



The Role of Career Beliefs, Career Self-Efficacy and Social Support in Developing Volatility, Uncertainty, Complexity and Ambiguity Skills

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ABSTRACT

Globalization, the use of current technology, and Volatility, Uncertainty, Complexity and Ambiguity that refers to the chaotic, turbulent, and fast-changing educational environment are some of the uncertainties that challenge global higher education in the modern world. Global higher education institutions must react swiftly to these changes due to external influences. **Aim:** To assess the role of career beliefs, career self-efficacy, and social support in developing Volatility, Uncertainty, Complexity and Ambiguity (VUCA) skills among internship nursing students. **Research Design:** A descriptive-correlational research design. **Setting:** The study was conducted in different clinical training setting the Faculty of Nursing, Cairo University. **Sample:** A convenient sample of 250 internship nursing students from various training departments. **Tools:** career belief, social support, career self-efficacy scale, and (VUCA) skillset. **Results:** It illustrates that the total mean percentage for career beliefs was 46.4%, the total mean percentage for Career self – efficacy was 49.2%, the total mean percentage for career self-efficacy was 49.6%, and the total mean percentage for VUCA skills stood at 49.2%. Moreover, total career beliefs, career self-efficacy, and social support have a strong positive effect ($\beta = 0.112$, sig = 0.020*), ($\beta = 0.473$, sig. = <0.001**), and ($\beta = 0.137$, sig. = 0.006*), respectively, on the development of VUCA skills as indicated by internship nursing students. Finally, there was a highly statistically significant correlation between total VUCA skills and total career beliefs ($X^2=0.33$, $p<0.001^{**}$), total 0.33, $p<0.001^{**}$), total career self-efficacy ($X^2 = 0.66$, $p<0.001^{**}$), and total social support ($X^2 = 0.43$, $p<0.001^{**}$). **Conclusion:** The research findings answered all three questions as the results indicated a highly statistically significant positive effect of total career beliefs, career self-efficacy, and social support on developing VUCA skills. The study also concluded that the internship nursing students had moderately perceived career beliefs, career self-efficacy, and social support and had an unsatisfactory level of VUCA skills. **Recommendations:** Training programs for improving nursing students' socio-emotional competency levels to enhance their self-efficacy and social support and create a better learning environment for future nursing generations.

Key words: career beliefs, career self-efficacy, social support, VUCA skills, & internship nursing students

Introduction:

Healthcare is a business that affects people's lives, and the healthcare environment is continuously evolving. Its executives struggle to navigate healthcare's intricacies while maintaining high levels of employee engagement. New

alliances, increased data openness, increasing consumer power, diverse competitors, altering demographics, changing roles and teams, fast-expanding technology, and varied standards are among the complicated problems that healthcare businesses face. If not handled properly, each

dynamic leads to low staff engagement, high turnover, low morale, increased medical mistakes, and reduced productivity (**Caesar-Thompson, 2022**).

Nurses work in a complicated workplace that necessitates a wide range of skills, which may be stressful. Nurses typically confront physical demands while giving direct care, as well as psychosocial challenges when delivering nursing care to patients. The workload of nurses is determined by the combination of these needs. Previous research has indicated that the volume and intensity of work impact nurses' burnout and desire to leave. Furthermore, work-related stress prolongs nurses' absence, and job expectations have been proven to induce burnout and severely impact newly certified nurses' mental health. (**Chang & Cho, 2021**).

Shrestha et al (2021) stated that a person's self-efficacy is shaped by how they interact with their social and physical environments. Human functioning is the result of the combination of intrapersonal factors, behavior, and the environment in which one grows and lives. A person's self-efficacy varies based on his or her physiological state, experiences, social interactions, and other situations in which he or she lives or works. As a result, the self-efficacy of caregivers might vary depending on the nature of their profession and the people they care for

Caregivers' self-efficacy relates to their views or confidence in their abilities to display caring actions and attitudes and to develop compassionate

connections with their clients. Confidence is an important factor in improving care professionals' competence and job happiness, as well as their view of management and practical elements of care. The greater an individual's confidence, the more active they are in their attempts to achieve a given action or skill. (**Shrestha et al., 2021**).

Monitoring students' career growth, academic and professional selections, job entrance behaviors, and perseverance in college all depend heavily on their level of career self-efficacy, which is a crucial precondition to choosing a vocation. Career beliefs are the person's assumptions and judgments regarding the job route they anticipate taking in life. According to **Chan (2020)**, these views are the outcome of a "critical cognitive variable influencing individuals' intentions to actively develop their potential and follow their career goals."

Social support happens when there is a social network present; the term is frequently used in a wide sense, referring to any mechanism by which social ties may offer health and well-being. A review of the literature finds that social support is defined subjectively, including emotional support, esteem support, social integration or network support, information and feedback giving, and practical aid. Social support has been shown to promote health by improving individuals' coping capacities, health, and quality of life when faced with stress; similar connections have been observed in many diverse groups of both healthy and sick people (**Drageset, 2021**).

Material or emotional support that a person receives during their socialization processes is known as social support, and it encourages positive ideals, rationality, and optimism in their professional goals (**Chan, 2019**). Social support is a multifaceted notion that refers to the social and psychological support that an individual gets or considers to be accessible from family, friends, and the community. Perceived social support refers to the belief that help is accessible if required and includes both emotional and instrumental support. Importantly, the efficacy of social support is determined by the fit between the source, kind, timing, and individual requirements (**McLean et al., 2023**).

Balancing care strategies must be internalized by nursing students as they prepare for their jobs. If students are exposed to high-quality clinical interactions in a therapeutic and dynamic relationship, they will be able to synthesize and evaluate their knowledge, skills, and experiences and make accurate and effective decisions. This allows individuals to put their abilities and knowledge to the test and make decisions about their studies. Clinical practice education delivers genuine, complicated, and organized data that other educational exchanges cannot simply supply. It enhances one's capacity for critical analysis, clinical reasoning, and problem-solving. The internship, which takes place in the last year of the school of nursing, is the most rigorous type of clinical practice instruction (**Çingöl et al., 2020**).

Staff needs to be creative, flexible, and aware in order to adjust to change. They therefore have to

comprehend and operate in the VUCA world (**He, Meadows, Angwin, Gomes, and Child, 2020**). VUCA is composed of four components. First, volatility weakens predictability due to sudden and unforeseen changes, which in turn cause instability. The second is uncertainty, which is defined as a high probability of unforeseen events and uncertainty regarding the future. The third aspect is complexity, which complicates the cause-and-effect relationship. The last one is ambiguity, implying that there is a high chance of misinterpreting the facts and that the answers to why-questions such as "when, how, and why" are unclear (**Fedoniuk, 2020; Yurdasever & Fidan, 2020a**).

Volatility, Uncertainty, Complexity and ambiguity (VUCA's) components may not necessarily be dangerous on their own. The co-occurrence of the components, however, and the growth in their intensity might transform it into a danger. Strategic thinking is thus required for leaders to succeed in challenging VUCA settings (**Schick, Hobson, & Ibisch, 2017**). VUCA, in a nutshell, explains the internal and external situations that organizations confront today. The best VUCA leaders have vision, understanding, clarity, and agility, according to "Ten New Leadership Skills" for an Uncertain World (**Johansen, 2017**). In the VUCA environment, in order to succeed, leaders must constantly modify people, processes, technology, and structure. This needs agility and rapidity in decision-making (**Rimita, Hoon, & Levasseur, 2020**).

Numerous areas have examined the VUCA approach, such as industry, commerce, technology, the environment, and health (**Akdemir et al., 2021; Baran & Woznyj, 2020**). Collaboration between health management and workers is now an absolute necessity for innovation and sustainability. This calls for independence, inventiveness, quickness, and adaptability, in addition to a corporate culture that binds people to the organization as a whole. (**Krawczynska-Zaucha, 2019; Millar et al., 2018**). In a VUCA environment, the most essential thing is to forecast the future and increase institutional collaboration using new solutions. Making choices together and valuing each member's views are the most critical aspects of success (**Liu & Chen, 2021**).

Volatility, Uncertainty, Complexity and ambiguity (VUCA) represents a type of change that staff should notice in order to cope with environmental changes without wasting resources due to incorrect issue identification. Volatile changes occur often and generate variability; uncertain changes are those about which managers are unsure; complicated changes are perplexing owing to the interconnection of processes and data; and ambiguous changes require immediate attention (**Bennett & Lemoine, 2019**).

According to **Johansen (2017)**, staff needs the abilities to be able to lead successfully in a volatile and uncertain environment (VUCA). **Johansen (2017)** has determined ten new leadership qualities that senior executives will require in the future ; staff should be maker instinct (exploit the inner drive to build and grow

things); staff should have Clarity (the ability to make sense of clutter); staff should be able to flip dilemma (able to turn dilemmas into advantages); staff should have immersive learning (learn from unfamiliar environments by immersing myself in the process); staff should be Bio-empathy (try to see and learn things from nature's point of view); staff should have Constructive depolarization (calm in tense situations and facilitate constructive engagement); staff should have Quiet transparency (open and authentic); staff should have Rapid prototyping (the ability to quickly create early versions of practical innovations); staff should be smart-mob organizing (using current media to create and engage change networks) and finally staff should have Commons creation (endorsing shared assets that benefit others and heightening competition).

Significance of the study

Because nursing students are exposed to dynamic and frequently changing healthcare environments, developing VUCA (Volatility, Uncertainty, Complexity, and Ambiguity) abilities is especially vital during their internship. Nursing students who have strong professional beliefs are more receptive to change and adaptive in volatile and uncertain conditions. They are more prone to see obstacles as chances for progress than as dangers.

Nursing students with high career self-efficacy can make decisions even in the midst of uncertainty. In difficult situations, they are more likely to trust their own judgment and take the initiative. Students who have high levels of career

self-efficacy are more likely to feel that they can solve complicated challenges effectively. This belief in their ability to solve problems is critical in VUCA circumstances. A strong support structure offers emotional assistance to nursing students during difficult times. This can assist them in dealing with the emotional demands of working in a VUCA workplace.

Overall, internship nursing students may be more equipped to succeed in VUCA circumstances if they have positive professional attitudes, high career self-efficacy, and a strong social support network. Educational institutions and healthcare facilities may help promote these abilities by promoting reflective practices and offering chances for feedback, which can help nursing students improve their skills. All of this may be accomplished by first investigating and measuring the amounts of these factors. The authors chose to conduct this study to investigate these associations.

Furthermore, it is hoped that the results of this research, in today's volatile, uncertain, complex, and ambiguous (VUCA) environment, make intern nursing students able to realize their full potential, perform better, and become more effective, competitive, and relevant. This will help them deal with rapidly changing and challenging market conditions.

The aim of the study

The aim of this study was to assess the role of career beliefs, career self-efficacy, and social support in developing VUCA skills among internship nursing students.

Research questions.

- 1:** what is the role of Career beliefs in developing internship nursing students VUCA skills ?
- 2:** what is the role of Career self-efficacy in developing internship nursing students VUCA skills?
- 3:** what is the role of Social support in developing internship nursing students VUCA skills?

Research design:

A descriptive-correlational research design was utilized to achieve the aim of the current study.

Sample:

The study participants consisted of a convenient sample of all available nursing intern students (250 out of 375) who were enrolled in the internship year during the academic year 2022-2023, agreed to participate in the study, and were trained in different clinical settings.

Setting:

Study data were collected from different clinical settings where internship nursing students have been trained; they included pediatric units, medical units, emergency reception, and obstetric units at Kasr El-Aini Hospital, which is affiliated with the Cairo University Teaching Hospitals.

Tools for data collection:

Data was collected using the following self-administered questionnaires.

1st tool: personal characteristics data sheet: It was developed by the authors. It was used to collect personal characteristics information like:

internship nursing students' gender, Age, training specialty, previous academic qualification,

2nd tool: The Career Beliefs Questionnaire. It was developed by **Hess et al., 2009**, it used to measure nursing intern students' responses toward career beliefs. This tool was consisted of five dimensions named as: -Career confidence, career activity, career independence, career flexibility, and career positivity. Each dimension was consisted of two items.

3rd tool: The Career Self-Efficacy Questionnaire. It was developed by **Betz et al., 1996**, it used to measure nursing intern students' responses toward career self-efficacy. This tool was consisted of five dimensions named as: - Self-appraisal, occupational information, goal selection, planning, and problem solving. Each dimension was consisted of two items.

4th tool: The Social Support Questionnaire. It was developed by **Ho & Chan, 2017**, it used to measure nursing intern students' responses toward social support. This tool was consisted of three dimensions named as: - Colleagues support (4 items), friends and family personal support (4 items), and friends and family work support (2 items).

5th tool: The VUCA skills Questionnaire. It was developed by **Johansen, 2017**, it used to measure nursing intern students' VUCA skills. This tool was consisted of five dimensions named as: - Maker instinct, clarity, dilemma, flipping, immersive learning, bio-empathy, and constructive

depolarizing. Each dimension was consisted of two items.

Scoring system

For all used questionnaires participants were asked to mark their answers against a 5- point Likert scale ranged from strongly disagree to strongly agree, (1 strongly disagree- 2 disagree- 3 neutral- 4 agree- 5 strongly agree. Regarding the Career Beliefs, Career Self-Efficacy and Social Support Questionnaires, the total score for each tool was 50 scores, the scores for each tool were interpreted as following: less than or equal to 16. 16 was considered low; 17–33 was considered moderate; and 34 and above were considered high. The total VUCA skills questionnaire scores were also 50 scores but it was categorized into two levels unsatisfactory level (less than 60%) and satisfactory level ($\geq 60\%$).

Validity of the tools:

The tool's content was developed and tested for its validity by two experts from the nursing administration department and one professor from the psychiatric department at the Faculty of Nursing at Cairo University. Each expert on the panel was asked to examine the questionnaires for content, coverage, clarity, wording, length, format, and overall appearance. In light of their recommendations, important adjustments were made. A double translation of English-Arabic-English was done to ensure the validity of the translation.

Reliability:

Reliability was tested using Cronbach's alpha coefficient for the four questionnaires. Results for

the career belief scale, career self-efficacy scale, social support scale, and VUCA skillset were 0.888%, 0.78%, 0.87, and 0.84%, respectively, indicating that the four scales were highly reliable.

Pilot study:

A pilot study was carried out on (n = 25) (10%) of the total sample of internship nursing students who are under training across various units before data collection to ensure the applicability of the tools and to estimate the time needed to complete the used tools. No recommended modification was done. The pilot sample was included.

Procedures:

Upon receiving the approval letter from the Vice Dean for Community Services and Environment Development, the investigators obtained the nursing intern students' names from the nursing administration department at the Faculty of Nursing, Cairo University to obtain their permission to conduct the study among the internship students online (Google Form). After that, the investigators designed the questionnaires on the Google Forms app, and a meeting was conducted with the intern students on the Microsoft Team application "online" to explain the aim, importance, and benefits of the study and seek their cooperation. The list of students and their distribution in the work setting were identified by the clinical instructors who supervise them to distribute the link. The researchers organized an online fixed time (1-2 hours) daily for any questions or clarifications if needed from the students. The data were collected in August 2023.

Ethical considerations:

Ethical approval was obtained from the scientific research ethics committee in the Faculty of Nursing, Cairo University, before conducting the study. Also, an official agreement was obtained from the head of the nursing administration department to conduct the study. Participation in this study was entirely voluntary; each participant had the right to accept or refuse participation in the study. The participants were informed that by submitting the questionnaires, it was considered that they agreed to participate in this study. Anonymity and confidentiality were assured through the coding of the data, and every participant had the right to withdraw from the study at any time. Participants were assured that this data would not be reused in another study without the permission of the participants. The ethical considerations included explaining the purpose and nature of the study, and participation was protected from any risk. The collected data was used for the purpose of the research.

Statistical design:

Data that was obtained from the study tools was categorized, tabulated, and analyzed, and data entry was performed using the SPSS software (statistical package for social sciences version 25.0). Descriptive statistics were applied (e.g., mean, standard deviation, frequency, and percentage). This study used the correlation coefficient, T-test, and Onaway ANOVA to identify the significant relations between the selected variables and used linear regression analysis to assess the prediction of variables. The significant

level of all statistical analyses was 0.05 (p value). The p value >0.05 indicates an insignificant result.

Results

Distribution of the internship nursing student according to their personal characteristics (n = 250) figures from 1–5

Figure 1 shows that 87.2 % of the nursing internship students were in the age group of 23–25 years.

Figure 2 displays that 70 % of the internship nursing students were female.

Figure 3 portrays that (79,6 %) of the internship nursing students joined the faculty after secondary school.

Figure 4 shows that 57.6% of internship nursing students worked in a private hospital during their years of study or internship.

Figure 5 indicates that 27.2 percent of internship nursing students were trained in the obstetric training area, while 4.4% of them were trained in their area of choice during data collection.

Table (1) illustrates that the total mean percentage for career beliefs was 46.4 %. Additionally, nursing internship students displayed their highest mean percentages (57.0% and 49.0%) in areas related to career confidence and career flexibility. Conversely, the lowest percentage (36%) of nursing internship students' responses were related to the career activity domain.

Table (2) shows that the total mean percentage for social support was 49.2 %.

Additionally, the internship nursing students displayed their highest mean percentages (52.0% and 51.0%) in areas related to friends and family personal support and friends and family work support. Conversely, the lowest percentage (45.5%) of nursing internship students' responses were related to colleagues' support.

Table (3) The presented data show that the total mean percentage for career self-efficacy was 49.6%. Furthermore, the internship nursing students' highest mean percentages (52%, 51%, and 51%) corresponded to domains titled “planning, self-appraisal, and problem solving, respectively. Conversely, the lowest percentage (46%) of internship nursing students' responses were related to goal selection.

Table (4) illustrates that the total mean percentage of VUCA skills stood at 49.2 %. Additionally, internship nursing students' responses were most prominent in the dimensions of quiet transparency and maker instinct, with mean percentages of 54%, 52%, and Conversely, the lowest percentage (48%) of nursing students' responses were related to dilemma flipping.

Table (5a) shows that there was a significant difference between internship nursing students' age ($T = 2.233$, $P = 0.026$) and their total responses regarding career beliefs, career self-efficacy, social support, and VUCA skills. While there was no relationship between internship nursing students' gender and training specialty and their total responses regarding career beliefs, career self-efficacy, social support, and VUCA skills.

Table (5b) shows that there was a statistically significant relationship between intern nursing students' previous academic qualification as well as working in a hospital during their years of study and their total responses regarding : career beliefs (T = 4.267, P<0.001**, T = 3.080, P = 0.002*), career self-efficacy (T = 5.279, P<0.001**, T = 2.661, P = 0.008*), social support (T = 3.475, P<0.001**, T = 2.501, P = 0.013*), and VUCA Skills (T = 4.213, P<0.001**, T = 3.013,

P = 0.003*), respectively.

Table (7) illustrates that total career beliefs ,total career self-efficacy and total social support have a strong positive effect on the development of VUCA skills ($\beta = 0.121$, sig =0.020*), ($\beta = 0.473$, Sig. = <0.001**) and ($\beta =0.137$, Sig. = 0.006*) respectively as indicated by internship nursing students.

Figure (6) indicated that there was a highly statistically significant correlation between total VUCA skills and total career beliefs as indicated by internship nursing students ($X^2= 0.33$, $p<0.001^{**}$).

Figure (7) indicated that there was a highly statistically significant correlation between total VUCA skills and total career self-efficacy as indicated by internship nursing students ($X^2= 0.66$, $p<0.001^{**}$)

Figure 8 indicated that there was a highly statistically significant correlation between total VUCA skills and total social support, as indicated by internship nursing students ($X^2 = 0.43$, $p<0.001^{**}$).

Figure 1: Distribution of the internship nursing students according to their age (n = 250)

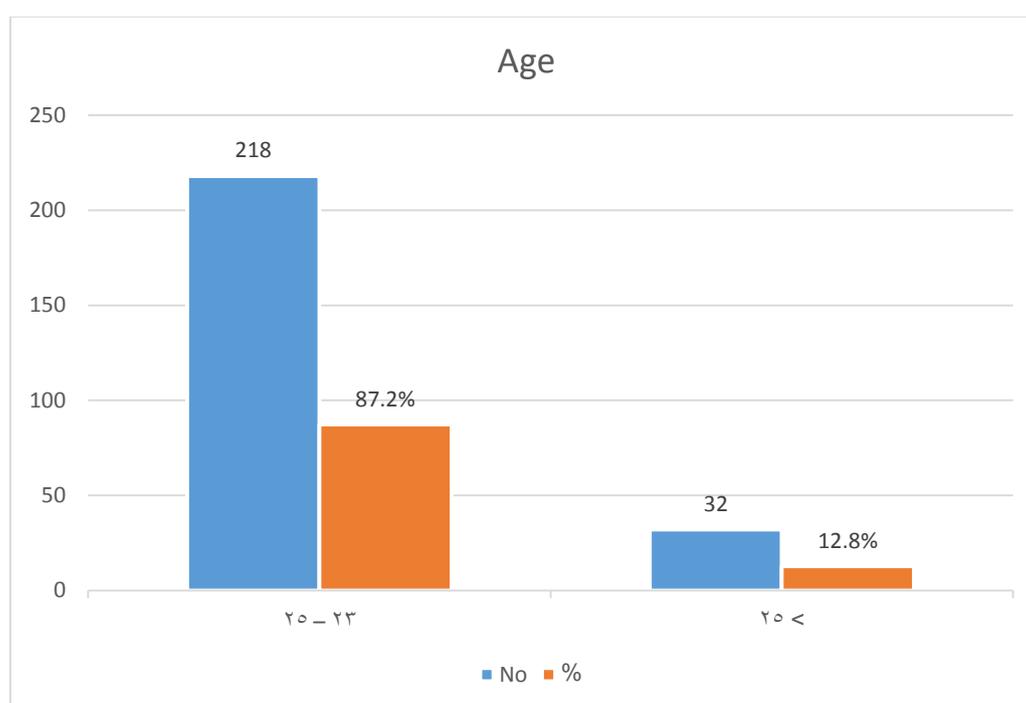


Figure 2: Distribution of the internship nursing students according to their gender (n = 250)

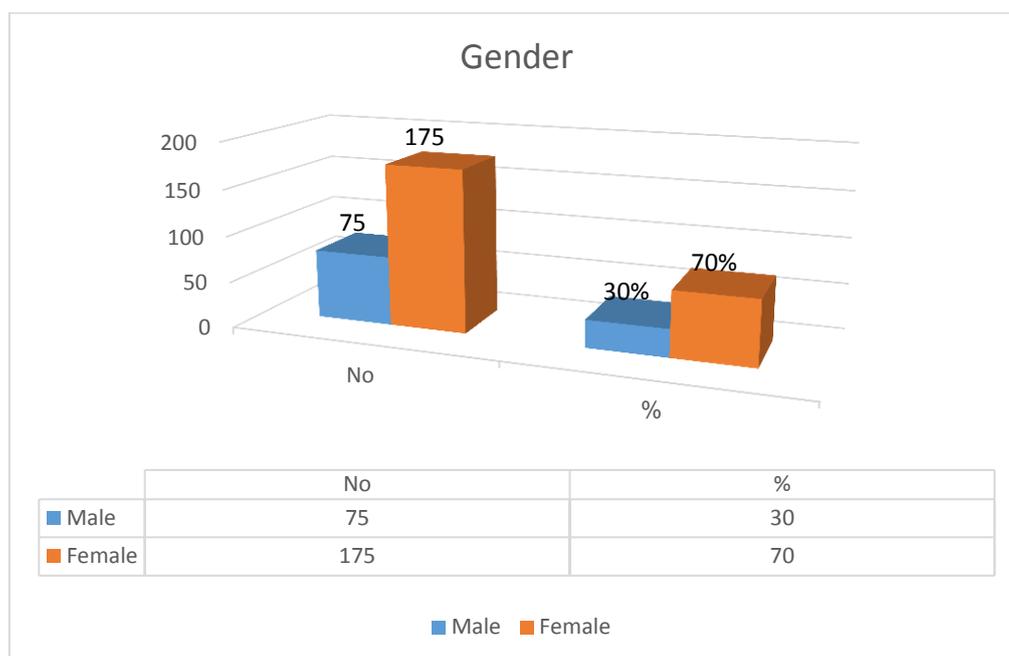


Figure 3: Distribution of the internship nursing students according to their previous academic qualifications (n = 250)

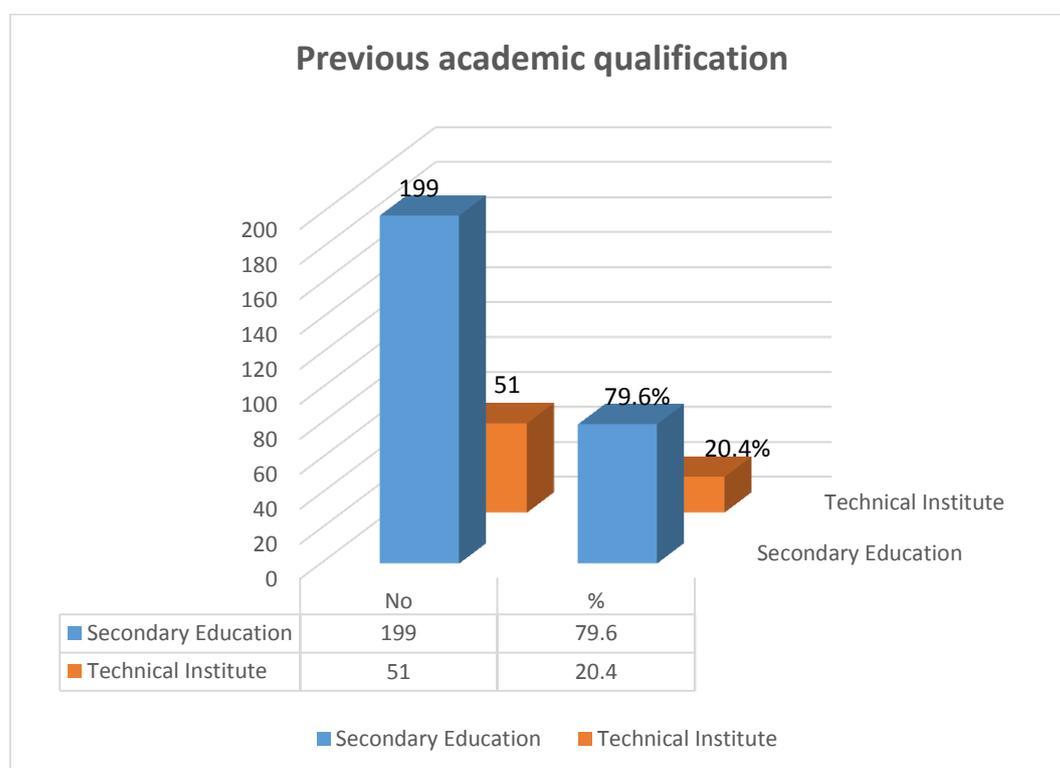


Figure 4: Distribution of the internship nursing students according to working in a private hospital during their years of study (n = 250)

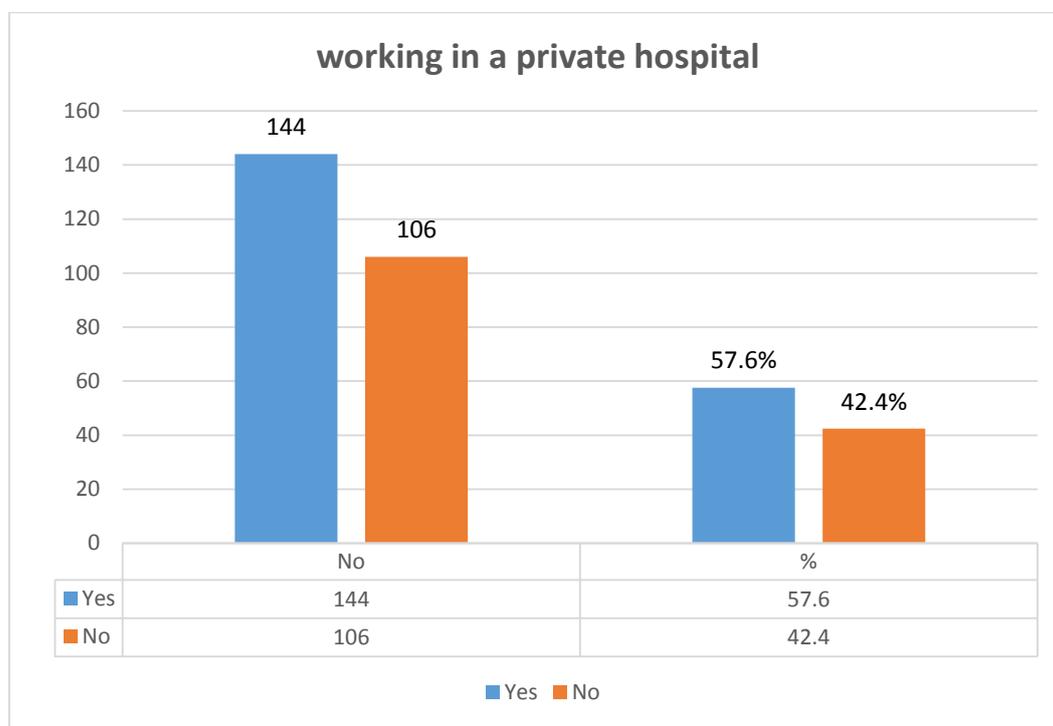


Figure 5: Distribution of the internship nursing students according to their training specialty (n= 250)

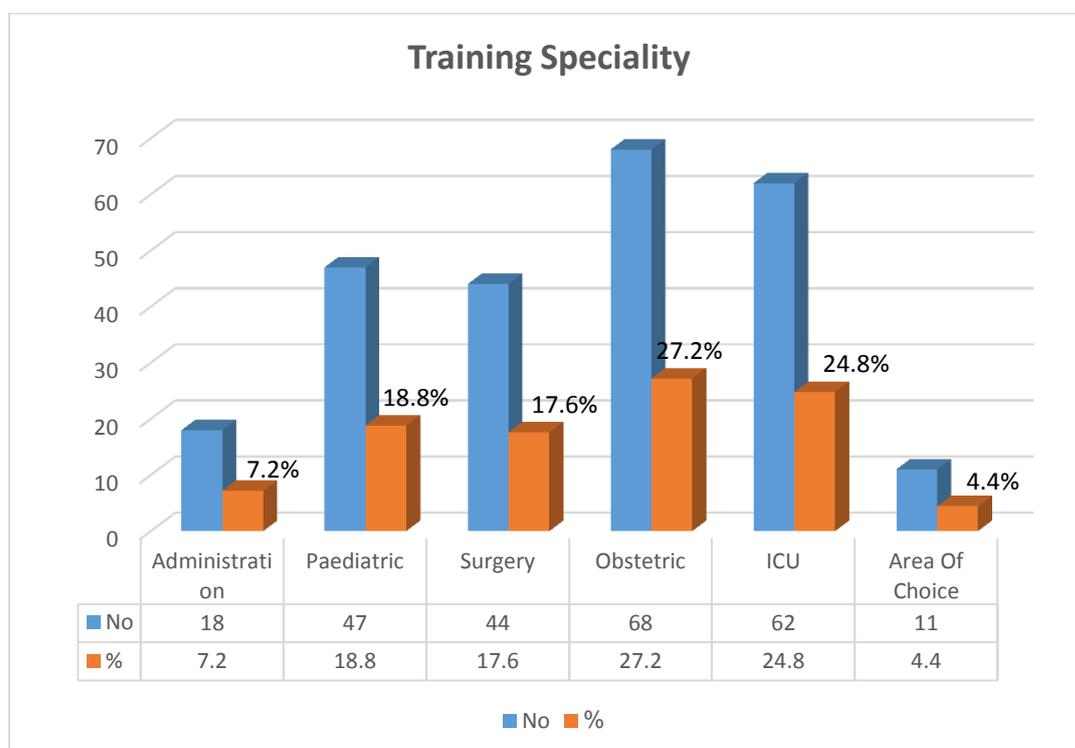


Table (1): Mean and mean percentage of internship nursing students' responses regarding career beliefs dimensions (n = 250)

Career beliefs	Min	Max	Mean & SD	Mean %
Career confidence	2	10	5.7 ±0.7	57.0
Career activity	2	10	3.6 ±1.4	36.0
Career independence	2	10	4.5 ±1.1	45.0
Career flexibility	2	10	4.9 ±1.0	49.0
Career positivity	2	10	4.4 ±1.1	44.0
Total	10	50	23.2 ±3.3	46.4

Descriptive statistics (Mean & SD)**Table (2): Mean and mean percentage of internship nursing students' responses regarding social support dimensions (n = 250)**

Social support	Min	Max	Mean & SD	Mean %
Colleagues support	4	20	9.1 ±2.1	45.5
Friends and family personal support	4	20	10.4 ±1.9	52.0
Friends and Family work support	2	10	5.1 ±1.1	51.0
Total	10	50	24.6 ±4.4	49.2

Descriptive statistics (Mean & SD)**Table 3: Mean and mean percentage of internship nursing students' responses regarding career self-efficacy dimensions (n = 250)**

Career self – efficacy	Min	Max	Mean &SD	Mean %
Self- appraisal	2	10	5.1 ±1.0	51
Occupational information	2	10	4.9 ±1.1	49
Goal selection	2	10	4.6 ±1.1	46
Planning	2	10	5.2 ±1.0	52
Problem solving	2	10	5.1 ±0.9	51
Total	10	50	24.8 ±3.7	49.6

Descriptive statistics (Mean & SD)**Table 4: Mean and mean percentage of internship nursing students' responses regarding VUCA skills dimensions (n = 250)**

VUCA Skills	Min	Max	Mean &SD	Mean %
Maker instinct	1	5	2.6 ±0.5	52
Clarity	1	5	2.5 ±0.6	50
Dilemma flipping	1	5	2.4 ±0.6	48
Immersive learning	1	5	2.5 ±0.6	50
Bio-empathy	1	5	2.5 ±0.5	50
Constructive depolarizing	1	5	2.4 ±0.6	48
Quiet transparency	1	5	2.7 ±0.5	54
Rapid prototyping	1	5	2.5 ±0.5	50
Smart-mobile organizing	1	5	2.5 ±0.6	50
Commons creating	1	5	2.5 ±0.6	50
Total	10	50	24.6 ±4.4	49.2

Descriptive statistics (Mean & SD)

Table 5a: Relationship between internship nursing students' personal characteristics and their total responses regarding career beliefs, career self-efficacy, social support, and VUCA skills (n = 250)

Socio-Demographic Characteristics	Career Beliefs	Career Self – Efficacy	Social Support	VUCA Skills
	Mean \pm SD	Mean \pm SD	Mean \pm SD	Mean \pm SD
Age (Years)				
23 – 25	23.3 \pm 3.4	24.8 \pm 3.6	24.5 \pm 4.4	25.0 \pm 3.9
> 25	22.0 \pm 2.2	24.6 \pm 4.2	25.4 \pm 4.2	26.2 \pm 3.3
Student's T – Test	T=2.233, P=0.026	T=0.413, P=0.680	T=1.146, P=0.253	T=1.596, P=0.112
Gender				
Male	23.3 \pm 3.6	24.8 \pm 3.7	24.8 \pm 4.2	25.3 \pm 4.1
Female	23.1 \pm 3.1	24.8 \pm 3.6	24.5 \pm 4.4	25.1 \pm 3.7
Student's T – Test	T=0.451, P=0.652	T=0.034, P=0.973	T=0.584, P=0.560	T=0.368, P=0.713
Training speciality				
Administration	22.4 \pm 2.8	23.6 \pm 4.1	24.3 \pm 3.7	23.5 \pm 3.9
Child care	23.7 \pm 3.2	24.5 \pm 3.4	24.5 \pm 4.6	25.6 \pm 3.9
Surgery	22.9 \pm 3.6	24.5 \pm 4.5	24.9 \pm 4.0	25.4 \pm 4.1
Gynecology	23.0 \pm 2.7	25.3 \pm 3.2	24.6 \pm 4.6	25.2 \pm 3.3
Critical cases care	23.7 \pm 3.7	24.9 \pm 3.6	24.5 \pm 4.6	25.1 \pm 4.0
Area of choice	21.4 \pm 3.0	26.0 \pm 2.6	24.5 \pm 4.1	25.8 \pm 3.8
Oneway ANOVA	F=1.522, P=0.183	F=1.039, P=0.395	F=0.061, P=0.998	F=0.903, P=0.480

*Oneway ANOVA, T – Test *A significant level at $p \leq 0.05$*

Table 5b: Relationship between intern nursing students' personal characteristics and their total responses regarding career beliefs, career self-efficacy, social support, and VUCA skills (n=250)

Socio-Demographic Characteristics	Career Beliefs	Career Self – Efficacy	Social Support	VUCA Skills
	Mean \pm SD	Mean \pm SD	Mean \pm SD	Mean \pm SD
Previous academic qualification				
Secondary Education	22.1 \pm 3.2	23.6 \pm 3.6	23.5 \pm 4.4	24.1 \pm 3.8
Technical Institute	24.3 \pm 3.6	26.6 \pm 3.7	25.9 \pm 4.4	26.6 \pm 3.7
Student's T – Test	T=4.267, P<0.001**	T=5.279, P<0.001**	T=3.475, P<0.001**	T=4.213, P<0.001**
Have you ever worked in a hospital during your years of study or internship?				
Yes	23.8 \pm 3.5	25.3 \pm 3.5	25.2 \pm 4.2	25.8 \pm 3.7
No	22.5 \pm 3.0	24.1 \pm 3.7	23.8 \pm 4.6	24.3 \pm 3.9
Student's T – Test	T=3.080, P=0.002*	T=2.661, P=0.008*	T=2.501, P=0.013*	T=3.013, P=0.003*

*T – Test *A significant level at $p \leq 0.05$*

Table 7: Linear regression analysis for the effect of total career belief , total career self-efficacy and total social support on developing VUCA skills as indicated by the internship nursing students (n = 250)

Independent variables	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Career beliefs	0.131	0.056	0.112	2.350	0.020*
Career self – efficacy	0.494	0.057	0.473	8.719	<0.001**
Social support	0.120	0.043	0.137	2.776	0.006*
Dependent variable : VUCA skills					

*Linear regression analysis *A significant level at $p \leq 0.05$*

Figure 6. Correlation between total VUCA Skills and total Career beliefs as indicated by internship nursing students (n=250).

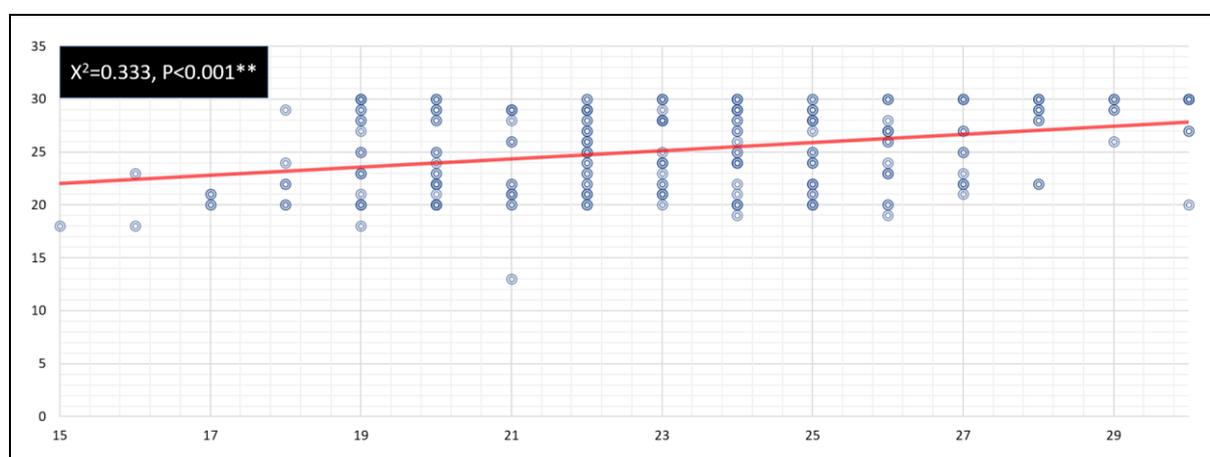


Figure 6. Correlation between VUCA Skills and Career beliefs

*Correlation *A significant level at $p \leq 0.05$*

Figure 7. Correlation between total VUCA Skills and total Career self- efficacy as indicated by internship nursing students (n=250).

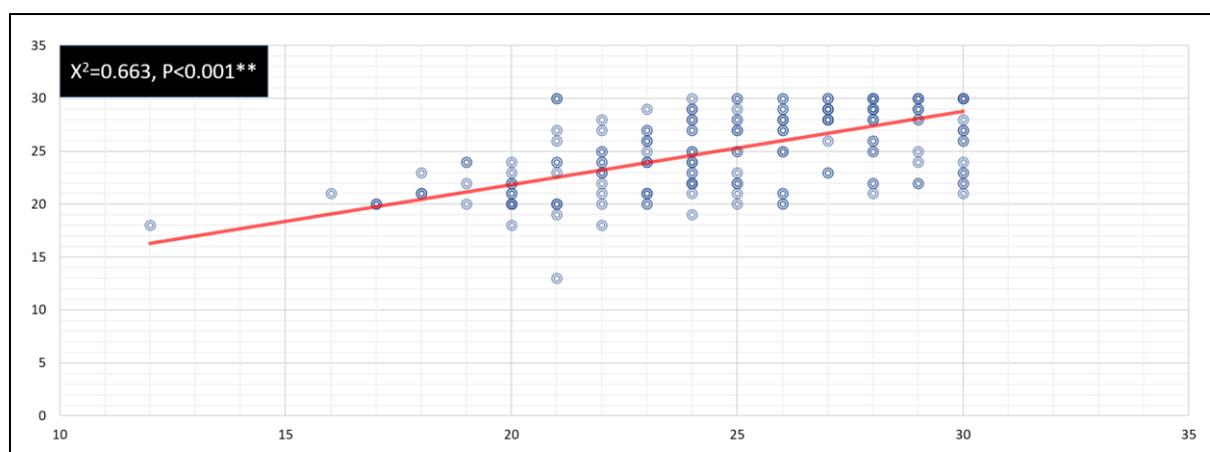
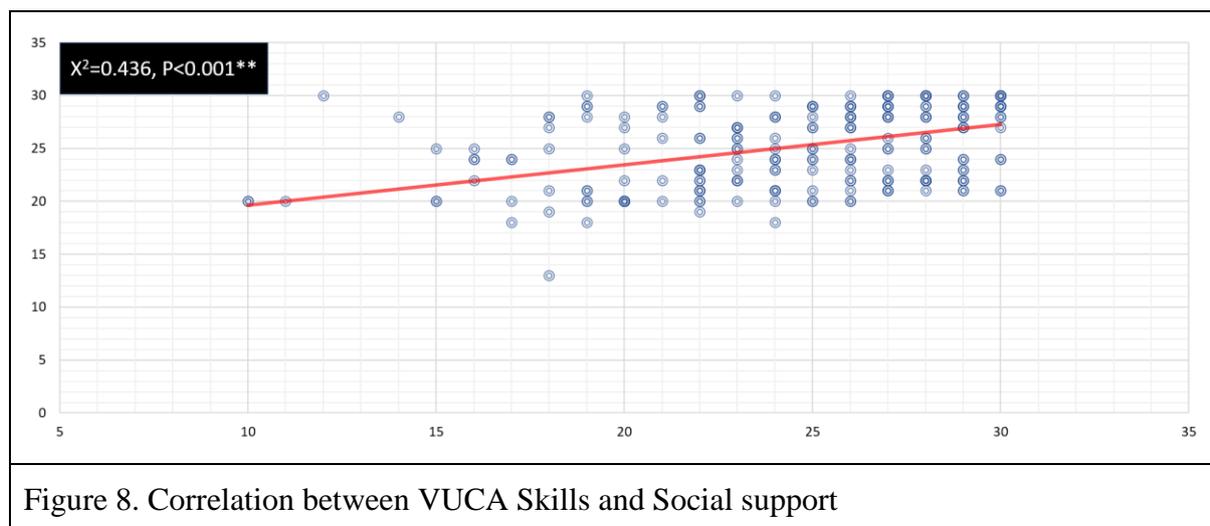


Figure 7. Correlation between VUCA Skills and Career self – efficacy

*Correlation *A significant level at $p \leq 0.05$*

Figure 8. Correlation between total VUCA skills and total social support as indicated by internship nursing students (n = 250).



Correlation A significant level at $p \leq 0.05$*

Discussion

Regarding personal characteristics, the study's findings indicated that most of the students were aged between 23 and less than 25 years old. The majority of them were female. Additionally, most of the nursing students joined the faculty after secondary school. Moreover, nearly more than half of them worked in a private hospital during their years of study or internship.

In terms of mean scores, the findings of the current study illustrated that the internship nursing students had a career belief with a mean percentage near to half, especially in relation to career confidence and career flexibility. While one-third of them perceived career activity as the lowest dimension related to career belief, congruent with this result is a study conducted by **Kautish et al. (2022)** that revealed that career confidence and career flexibility domains had the highest mean scores (4.72 ± 1.61 and 5.37 ± 1.54), respectively, compared to career activity, which had the lowest mean scores (3.24 ± 1.49).

In the same vein, **Dan et al. (2018)** pointed out that empowered individuals with new ideas and innovative characteristics gain confidence in their ability to overcome setbacks and respond to challenging tasks efficiently; they are thus hesitant to leave their current position and increase their chances of career success.

From the authors' point of view, career beliefs enable individuals to form and modify their professional interests and aspirations, as well as adopt new career practices. Thus, professional beliefs have a significant impact on an individual's career planning and decisions. It also pushes people to do their best in everything and enhance their abilities in order to increase performance and achieve their goals in order to boost their career confidence.

Regarding the mean scores of social support, the current study results found that internship nursing students were socially supported by over half of their friends and family, either personally or professionally. In line with these findings,

Baria & Gomez (2022) discovered that social support from family, friends, and nonrelative adults was quite high for pupils. In addition, student learning and development in terms of physical health and well-being, social connectivity, social and emotional development, school experiences, and utilization of after-school time were all extremely high.

According to **Wang et al. (2018)** found that friend support had a substantial favorable direct influence on self-efficacy and an indirect effect on nursing resilience. This would imply that administrators and managers must understand how to build colleague support, develop self-efficacy, and establish a healthy work environment. Furthermore, their findings revealed that friend and coworker support had a large beneficial direct influence on overall self-efficacy. More specifically, early-career registered nurses reported greater levels of general self-efficacy as a result of increased perceived social support from friends and coworkers.

Furthermore, the current study found that internship nursing students assessed professional self-efficacy with a mean percentage slightly higher than half, most notably in the aspects of planning, self-assessment, and problem resolution. In contrast, goal selection received the least number of replies among internship nursing students. Individuals with strong self-efficacy can enhance their confidence in overcoming challenges, establish higher professional objectives, and mobilize all necessary resources to attain those goals. According to **Dan et al. (2018)**,

personal efficacy and the detection of job results might drive people to deliberately moderate their behavior and demonstrate excellent self-management.

The authors claimed that internship nursing students have gone through a variety of experiences and have been exposed to a variety of important scenarios during their studies, allowing them to assess themselves and identify their strengths and limitations. Furthermore, students gain expertise in setting goals and planning their lives, which allows them to face difficulties and strive to address them correctly, increasing their sense of self-efficacy.

In addition, the findings of the current study declared that internship nursing students demonstrated VUCA skills with a mean percentage of nearly half, which was most prominent in the dimensions of quiet transparency and maker instinct. Conversely, the lowest percentage of internship nursing students' responses were related to dilemma flipping. In congruence with these results, the findings of the study conducted by **Kutish et al.,(2022)** that revealed that quiet transparency and Commons Creating had the highest mean scores. While the constructive depolarizing had the lowest mean score .

The authors argued that internship nursing students had passed through different clinical training along their studying years, which requires the student to be innovative, creative, and able to add new ideas and use brainstorming to deal with unexpected or complicated situations, for example, the shortage of staff or supplies compared to the

patients' ratio. All these skills could help the internship nursing students develop VUCA skills.

Based on the findings of the current study, there was a significant difference between internship nursing students' age and their total responses regarding career beliefs, career self-efficacy, social support, and VUCA skills. While there was no relationship between internship nursing students' gender and training specialty and their total responses regarding career beliefs, career self-efficacy, social support, and VUCA skills. According to **Hennein et al., (2022)**, scores for the total self-efficacy scale were not correlated with age, in agreement with the literature showing that general self-efficacy is an age-independent construct. In addition, scores for the total self-efficacy scale were positively correlated with years of experience and perceived social support. Scores were also higher among those with higher educational attainment in one-way analysis of variance.

From the author's point of view, the argument for the difference in the internship nursing student's perception could be that the higher the age, the higher the perception, mental development, ability to decide and how to deal with problems, ability to set goals, and ability to have self-insight, which reflect a sense of self-efficacy.

Moreover, the current study findings explore that there was a statistically significant relationship between internship nursing students' previous academic qualifications as well as working in a hospital during their years of study and their total

responses regarding career beliefs, career self-efficacy, social support, and VUCA skills. The authors claimed that the nursing students who had a technical degree from nursing institutes before enrollment in the nursing faculties or who working during years of studying are more oriented, expert, skillful, and have the ability to appraise and decide because of recurrent exposure to different situations and clinical experiences skills than the new students who had a secondary school or didn't work during years of studying which play a role in their perception regarding nursing profession as a whole and in particular it can enhance their career belief, self – efficacy which enable them to enlarge their connections with friends, supervisors or coworkers so it is easily to widen the range of social support, thus all of these factors could help developing the sense of VUCA skills.

In the same context, **Alshammari & Alenezi (2023)** concluded that their study's findings emphasized the significance of nursing education in improving nursing workforce competencies and job satisfaction. Self-efficacy and social support were discovered to be important mediators of this relationship, with prior experience serving as a critical moderator. Social support from colleagues and superiors can significantly improve the effectiveness of nursing training and promote nursing workforce competencies and job satisfaction.

Furthermore, the current study revealed that total career beliefs have a strong positive effect on the development of VUCA skills, as indicated by internship nursing students. Inconsistent with these

results is the finding conducted by (**Kutish et al., 2022**) that stated career belief did not have a significant effect on VUCA skills. Moreover, incongruent with this study, (**Canzittu , 2020**) showed that when an individual chooses the career, the individual accounts only for the current scenario in the external environment and not the VUCA context.

Based on the current study, total career self-efficacy has a strong positive effect on the development of VUCA skills, as indicated by internship nursing students. In the same line, **Doğanülkü and Korkmaz (2023)** emphasized the direct effect of general self-efficacy on proactive career behavior, which was found to be statistically significant. In addition, **Arghode et al. (2021)** suggested that career self-efficacy plays a vital role in career decision-making, generating interests, and deciding career goals. By improving career self-efficacy among college students, career interests can be reshaped. Findings evidence a relationship between education abroad, career competencies, and career development.

Moreover, the current study emphasized that total social support has a strong positive effect on the development of VUCA skills, as indicated by internship nursing students. In alignment with this finding, **Hansti et al. (2021)** asserted that where support is available and encouragement is given, encountering VUCA with other team members is a great opportunity to practice VUCA skills like self-management and leading others, collaboration, open communication, coordination of matters, problem solving, and abilities in reflective

discussion about one's own work. Every educator wants their students to be more motivated, curious, creative, preserving, and capable of seeing possibilities even in impossible situations.

The current study revealed that there was a highly statistically significant correlation between total VUCA skills and total career beliefs, as indicated by internship nursing students. Congruent with the result, **Doğanülkü and Korkmaz (2023)** found that individuals with more proactive personality traits and a higher belief in what they can do are more likely to exhibit proactive career behavior.

Furthermore, the findings illustrated that there was a highly statistically significant correlation between total VUCA skills and total career self-efficacy, as indicated by internship nursing students. Consistent with these results, **Doğanülkü & Korkmaz (2023)** stated that proactive career behavior had positive and significant relationships with proactive personality and general self-efficacy. These findings indicated that while proactive personality and general self-efficacy scores increased, proactive career behavior scores also increased. In addition, a significant, positive relationship was found between proactive personality and general self-efficacy.

Finally, the findings illustrated that there was a highly statistically significant correlation between total VUCA skills and total social support, as indicated by internship nursing students. The authors' point of view is that nursing students who are creative and brave enough to

encounter the unknown and can cope with uncertainty and unexpected situations are very socially supported, either by their family or friends, where they can gain more experience from recurrent connections. A clinical learning environment where uncertainty and unexpected changes are present is a good preparation for real working life. When the students encounter challenges and can experience difficult phases and situations in their studies, they will learn to manage those in the future and understand that uncertainty is actually part of life in general. They will also be able to seek support or advice from seniors or supervisors, which is crucial to expanding their social relationships and upgrading their experience in dealing with changes or complex, unexpected circumstances.

Conclusion

The study's findings answered all three research questions as the results indicated a highly statistically significant positive effect of total career beliefs, career self-efficacy, and social support on developing VUCA skills.

In addition, based on the study findings, it could be concluded that the internship nursing students moderately perceived career beliefs, career self-efficacy, and social support and had an unsatisfactory level of VUCA skills. Furthermore, there were significant differences in the perceptions of career beliefs, career self-efficacy, social support, and VUCA skills regarding internship nursing students' age. There was also a statistically significant relationship between internship nursing students' previous academic

qualifications as well as working in a hospital during their years of study and their total responses regarding career beliefs, career self-efficacy, social support, and VUCA skills.

Recommendations

Here are some suggestions to promote the professional growth and well-being of intern nursing students who report having moderate career views and career self-efficacy, insufficient social support, and subpar VUCA abilities during their internship:

- Nursing administrators and managers should offer diverse and challenging clinical experiences to expose students to varying healthcare scenarios.
- Counseling sessions can be held individually or in groups to address self-efficacy and career beliefs. Mentorship programs that pair up aspiring nurses with more seasoned nurses can provide direction and assistance.
- Training programs for improving nursing students' socio-emotional competency levels that enhance their self-efficacy, provide social support, and create a better training environment for future nursing generations.
- Academic institutions have to be continuously pushed to modernize or enhance their methods of instruction. One way to achieve this is to promote frequent feedback meetings with professors or preceptors to assess performance and establish attainable objectives.

- Academic institutions ought to host seminars that emphasize developing VUCA abilities.
- Provide instruction in decision-making, resilience, flexibility, and problem-solving to get students ready for fast-paced healthcare environments.
- Academic institutions have to assess internship programs on an ongoing basis, get student input, and modify curricula in response to students' needs and experiences.
- Adapting these suggestions to the unique requirements and difficulties that nursing students encounter can greatly aid in their development, self-assurance, and general success both during and after their internship.

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