of nurse knowledge of psychological capital (76.7%) in post program phase. While minimal decreasing was occurred (71.3%) in follow up phase of program but still more than the preprogram phase. more than three quarter of nurses had satisfactory level of psychological capital (77.5%) before the program. which improved to (81.4%) at the post program phase. And to slightly decrease throughout the follow up phase to reach (79.8%). there was improvement of levels regarding psychological capital about nurses in post and follow up program than preprogram... three quarter of nurses had satisfactory level of work engagement (75.9%) before the program. which improved to (82.9%) at the post program phase. There was statistically significant relation throughout program phases, with p-value ( $p < 0.05$ ). **Conclusion:** the study results concluded that the staff nurses in the study settings have generally low level of psychological capital knowledge, while their work engagement is slightly high. The training program is effective in improving their psychological capital and consequently increasing their work engagement. Finally, there was a positive effect of psychological capital tanning program on enhancing work engagement among staff nurses. **Recommendations:** Create positive psychological capital dynamic which plays an active role in boosting nurses' levels of work engagement. It is obvious that nurses with high self-efficiency, hopeful, resistant to adverse conditions and optimistic will contribute more to the organization engagement.

**Keywords:** Psychological Capital, Staff Nurses, Work Engagement.

## INTRODUCTION

Nursing is a distinctive profession and the largest component of the health care system; playing a major role in providing consistent and high-quality care for patients. Healthcare organizations in all countries have continued to undergo change. These changes have been found to have a negative effect on work engagement of nursing staff. Engaged employees are more likely to work harder through higher levels of discretionary effort, which ultimately results in improved performance. In its bid to improve the scope and quality of healthcare of its citizens, the government has placed greater emphasis on ensuring an adequate supply of competent motivated and dedicated *nurse (Luthian's & Youssef, 2017)*. Psychological capital plays an active psychological capital' as a psychological state of mind distinguished by a motivation or positive state to reach success (hope), a positive psychology that could urge a person to go up from breakdown or complete extra tasks (resilience), high self-confidence in countering the challenges (self-efficacy), and high optimism or a positive attribution concerning to present and upcoming success. Also, PsyCap is one of the most influential positive movements in the areas of business and management (*Udin & Yuni Awan, 2020*).and dynamic role in boosting employee's levels of work engagement. it is obvious that employees with high self –efficacy, hopeful, resistant to adverse conditions and optimistic will contribute more to the organization they are in. (*Imani &Zandi2022*).

Health care professionals particularly nurses who face high work place stress, work load occupational injury and burn out. Work engagement can be life saver for them. Psychological capital (Psy Cap) helps nurses engage themselves, improving positive workplace relationships at the workplace for optimal functioning. PsyCap provides strengths that nurses can use to engage at work. (*Elmalahy .2022*) Self-efficacy: The belief in one's ability to accomplish a task or achieve a goal. Also, Self-efficacy is individual beliefs or confidence against their self-ability so that can increase motivation, ability, cognitive, and act to reaches the successful task (*Sastaviana, 2021*).

Hope: the belief that one can create a positive future and the motivation to pursue it. Also, Hope is individual positive motivation to help determine clear goals and feel challenged to reach them and achieve the goals. Hope is a cognitive process that motivates to find willpower (goal-directed determination) and way power (planning of ways to meet goals) which leads to positive emotions (the expectation of meeting desired goals) (*Ribeiro et al., 2021*).

Resilience: The ability to recover from setbacks, adapt to change, and maintain a positive outlook. Also, Resilience is the ability to survive and revive from negative experiences nor positive experiences so that they can have the ability to overcome changes, difficulties, and risks caused by their work (*Sun et al., 2022*).

Optimism: The expectation that things will turn out positively in the future. Also, Optimism is an individual attitude that gratefully and see all changes in positive ways also able to see the available opportunities and focus on reaching the chance as part of Goals achievements (*Paliga et al., 2022*) In recent years, engagement topic has gained more

attention from organizations because they believe there is linkage between employee engagement and organizational outcomes. Engagement refers to involvement, commitment, passion, enthusiasm, absorption, focused effort, and energy. Furthermore, engagement has been defined as a persistent, pervasive and positive affective motivational state of fulfillment in professionals and the harnessing of organizational members' selves to their work roles (*Yan et al., 2019 and Ali, 2020*).

Engagement is described as the harnessing of organization members' selves to their work roles: in engagement, people employ and express themselves physically, cognitively, emotionally, and mentally during role performances. Moreover, Engagement defined as the individual's involvement and satisfaction as well as enthusiasm for work. Also, defined engagement as the extent to which employees commit to someone or something in their organization (*Mäkineniemi et al., 2020*).

Work engagement in healthcare is defined as affective-motivational state of work-related well-being and is closely connected to the experience of resources and demands in the work context. These resources can be for example: digital support, experienced demands or empowerment whereas exhaustion is connected to work demand in a workplace. Furthermore, work engagement concept referred to enthusiastic, energetic employees who gave their best every day. Also, it involves a personal commitment to reaching goals and put a personal energy and enthusiasm into their work (*Cajander et al., 2020*).

**Work engagement is defined as a** positive, fulfilling, work-related state of mind that is characterized by vigor, dedication and absorption. **Vigor** is characterized by high level of energy and mental resilience while working. It also not being easily fatigued, captures the perseverance, desire to invest effort in work, and even handle possible difficulties for examples; At my work, I feel bursting with energy, at my job, I feel strong and vigorous (*Okada et al., 2019*). **Dedication** refers to being strongly involved in one's work and experiencing a sense of significance, inspiration, proud, and challenge. It is also a matter of high professionalism, enthusiasm and experiencing meaningful work for examples; I find the work that I do full of meaning and purpose, to me, my job is challenging. Finally, **absorption** is characterized by being fully concentrated and happy engrossed in one's work. And having difficulties detaching oneself from it so that time passes quickly and one forgets everything else that is around for examples; Time flies when I'm working, it is difficult to detach myself from my job (*Yan et al., 2019 and Ali, 2020*).

### **Significance of the study:**

The researcher observed that during routine of nursing work nurses suffering from increased work load due to shortage in staff nurses, scheduling, sophistication of technology and others which increase anxiety among staff nurses. Under such circumstances, psychological capital (e.g., hope and resilience) may possibly to be one of the important resources that believed were necessary for employees to manage stressful events or work conditions. Hence, hospital nurses who are high in hope and resilience are more likely to be adaptive to change, creative, and persistent in dealing with workplace adversity, which in turn, engaging in a favorable attitude in the form of work engagement.

The environment facing the healthcare sector has shifted from a fairly stable one into a more challenging and dynamic landscape. The rising costs of healthcare, an aging population growing sophistication of technology, the proliferation of private hospitals, emergence of new diseases, and greater public awareness for better quality of healthcare, have created pressures and produced greater burden on hospitals and their employees. Accordingly, the most affected healthcare employees are the nursing professionals who are required to deal with increased demands for efficiency, cost-cutting, and improved healthcare quality, whilst at the same time coping effectively with workplace stress, exhaustion and burnout. Nurses with a high level of psychological capital have the essential motivational and cognitive properties that can be used in any given work situation to protect them from work-related stress and burnout (*Othman & Aizzat 2011*).

## **AIM OF THE WORK**

**This Study aimed assessing the effect of psychological capital educational program on work engagement among staff nurses through:**

- 1) Assessing staff nurses' knowledge regarding psychological capital (pre-post-follow up the program).
- 2) Assessing staff nurses' psychological capital level (pre-post-follow up the program).
- 3) Measuring staff nurses' work engagement level. (Pre-post-follow up the program).
- 4) Evaluating the effect of psychological capital on work engagement among staff nurses.

## **Research hypothesis:**

Implementing of psychological capital educational program for staff Nurses will improve work engagement.

## **Subjects and Methods:**

### **Research design**

Quasi-experimental, one group pretest- posttest research design was utilized in conducting this study.

### **Subject of the study:**

The study subjects consisted of **(129)** staff nurses out of **(190)** staff nurses who are working in the aforementioned setting.

**The study setting:** This study was conducted at 5 critical care units. In Ain Shams specialized hospital that affiliated to Ain Shams University hospitals? The total bed capacity of the hospital is (544beds).

### **Tools of Data collection:**

The Data for this study was collected by using three tools:

**1-Psychological Capital Knowledge Questionnaire:** The tool developed by the researcher, based on literature review. It was used to assess knowledge of staff nurses

regarding psychological capital before and after training program and follow up. It consisted of two parts as follows: **This tool consists of two parts**

**Part 1: Personal and job characteristics:** It aimed at collecting data regarding personal and job characteristic of study subjects including: age – gender- educational qualification, marital status, department, years of experience in department,

**Part2:** This part was developed by researcher based on review of literature (**Luthans et al., 2007**). It Includes questions regarding psychological capital knowledge. It consists of 33questions in the form of multiple-choice questions (M C Q) categorized under 8 dimensions. Empowerment (5) questions, team work (4) questions, decision making (4) questions, communication (4) question, motivation (4) question, leadership (4) question, training and development (4) questions and psychological capital (4) question.

**Scoring system:**

For each question, a score (1) was given for correct answer and (zero) for incorrect one. For each dimension, the scores of the items were summed –up and the total divided by the number of the items, giving mean scores for the parts. This score was converted into percent scores. Subject’s knowledge was considered satisfactory if the percent score was 60%or more and unsatisfactory if the score less than 60%

**2-Psychological capital questionnaire:**

**This tool aimed to assessing staff nurse’s psychological capital level.** It developed by **Luthan et al. (2007)**. It Includes questions regarding psychological capital. It comprises 24 items classified into four dimensions with six items for each.

**Description of psychological capital scale dimensions:**

Dimension	NO. of Items	Example
Self-efficacy	6	I feel confident for analyzing a long- term problem to find solutions
Hope	6	If I should find myself in a jam at work, I could think of many ways to get out of it
Resilience	6	When I have a setback at work, I have trouble recovering from it, moving on
Optimism	6	When things are uncertain for me at work, I usually expect the best

**Scoring system:**

The responses of the participants were measured on a 5-point Likert scale ranging from 1-5 (1= strongly disagree, 2= disagree, 3=neutral, 4= agree, 5= strongly agree).). For each dimension, the scores of the items were summed–up and the total was divided by the number of items, giving the mean score for this part. These scores were converted into a percent score. The participant was considered had high psychological capital level if the total scores above 75%and moderate level if the study subject total score ranged from 50%to 75% and low if the score less than 50% (**Luthan's et al., 2007**).

**3-Utrecht Work Engagement Scale (UWES):** This scale aimed at assessing the level of work engagement among staff nurses. It was developed by *Schaufeli & Bakker (2004)* and adopted by *Amin (2021)*. It consisted of 17 items categorized under three main dimensions.

**Description of the Utrecht Work Engagement Scale (UWES) dimensions:**

Dimension	No. of Items	Example
Vigor	6	At my work I feel bursting with energy
Dedication	5	I find the work that i do full of meaning and purpose
Absorption	6	Time flies when I'm working

**Scoring system:**

Each point was scored according to a 5- point Likert scale ranging from 1 to 5 (1= absolutely; 2= rarely; 3= sometimes; 4 = often; 5= always). The score of each dimension was summed up and the total was divided by the number of items giving the mean score for this part. These scores were converted into a percent score. The participants were considered low engaged if the percentage was less than 60%, moderately engaged if the percentage ranged from 60% to 75%, and highly engaged if the percentage was more than 75%. *Schaufeli & Bakker (2004)*.

**Ethical Considerations**

The ethical research considerations in this study were included the following:

- The research approval was obtained from Scientific Research Ethical committee at Faculty of Nursing at Ain Shams University before starting the study.
- An official permission was obtained from director of target hospital in which the study will be conducted.
- The researcher clarified the objective and aim of the study to staff nurses included in the study.
- The researcher assured maintaining anonymity and confidentiality of the subject data.
- Nurses were informed that they are allowed to choose to participate or not in the study and that they have the right to withdraw from the study at any time.

**V. Administrative design:**

An official letter was issued from the dean of the Faculty of Nursing, Ain Shams University to the hospital director to obtain his approval and cooperation for data collection. This letter explained the aim of the study, with attached copies of the data collection tools. Permission for the study was obtained from the directors of the hospital, either medical or nursing.

**IV- Statistical design:**

Data entry and statistical analysis were done. 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. Data were presented using descriptive statistics in the form of frequencies and percentages for categorical data, the mean (X) and standard deviation (SD) for quantitative data. Cronbach alpha coefficient was calculated to assess the reliability of the scales through their internal consistency. Qualitative categorical variables were Compared using chi-square test. P-value to test the association between two variables, ANOVA test was used to assess the differences between the study variables and Pearson correlation test (r- test) to assess the correlation between the study variables. Degrees of the significance of results were considered p-value  $\leq 0.05$  Significant (S).

- P-value  $<0.05$  was considered significant.
- P-value  $<0.001$  was considered as highly significant.
- P-value  $>0.05$  was considered insignificant.

### **Tools validity**

After the construction of data collection tools (Psychological capital knowledge questionnaire, and psychological capital questionnaire), two types of validity tests were used, Face validity and Content validity. Face validity aimed at determining the extent to which the tools represent all facets of the study subject. Content validity was conducted to determine whether psychological capital knowledge questionnaire, and psychological capital questionnaire cover the appropriate and necessary contents through distribution of the tools to a jury of five Experts in the field of Nursing Administration.

### **1-Pilot Study**

The pilot study was aimed to examine the clarity of language and applicability of the tools. Pilot study was conducted on 10% of the study sample representing (13 nurses) who were selected randomly. Data obtained from the pilot study was analyzed, and no modifications were done, these 13 nurses included in the study subject. It also helped to estimate the time needed for filling tools Time needed for filling the study tools was as follows: 45 minutes for psychological capital knowledge questionnaire, 10 minutes for work engagement questionnaire and 10 minutes for psychological capital questionnaire.

### **Field Work**

The field work of the study consumed six months from the beginning of mid-December 2021 to mid-May 2022. It was done through the following phases, assessment phase, implementation phase, evaluation phase and The following phase were adopted to achieve the aim of the current study.

#### **First phase: Assessment phase (preparatory phase)**

An official permission including the title and purpose of the study were submitted from the Dean of Faculty of Nursing Ain Shams University and directed to the director of Ain Shams specialized hospital to get this approval for data collection to conduct the study that forwarded to the director of critical care units where the study was conducted.

The researcher visited department of training at morning shift to explain the nature of the study and Study aim to staff nurses and invited them to participate. Then investigator distributed the three data collection tools, psychological capital knowledge questionnaire, work engagement scale, and psychological capital scale and ask the participants to fill 3 tools after taking oral informed consent from them. Every nurse took approximately (65) minutes to fill in the three tools.

The researcher was present during the data collection period to explain how to fill the study tools then sought their cooperation and give the necessary instructions. The filled forms were handed back to the investigator to check each one to ensure its completeness. This stage took two months

**Second phase: (program planning included A)** determine program strategy (timetable of session, teaching methods, media to be used, Learner activities, and evaluation methods), B) determine the teaching places (Lounge room), C) the educational program handout was prepared in Arabic format

### **Title of the program**

Psychological capital educational program

### **Aim of the program**

This program aimed at improving psychological capital among nurses which is expected to have a positive effect on their work engagement through adding knowledge about concept of psychological capital, and acquiring more skills related to psychological capital.

### **Setting of the program implementation:**

This program was implemented in the training department of Ain Shams Specialized Hospital.

**Duration:** the time allowed for achieving the program was 20 hours 16Theoretical hours and 4 hours practical.

### **Program general objective:**

By the end of the educational program staff nurses at critical unites would acquire knowledge and skill toward psychological capital which is expected to have a positive effect on their work engagement.

### **Third phase: Implementation of educational Program**

This stage carried out in Ain Shams training department in the first session the researcher explained training program aim, objectives, plan, content, and methods of training and program evaluation. At the beginning of each session an orientation to the new session and its aims took place. Feedback & brief summary was done at the end of each session. The training program was implemented to the nurses in department of training. The investigator divided the nurses into 3 groups (A, B, C) first and second group 40nurse and last group 39 according to availability and workload for conducting the training. The educational



program consists of (8) sessions distributed as theoretical sessions (16) hour and practical sessions (4) hour each group had one session per week. The sessions were either on Saturdays or Tuesday and Thursdays. The duration of each session was two hours, with a 15-minute break.

Sessions were from 9:00 am to 10:00 am and from 10:15 am to 11am. (3days/week) The program was implemented over ten weeks for each group. The program started from mid-December 2021 to last-February 2022 the actual duration was two months & half. The investigator distributed handout of the program content sessions to be used as memorial reference and brochure represents as a summary of all program sessions given to all participants

**Evaluation phase: (post program evaluation):** Upon completion of the program implementation, the same data collection tools used in pretest were applied and posttest to assess the effectiveness of the program. **(Follow-up):** The same process was repeated three months after the post – program evaluation, using the same data collection tools. It was in May 2022.

## RESULTS

**Table (1)** Personal and Job characteristics of nurses shows that the study sample consisted of 129 nurse (88.4%) female and the highest (53.5%) of the nurses between (20-40) age group and the great majority were (84.5) married and slightly more than a half of them were diploma degree nurses (51.9%), while near a quarter of them (21.7%) worked in operation rooms and the majority of them had above 20 years of experience.

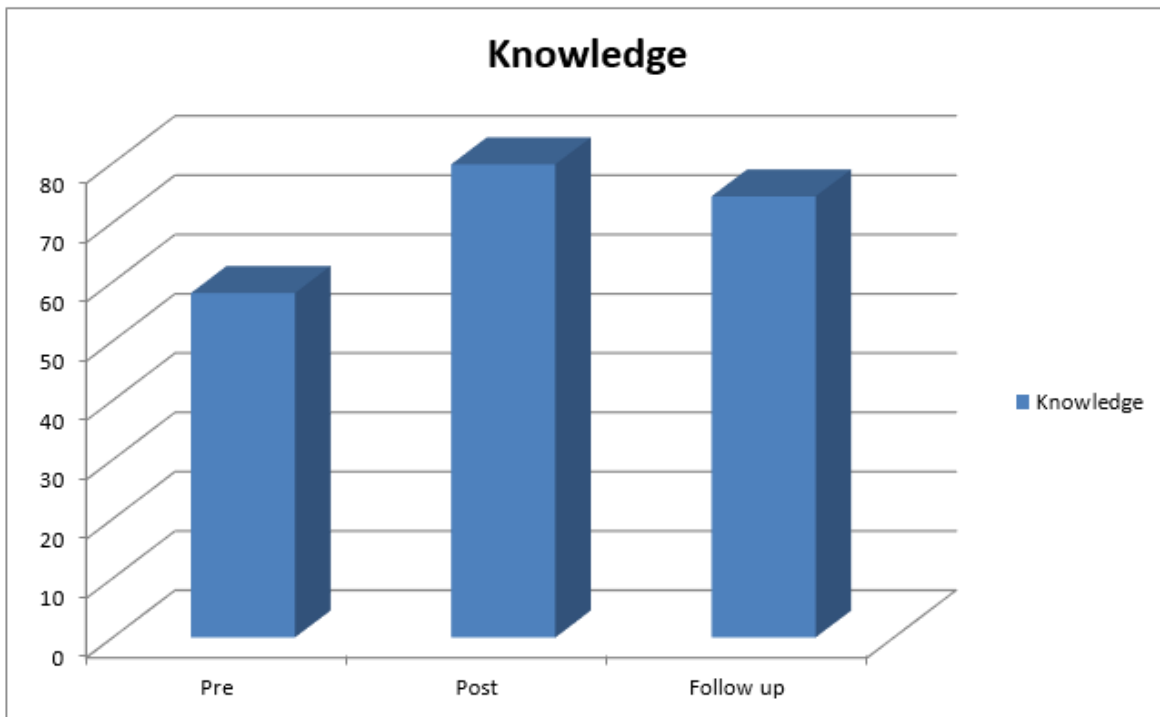
### Part I. Demographic characteristics of nurses

**Table (1): Personal data of study subject (n=129)**

Demographic data	N	%
<b>Age</b>		
20-40	69	53.5
40-60	60	46.5
<b>Gender</b>		
Female	114	88.4
Male	15	11.6
<b>Education</b>		
Nursing diploma	67	51.9
High nursing diploma	26	20.2
Nursing bachelor's degree	36	27.9
<b>Marital status</b>		
Married	109	84.5
Unmarried	20	15.5
<b>Department</b>		
CCU	21	6.2
Dialysis	16	12.4
Emergency	17	13.2
ICU. A	16	12.4

ICU. B	18	13.9
ICU. C	13	10.0
Operation	28	21.7
<b>Experience</b>		
<10	43	33.3
From 10 to 20	35	27.1
>20	51	39.6

**Figure (1)** Reveals that approximately (50%) of nurses had psychological capital knowledge before training program which increased at the post intervention phase, reaching (76.7%). While it was decreased in follow up phase to reach (71.3%). Also, there was statistically significant improvement in studied nurses' level about psychological knowledge throughout intervention phase, with p-value ( $p>0.05$ )



**Figure (1): Psychological capital Knowledge level among nurses through program phases. (n=129)**

**Table (2)** Demonstrates Staff nurse's level of psychological capital throughout three Phases of intervention self-efficacy, hope, resilience, and optimism, the highest mean of psychological capital pre the intervention for resilience was (24.63), the highest mean of psychological capital post the intervention for self-efficacy was (25.29). While the highest mean of psychological capital optimism follows up the intervention for resilience was (25.05) with p-value ( $p>0.05$ ).

**Table (2): Psychological capital levels among nurses throughout three Phases of program. (n=129)**

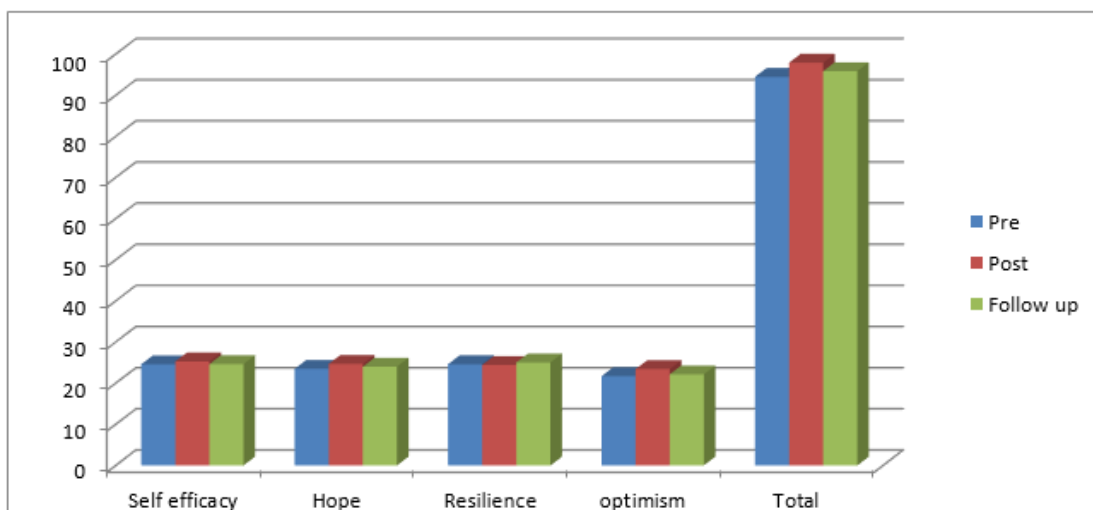
Psychological capital scale	Pre		Post		Follow up		ANOVA test	P-value
	Mean	SD	Mean	SD	Mean	SD		
Self-efficacy	24.60	3.64	25.29	2.48	24.64	2.90	2.110	.123
Hope	23.51	5.16	24.71	2.62	24.02	2.60	3.500	.031*
Resilience	24.63	3.81	24.45	2.51	25.05	2.20	1.462	.233
optimism	21.72	4.72	23.45	3.21	22.15	2.50	8.114	.000*
<b>Total</b>	94.47	12.99	97.91	5.93	95.86	5.60	4.936	.008*

**Table (3) & Figure (2)** reveals that approximately (77.5%) of nurses had moderate psychological capital before training program which increased at the post intervention phase, reaching (81.4%). While it was decreased in follow up phase to reach (79.8%). Also, there was statistically significant improvement in studied nurses' level about psychological knowledge throughout intervention phases. With p-value ( $p > 0.05$ )

**Table (3): Total Psychological capital levels among nurses throughout three Phases of program. (n=129)**

Time	Knowledge%	
	No.	%
Pre	100	77.5
Post	105	81.4
Follow up	103	79.8

**Figure (2): Psychological capital level among nurses throughout three Phases of program. (n=129)**



**Figure (2): Nurses' psychological capital level pre, post and follow up**

**Table (4)** Demonstrates work engagement levels among nurses throughout three phases of intervention, the highest mean level of engagement pre the intervention regarding absorption was (24.25), the highest mean level of engagement pre the intervention

regarding absorption was (25.12). While the highest mean level of engagement pre the intervention regarding vigor was (23.97)., with p-value ( $p > 0.05$ ).

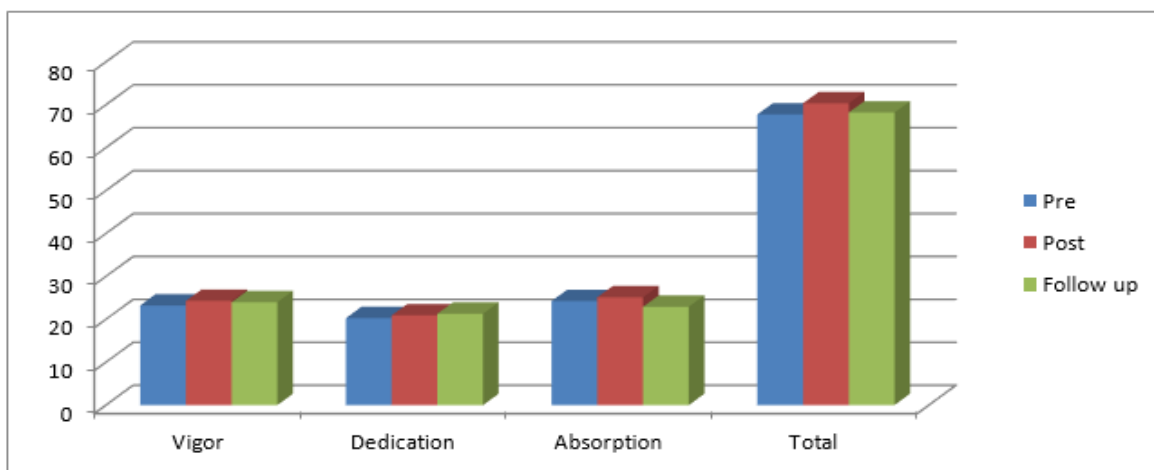
**Table (4):** Work engagement levels among nurses throughout phases of the program. (n=129)

Work engagement	Pre		Post		Follow up		ANOVA test	P-value
	Mean	SD	Mean	SD	Mean	SD		
Vigor	23.22	4.25	24.29	2.49	23.97	2.53	3.855	.022*
Dedication	20.27	3.81	20.91	2.07	21.30	2.23	4.417	.013*
Absorption	24.25	3.88	25.12	2.61	22.92	2.80	16.053	.000*
Total	67.74	10.03	70.33	4.52	68.19	4.62	5.237	.006*

**Table (5) & Figure (3)** reveals that (75.9%) of nurses had work engagement before training program which increased at the post intervention phase, reaching (82.9%). While it was decreased in follow up phase to reach (80.6%). Also, there was statistically significant improvement in studied nurses' level about work engagement throughout intervention phases. With p-value ( $p > 0.05$ ).

**Table (5):** Total work engagement level of nurses through program phases. (n=129)

Time	Knowledge%	
	No.	%
Pre	98	75.9
Post	107	82.9
Follow up	104	80.6



**Figure (3):** Work engagement level among nurses pre, post and follow up intervention. (n=129)

**Table (6)** Demonstrates the correlation between psychological capital and work engagement shows that there was statistically significant correlation between nurse's post-intervention psychological capital and their work engagement ( $p < 0.001$ ).

**Table (6): Correlation between Psychological capital and work engagement (n=129)**

Scores	Work engagement	
	r	p
Psychological capital scale	0.39	.000*

\* Significant at p-value<0.05

**Table (7)** demonstrates the correlation between knowledge and psychological capital and work engagement shows that there was a statistically significant correlation between nurse 'scores of psychological capital and Work engagement, while there was no statistically significant correlation between nurse 'score of knowledge and psychological capital.

**Table (7): Correlation between knowledge and psychological capital and work engagement. (n=129)**

Scores	Knowledge	
	r	p
Psychological capital scale	0.09	0.06
Work engagement	0.11	0.02*

\*Significant at p-value<0.05

**Table (8)** Demonstrates the relation between personal data of studied nurses and total score of knowledge, psychological capital scale, and work engagement there was statistically significant correlations between gender and nurse knowledge of psychological capital, while there was a statistically significant correlation between education and nurse knowledge of psychological capital, also regarding experience there was statistically significant correlations between nurse knowledge of psychological capital nurse scores and experience, while there was statistically significant correlations between departments and knowledge, psychological capital scale, and work engagement. (p>0.05).

**Table (8): Relation between Personal data of studied nurses and total scores (n=129)**

Personal Data	Knowledge		Psychological capital scale		Work engagement	
	ANOVA test	p-value	ANOVA test	p-value	ANOVA test	p-value
Gender	825.228	.000*	2.6	.07	.3	.73
Age	.534	.587	.21	.81	1.4	.2
Education	553.385	.000*	1.04	.12	1.6	.17
Marital status	1.6	.17	.97	.42	1.2	.27
Department	137.465	.000*	2.4	.004*	2.1	.01*
Experience	412.071	.000*	1.1	.32	2.2	.06

\*Significant at p-value<0.05

**Table (9)** Demonstrates means of studied nurses in different departments regarding knowledge, psychological capital scale, and work engagement shows that operation room

staff had the highest knowledge mean (23.82), while I.C.U B had the highest psychological capital mean (97.83), and emergency staff had the highest work engagement mean (71.37).

**Table (9): Means of studied nurses in different departments regarding knowledge, psychological capital scale, and work engagement. (n=129)**

Departments	Knowledge		Psychological Capital Scale		Work engagement	
	Mean	SD	Mean	SD	Mean	SD
CCU	23.42	4.66	95.46	10.82	68.00	8.05
Dialysis	23.12	4.15	91.78	11.33	64.96	8.99
Emergency	23.12	4.27	96.12	8.21	71.37	6.08
ICU. A	21.79	6.30	96.33	7.22	68.83	6.87
ICU. B	22.67	5.79	97.83	4.36	67.00	7.35
ICU. C	22.55	5.68	97.44	8.80	68.77	5.23
Operation	23.82	3.68	95.61	9.52	69.29	5.92

\*Significant at p-value<0.05

## DISCUSSION

Nurses who possess a high level of hope tend to set goals and work towards achieving them, despite obstacles and setbacks. Nurses who possess optimism tend to have a positive outlook on the future, see opportunities in challenges, and maintain a sense of confidence and control over their work environment. Nurses who possess resilience tend to adapt to change, recover from stress and setbacks, and maintain a positive attitude even in difficult situations. Nurses who possess self-efficacy tend to have confidence in their ability to perform their job tasks and responsibilities and feel empowered to take on new challenges and responsibilities (*Shahzad et al., 2020*).

This Study aims at assessing the effect of psychological capital educational program on work engagement among staff nurses and study findings revealed that the majority of study subjects were females and more than a half of them were aged between (20-40) years, while the majority of them were married. Which is congruent with (*Mirkamali et al., 2019*) who's study entitled "The relationship between psychological capital and work engagement among nurses" and studied the relationship between psychological capital and work engagement among nurses, The majority of study subjects were female, aged between 20 and 40 years, and married. The results showed that psychological capital was positively associated with work engagement, and that this relationship was partially mediated by organizational support.

The current study findings revealed that the majority of study subjects were diploma degree nurses, while nearly half of them worked in operation rooms and the majority of them had above 20 years of experience. On the opposite line *Arrogante et al (2019)* who's study entitled "The impact of a psychological capital intervention program on the work engagement of Filipino nurses" exploring the effect of a psychological capital intervention program on the work engagement of 60 Filipino nurses found that the majority of the study participants had a bachelor's degree in nursing and worked in medical-surgical wards.

Regarding Psychological capital knowledge the current study findings revealed that there was statistically significant improvement in nurse's knowledge post and follow up interventions, which is congruent with A study of **Al-Amer et al., (2021)** in a study entitled “ Effectiveness of a psychological capital educational program on the knowledge, attitudes, and practices of nurses” who evaluated the effectiveness of a psychological capital educational program on the knowledge, attitudes, and practices of nurses in a hospital. The study included nurses who participated in a three-hour psychological capital educational program.

The results showed that the nurses' knowledge of psychological capital significantly improved after the educational program, and this improvement was maintained at the three-month follow-up assessment. The study concluded that psychological capital education programs may be an effective way to improve nurses' knowledge and promote positive attitudes and practices in the workplace.

From the researcher point of view psychological capital education programs may be effective in improving nurses' knowledge of psychological capital is that they provide structured and systematic guidance on the key concepts and practices related to psychological capital. By participating in such programs, nurses can gain a deeper understanding of the psychological capital components such as self-efficacy, optimism, hope, and resilience, and learn practical strategies for developing and applying these components in their work and personal lives.

Regarding Psychological capital level the current study findings revealed that there was statistically significant improvement in nurse's psychological capital level post and follow up interventions, these studies provide evidence that psychological capital intervention programs can be effective in improving the psychological capital levels of nurses. The findings suggest that such interventions can have positive effects on work engagement, job satisfaction, and potentially other outcomes related to nurses' well-being and performance.

Which is congruent with study conducted by **Wang et al., (2022)** in study entitled “Effects of a positive psychological intervention on the psychological capital of clinical nurses” aimed to investigate the effects of a positive psychological intervention program on the psychological capital of clinical nurses. The intervention program consisted of six sessions, each lasting two hours, and covered topics such as optimism, self-efficacy, hope, and resilience. The study found that the psychological capital levels of the intervention group were significantly higher than those of the control group immediately after the intervention and at the three-month follow-up.

Similarly, a study by **Kotze (2018)** in study entitled “Effects of a psychological capital intervention program on psychological capital levels and work engagement in clinical nurses: A quasi-experimental study” examined the effects of a psychological capital intervention program on the psychological capital levels and work engagement of nurses. The study found that the intervention group showed significant improvements in their psychological capital levels and work engagement compared to the control group.

Another study by **Kisa et al., (2020)** in study entitled “The effect of a psychological capital intervention program on psychological capital and job satisfaction of nurses: A randomized controlled trial” aimed to investigate the effects of a psychological capital intervention program on the psychological capital and job satisfaction of nurses working in a university hospital. The study found that the psychological capital levels and job satisfaction of the intervention group were significantly higher than those of the control group immediately after the intervention and at the three-month follow-up. Regarding staff nurse's work engagement levels throughout three phases of intervention the current study findings shows that Work engagement levels among nurses throughout three phases of intervention shows that high percentages of nurses were having High Absorption before the intervention, low dedication level. The post-intervention phase revealed statistically significant improvements in all three dimensions.

The current study findings are supported by the findings of **Zhang et al., (2019)** in a study entitled “The effectiveness of a work engagement intervention program for nurses in China” who investigated the effectiveness of a work engagement intervention program for nurses and focused on enhancing work engagement by improving individual and organizational factors. The study found that the intervention group had significantly higher levels of work engagement compared to the control group at the post-intervention and six-month follow-up assessments.

Another study by **Li et al., (2020)** in a study entitled “The effectiveness of a psychological capital intervention program on work engagement among nurses in China.” evaluated the effectiveness of a psychological capital intervention program on work engagement among nurses in China and focused on enhancing psychological capital by promoting self-efficacy, hope, optimism, and resilience. The study found that the intervention group had significantly higher levels of work engagement compared to the control group at the post-intervention and three-month follow-up assessments. From the researcher’s point of view the intervention program likely provided nurses with opportunities to reflect on their work and develop strategies for coping with challenges and stressors. This could have helped them to feel more empowered and invested in their work, leading to higher levels of dedication and absorption in their jobs. It is also possible that the supportive and collaborative environment of the intervention program, which involved group discussions and activities, helped to foster a sense of community and shared purpose among the nurses. This could have further contributed to their engagement levels.

Regarding the correlation between psychological capital knowledge and work engagement level the current study findings revealed that there was statistically significant correlation between psychological capital knowledge and work engagement level, On the same side, the study by **Kim et al., (2021)** in a study entitled “Psychological capital among ICU nurses and its relationship with job satisfaction and turnover intention” aimed to examine the relationship between psychological capital and work engagement among nurses. The study found that while psychological capital was positively correlated with work engagement, there was no significant correlation between psychological capital knowledge and work engagement. On the other side another study by **Yildirim et al.,**



(2019) in a study entitled “The relationship between psychological capital and work engagement among nurses” reported that there was no significant correlation between psychological capital knowledge and work engagement level. From the researcher’s point of view these consistent findings across studies imply that factors beyond psychological capital knowledge may be more influential in determining work engagement among nurses. Other factors such as organizational support, job resources, and personal characteristics may interact with psychological capital to shape work engagement levels. Higher levels of work engagement are a reflection of nurses’ active participation, loyalty, and enthusiasm for their careers.

Regarding the correlation between psychological capital level and work engagement level among nurses the current study findings revealed that there was statistically significant correlation between psychological capital level and work engagement level. This result was supported by **Körükçü et al., (2023)** in a study entitled “The relationship between psychological capital and work engagement among nurses. Journal of Continuing Education in Nursing” aimed to examine the relationship between psychological capital and work engagement among nurses found a positive correlation between psychological capital and work engagement, suggesting that nurses with higher levels of psychological capital were more likely to be engaged in their work.

Regarding relation between personal data of studied nurses and knowledge, psychological capital level, and work engagement level there was statistically significant correlations between gender and nurse knowledge of psychological capital, while there was a statistically significant correlation between education and nurse knowledge of psychological capital, also regarding experience there was statistically significant correlations between nurse knowledge of psychological capital nurse scores and experience, while there was statistically significant correlations between departments and knowledge, psychological capital scale, and work engagement.

On the same line study by **Liu et al., (2019)** found that there were significant correlations between gender and nurse knowledge of psychological capital, suggesting that female nurses had higher levels of knowledge about psychological capital than male nurses. Additionally, there was a significant correlation between education and nurse knowledge of psychological capital, with nurses who had higher levels of education showing higher levels of knowledge about psychological capital. Similarly, a study by **Rahimi et al., (2020)** in a study entitled “The relationship between psychological capital and work engagement among nurses” aimed to investigate the relationship between psychological capital and work engagement found a positive correlation between psychological capital and work engagement, indicating that nurses with higher levels of psychological capital were more likely to be engaged in their work.

Regarding relation between different departments of studied nurses and knowledge, psychological capital level, and work engagement level the current study shows that operation room staff had the highest knowledge level, while I.C.U B had the highest psychological capital level, and emergency staff had the highest work engagement level. This is congruent with a study by **Kim et al., (2021)** who found that nurses working in the

intensive care unit (ICU) had higher levels of psychological capital than those working in other departments. Similarly, **Yildiz et al., (2019)** examined the relationship between job satisfaction, psychological capital, and turnover intentions among nurses working in different departments of a hospital. They found that nurses working in the emergency department had higher levels psychological capital, and lower levels of turnover intentions, compared to nurses working in other departments.

### **Recommendations:**

**On the basis of the findings of the current study, the following recommendations were suggested:**

#### **Hospital administrator should:**

- Promote positivity and get their employees to become more engaged and in turn they will be better able to adapt to their changing environments. This start with creating a positive psychological capital of employees.
- Develop psychological capital training programs as it will reduce victimization of workplace, encouraging their adaptability, and also developing their problem-solving skills since these actions could help nurses handle challenges better and can positively improve their work engagement
- Establish job orientation for newly graduates' nurses to enhance knowledge about psychological capital and work engagement and continuous education.
- Administration should deploy more efforts to rectify the factors negatively predicting nurse engagement such as the nurse-to-bed ratio, scheduling shifts, and overtime work, policies and procedures, hospital reputation, and intention.
- Improving psychological capital among nurses to increase nurses' performance and job embeddedness
- Create a positive work environment characterized by a quality of leadership, effective work system, low interpersonal conflict, and provides support for nurses.
- Creating communication channels between the nursing staff to communicate and solve any problems and overcome any obstacles facing nursing in the field of work, which leads to integration into work and engagement.

#### **Further researches**

- Both qualitative research methods and longitudinal data from other sectors can be used to understand the interplay between social and psychological capital for enhancing work engagement. Developing and cultivating positive social relations can help employees utilize their psychological strength to better engage in work.
- Replication of the current study with a larger sample of nurses in different settings is required for generalizing the results.

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