The Relationship between Meaning in Life and Nursing Profession Self-Efficacy among Nursing Interns

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Abstract

Background : Meaning in life (MIL) and Profession self-efficacy (PSE) as two priorities in psychiatric and mental health nursing research still need more investigation specifically among nursing interns in terms of their levels and associations. MIL and PSE have an impact on nursing performance in different ways, but few studies have investigated the association between these two important dimensions.

Purpose : This study intended to investigate the Meaning in Life (MIL) and Nursing Profession Self-Efficacy (NPSE) among nursing interns at Imam Abdulrahman bin Faisal University (IAU) in Dammam, Saudi Arabia, in terms of their levels and associations.

Methods: As a cross-sectional descriptive design was used in this study, 121 nursing interns at IAU were recruited. Ninety-eight participants were completed the study online questionnaire, which included some demographic, health-related , and academic data, the Meaning in Life

Scale (MILS) and Korean version of Nursing Profession Self-Efficacy Scale (K-NPSES).

Results: The mean MILS score was (3.6±0.62) indicating a moderate level of meaning in life outcomes among participants. However, "goals in life" was the highest scoring outcome (M=4.09, SD=0.93). In addition, the mean score of participants on K-NPSES was (4.1±0.67) indicating a high level of NPSE. The nursing ethics situation factor was rated highest with a mean score of (4.28 ±0.71).

Correlation analysis showed MIL was positively related to NPSE (r= 0.335, p=0.001). Regression analysis also showed MIL was a good predictor of NPSE (ß=0.298; p=0.003) and explained 17.9% of the variation in the NPSE of participants. Furthermore, participant's age was positively correlated with MIL (r=0.238, p=0.018), other variables (gender, marital status, having illness and role model, and time spent in an internship) showed no significant influences on MIL and NPSE among participants, except participant's age ,which was related to MIL only.

Conclusion: Meaning in life and profession self-efficacy assessment in nursing is an important outcome since the measurement of these two dimensions and their associations may provide information to academic service providers to address and improve the nursing meaning in life and profession self-efficacy scale during their academic and training lives, and therefore improving their future performance and helping their patients. Interventions based on enhancing nursing meaning in life may enable those nurses to reach and maintain better meaning in life, which in turn affects their nursing profession self-efficacy.

Keywords: Meaning in life, nursing profession self-efficacy, nursing interns, Saudi Arabia.

* Introduction

The "Nursing" specialty aims to prepare graduate nursing students to practice the nursing profession to maintain the health of patients, prevent and treat diseases, in addition to improving the lifestyle of the individual and society, applying the latest foundations of teaching, scientific training, implementation, care, research, and management. Nursing is a noble and dignified human profession, as the nurse performs this profession for anyone who needs it.

When carrying out this task, the nurses do their best and display all

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their energies and expertise to save patients from their pain at any time or place. Therefore, nurses are distinguished from others in all fields of work by their sacrifices and patience under all circumstances. Accordingly, everyone recognizes nurses for the sanctity and nobility of their work. However, the increase in health care problems and the work to provide an advanced level of health services to individuals has placed enormous responsibilities on the shoulders of the nurse in cultivating professional knowledge, skills and attitudes with a solid nursing philosophy and fulfill their ethical and moral obligations to raise the level of health in the field of medical and nursing services (Kim et al., 2022).

In today's era, meaning in life (MIL) and profession self-efficacy (PSE) are critical nursing characteristics for overcoming adversity in healthcare systems. Recently, efforts have been made to understand the role of MIL and PSE as two dimensions in determining psychological adjustment of nurses. Because nursing students are the future of the nursing workforce, it is important to enhance our understanding of these two dimensions on this population.

The problem at hand centers on the significance of Meaning in Life (MIL) and Profession Self-Efficacy (SE) for nursing students. MIL, defined as the personal sense and significance of life, has gained global attention due to its role in motivating individuals to engage meaningfully in their lives. Recognizing MIL is crucial for nursing students, as it aligns with positive views, well-being, and the quality of patient care, fostering the continuity of the nursing profession (Cheng et al., 2021; Tsai et al., 2018). Conversely, SE, reflecting one's belief in performing specific tasks, is pivotal in the nursing field, predicting performance, work motivation, and overall well-being. High SE levels contribute to nurses' clinical excellence, decision-making skills, and organizational commitment, ultimately enhancing the quality of patient care (Caruso et al., 2016; Christensen-Salem et al., 2020; Kim et al., 2022).

* Significant of Study

This study fills a gap in understanding the connection between workers' well-being, job satisfaction, and productivity. It specifically explores the relationship between Meaning in Life (MIL) and Nursing Profession Self-Efficacy (NPSE)

among nursing interns, recognizing MIL's importance for the continuity of the nursing profession (Kamel & Hashish, 2015; Cheng et al., 2021).

* Purpose of the Study

This study investigate MIL and NPSE among nursing interns in terms of their levels and associations.

* Methodology

This cross-sectional, descriptive, and correlational study aims to explore the levels of Meaning in Life (MIL) and Nursing Profession Self-Efficacy (NPSE) among nursing interns at Imam Abdulrahman bin Faisal University in 2023. The study design involves a descriptive approach to observe and measure variables and a correlational research design to analyze the relationship between MIL and NPSE. The target population consists of 121 nursing interns from various hospitals affiliated with the university. The sample size, calculated using the Stephen Thompson formula, is determined to be 92 nursing interns. Inclusion criteria involve nursing interns from Imam Abdulrahman bin Faisal University, while exclusion criteria include nursing interns from other universities. The study anticipates valuable insights into the MIL and NPSE of nursing interns, contributing to the understanding of their psychological well-being and professional efficacy.

* Questionnaire

The study employs two well-established instruments to assess Meaning in Life (MIL) and Nursing Profession Self-Efficacy (NPSE) among nursing interns. The Meaning in Life Scale (MILS) by Wang and Liao (2015) comprises 33 items across five factors: contentment with life, goals in life, enthusiasm and commitment, understanding, and snse or meaning to human existence. MILS items are rated on a 5-point Likert scale, demonstrating high reliability (Cronbach's alphas ranging from 0.71 to 0.93) and validity in previous studies. The Korean Version of Nursing Profession Self-Efficacy (K-NPSES) (Kim et al., 2022) includes 19 items grouped into four factors: Nursing practice situation, Nursing ethics situation, Integrated nursing situation, and Nursing cooperation situation. K-NPSES items use a Likert scale, and the instrument exhibits strong internal consistency (Cronbach's alphas ranging from 0.72 to 0.94) and validity. These robust instruments ensure a comprehensive evaluation of MIL and NPSE among nursing interns in the study.

The first section of the questionnaire collects sociodemographic, academic, and general information, including variables like age, gender, marital status, religion, time spent in the internship year, presence of psychiatric or medical illness, and having a role model in nursing professional performance. This information serves to control potential impacts on MIL and NPSE (Wang & Liao, 2015; Kim et al., 2022).

The second section of the study questionnaire incorporates the Meaning in Life Scale (MILS) by Wang and Liao (2015). MILS, consisting of 33 items across five factors, assesses aspects such as life satisfaction, goals, enthusiasm, understanding, and the sense or meaning to human existence. Participants rate items on a 5-point Likert scale, reflecting their agreement or disagreement with statements. The MILS has demonstrated high reliability (Cronbach's alphas ranging from 0.71 to 0.93) and validity in previous studies, ensuring its robustness in assessing meaning in life.

The third section introduces the Korean Version of Nursing Profession Self-Efficacy (K-NPSES) developed by Kim et al. (2022). This scale comprises 19 items across four factors, assessing nursing self-efficacy in various situations, including nursing practice, ethics, integrated care, and cooperation. Participants rate their confidence levels on a Likert scale ranging from completely no confidence to completely confident. The K-NPSES exhibits strong internal consistency (Cronbach's alphas ranging from 0.72 to 0.94) and validity, ensuring its reliability in evaluating nursing profession self-efficacy among participants.

* Data collection procedure

The data collection process commenced after obtaining approvals from the Community Nursing department and the Institutional Review Board at IAU. Online surveys were created using Google Forms, and nursing interns were invited via email to participate in the study. The survey remained open for four weeks, with reminder emails sent in the second and third weeks. The questionnaires, comprising 62 questions, took approximately 20 to 25 minutes to complete. A total of 98 nursing interns responded, resulting in an 81% response rate. The collected responses were exported into an Excel spreadsheet and securely stored for

subsequent data analysis. The survey period spanned from April 09, 2023, to May 09, 2023, ensuring a comprehensive collection of data.

* Ethical Considerations

The study received approval from IAU's Institutional Review Board and obtained official instrument usage permissions. Nursing interns were assured of confidentiality, privacy protection, and the voluntary nature of their participation. No personal identifiers were collected, ensuring data encryption and secure storage by the researcher.

* Data Analysis

SPSS version 26 facilitated statistical analyses. Descriptive statistics summarized participant characteristics, and MILS and KNPSES scores were categorized based on mean scores. Non-parametric tests were used for non-normally distributed data, and internal consistencies were assessed with Cronbach's alpha. Linear regression assumptions were tested before analysis, addressing multicollinearity, outliers, normality, linearity, homoscedasticity, and independence of residuals.

* Results

This chapter proceeds as follows: the description of the general information of participants; the results of the level of MIL and NPSE among nursing interns (research question 1); the association between the level of MIL and nursing interns' PSE (research question 2), and factors influencing these two dimensions (MIL and NPSE).

* Descriptive statistics of participants' general information

Table 1 summarizes some general information of the participants (demographic and health-related characteristics, participant's time spent in an internship year, and participant having a role model in his/her nursing professional performance).

Participants ranged in age from 22 to 28 years with a mean of (23 ± 1.1). The majority of participants (66.3%) were females, and the most of them (68.4%) were single. In addition, Participants ranged in time spent in an internship year (weeks) from 4 to 60 weeks with a mean of (38.5 ± 9). The majority of participants (86.7%) have no psychiatric illnesses, and (79.6%) of them have no medical illnesses. However, depression was the most frequent psychiatric illness among the participants who experienced psychiatric illnesses (38.5%), and hypertension was the most frequent medical illness among the participants

who experienced medical illnesses (25%). In addition, only 14.3% of participants had a role model in their nursing professional performance.

Table 1. General information of study participants (N=98)

Variable	Total (n=98)%
Age (mean ± SD)	23 ± 1.1
Gender	
Male	33 (33.7%)
Female	65 (66.3%)
Marital status	
Married	27 (27.5%)
Single	67 (68.4%)
Divorce/Widowed	4 (4.1%)
Time spent in an internship year (number of weeks) (mean ± SD)	38.5 ± 9
Have you ever experienced any psychiatric illness?	
Yes	13 (13.3%)
No	85 (86.7%)
If yes, please specify	
Depression	5 (38.5%)
Bipolar	3 (23%)
Stress	2 (15.4%)
Major depressive disorder	1 (7.7%)
Social anxiety	1(7.7%)
Obsessive-compulsive disorder	1(7.7%)
Have you ever experienced any medical illness?	
Yes	20 (20.4%)
No	78 (79.6%)
If yes, please specify	
Hypertension	5(25%)
Diabetic	3(15%)
Severe Anemia	3(15%)
Flu	3(15%)
Seasonal flu and body aches	2(10%)
Bronchial asthma	1(5%)
UTI	1(5%)
Appendicitis	1(5%)
Back pain	1(5%)
Do you have a role model in your nursing professional performance?	
Yes	14 (14.3%)
No	84 (85.7%)

* Results of the level of Meaning in Life (MIL) among participants

Table 2 presents the descriptive statistics for the level of MIL among participants using MILS (Wang & Liao, 2015). Results in Table 2 demonstrated that the level of MIL among participants was in moderate score (mean=3.6; SD=0.62).

Results also showed that "Goals in life" as a factor of MILS has a high score (mean=4.09±0.93) among other scale factors. This indicates that participants believe very highly that they have goals in their life. Other scale factors were in moderate level according to the scoring key used in this study. However, for these factors, the means scored by participants were as follows: Sense or meaning to human existence (3.57±0.77), Enthusiasm and commitment (3.56±0.71), Contented with life (3.46±0.74), and Understanding (3.46±0.75).

Table 2. Meaning in Life (MIL) and its factors score of the study participants

Factors	Mean ± SD		Indication
Contented with life	3.46 ± 0.74		Moderate
Goals in life	4.09 ± 0.93		High
Enthusiasm and commitment	3.56 ± 0.71		Moderate
Understanding	3.46 ± 0.75		Moderate
Sense or meaning to human existence	3.57 ± 0.77		Moderate
Overall Scale	**3.6 ± 0.62**		Moderate

* Results of the level of Nursing Professional Self-Efficacy (NPSE) among participants

Table 3 presents the descriptive statistics for the level of NPSE among participants using (KNPSES) (Kim et al., 2022). Results in Table 3 demonstrated that the level of NPSE among participants was in high score (mean=4.1; SD=0.67).

Results also showed that all subscales (factors) of KNPSES have high scores according to the scoring key used in this study. The nursing

ethics situation factor was rated highest with a mean score of (4.28±0.71) points, followed by "Integrated nursing situation" and "Nursing practice situation" factors with equal means scores of 4.08. The nursing cooperation situation factor comes in the final rank with a mean score of (3.9±0.92).

Table 3. Nursing Professional Self-Efficacy (NPSE) and its factors scores of the study participants

Factors	Mean ± SD	Indication
Nursing practice situation	4.08 ± 0.81	High
Nursing ethics situation	4.28 ± 0.71	High
Integrated nursing situation	4.08 ± 0.74	High
Nursing cooperation situation	3.9 ± 0.92	High
Overall Scale	**4.1 ± 0.67**	**High**

* Association between participants' Meaning in Life (MIL) and Nursing Profession Self-Efficacy (NPSE)

As Kolmogorov–Smirnov test revealed that MILS and KNPSES with all their subscales were not normally distributed ($p < 0.05$) except "Contented with life scale" (Appendix H), Spearman correlation test was used to uncover the relationship between these two scales and subscales.

As shown from Table 4, there is a significant positive correlation between the level of MIL and the level of NPSE (r= 0.335, p=0.001). This indicates that when the level of MIL of nursing interns increases, the level of their NPSE also tends to increase and

vice versus. In addition, all MIL subscales showed significant correlations with KNPSES (as a total score): Contented with life (r=0.200, p= 0.049); Goals in life (r=0.269, p=0.007); Enthusiasm and commitment (r=0.234, p= 0.021); Understanding (r= 0.242, p= 0.016), and Sense or meaning to human existence (r=0.380, p= 0.000).

Regarding to subscales of KNPSES, there were also significant positive correlations between the level of MIL and all KNPSES subscales: Nursing practice situation (r= 0.415, p=0.000); Nursing ethics situation (r=0.201, p=0.048); Integrated nursing situation (r=0.251, p=0.016); and Nursing cooperation situation (r=0.266; p=0.011).

Furthermore, Sense or meaning to human existence as MIL subscale (factor) was the only factor that showed significant positive correlations with all subscales of KNPSES. In addition, the only subscale of KNPSES that showed significant positive correlations with all subscales of MIL was "Nursing practice situation". Moreover, there was a significant positive correlation between "Goals in life" and "Nursing cooperation situation" (r=0.215, p=0.003).

Table 4. Correlations between the study scales and subscales

Factors	Nursing practice situation	Nursing ethics situation	Integrated nursing situation	Nursing cooperation situation	KNPSE
Contented with life	0.270**	0.048	0.159	0.175	0.200*
Goals in life	0.349**	0.173	0.153	0.215*	0.269**
Enthusiasm and commitment	0.373**	0.161	0.131	0.150	0.234*
Understanding	0.297**	0.142	0.177	0.163	0.242*
Sense or meaning to human existence	0.406**	0.289**	0.274**	0.317**	0.380**
MILS	0.415**	0.201*	0.251*	0.266*	0.335**

Note: Spearman correlation test was used.

**Significant at *p≤0.01*

*Significant at *p≤0.05*

For further investigation of the impact of the MIL of nursing interns on the level of their NPSE, a linear regression analysis was performed (Table 5). The results of the multicollinearity analysis showed that the two variables entered the regression model had value for the Variance Inflation Factor (VIF) equals to (1) which is less than (2.5). This, in turns, indicates the absence of multicollinearity of the study data (the variables included in the regression model are highly correlated with each other). To identify outliers in the study data, the Mahalanobis test was used, which indicated that there were no outliers in the data that could affect the regression model (Max-Mahalanobis Distance=7.1, p=0.89; Min-Mahalanobis Distance=0.05; p=1.00).

Regarding to the regression standardized residual distributions of the study data, the regression model showed normal distributions for these residuals. In addition, the results of the scatterplot of the residuals showed that the bulk of the data points are between (-1) and (1). In addition, no outliers were observed in the scatterplot as all data points were less than (3) and higher than (-3) (Appendix I). Accordingly, all the assumptions of applying the regression test in this study were met. Table 6 shows the most important results of this test.

It is clear from the results presented in Table 5 that the regression model between the MIL of nursing interns and their levels of NPSE was statistically significant; the value of the F statistic was (9.375), with a significance level of less than 1%. The value of the adjusted R^2 of (0.179) also indicates that 17.9% of the variation in the NPSE of participants can be explained by their levels of MIL. The positive ß coefficient (0.298; p=0.003) indicates that there is a statistically significant positive effect of the level of MIL on the level of NPSE among surveyed nursing interns. This means that the nursing intern who having a high MIL tends to have a higher NPSE.

Table 5. Regression model for Nursing Profession Self-Efficacy (NPSE) as dependent variable

Variable	Standardized regression coefficients ß	Standard error	t-value	p-value
MIL	0.298	0.642	3.062	0.003**
R^2	0.189**			
Adjusted R^2	0.179**			
F	9.375**			

Significant at $p \leq 0.01$; Dependent variable: NPSE

* **Meaning in Life (MIL) and Nursing Profession Self-Efficacy (NPSE) according to demographic and other related factors.**

Table 6 demonstrates the means and standard deviations of each category of demographic, health-related characteristics, and role model regarding the scores of MILS and NPSE of the study participants.

No one of study variables presented in Table 6 showed significant differences in MIL and NPSE (P > 0.05). Gender, marital status, two types of illness and having role model showed no significant differences in the used two present study scales. Furthermore, detailed analysis also showed that all subscales of MIL and NPSE demonstrated no significant differences according to the variables presented in Table 6.

Table 6. Differences in Meaning in Life (MIL) and Nursing Profession Self-Efficacy (NPSE) according to demographic and other related factors (N=98)

Variable	Meaning in Life			Nursing Profession Self-Efficacy		
	Mean rank	Sum of ranks	P	Mean rank	Sum of ranks	P
Gender						
Male	54.79	1808	0.189	50.15	1655	0.871
Female	46.82	3043		49.17	3196	
Marital status						
Married	53.39	1444.5	0.404	53.07	1433	0.442
Single/Divorce/Widowed	48.02	3409.5		48.14	3418	
Have you ever experienced any psychiatric illness?						
Yes	46.04	598.5	0.637	53.35	693.5	0.600
No	50.03	4252.5		48.91	4157.5	
Have you ever experienced any medical illness?						
Yes	48.48	969.5	0.857	54.85	1097	0.345
No	49.76	3881.5		48.13	3754	
Do you have a role model in your nursing professional performance?						
Yes	53.5	749	0.57	50.75	710.5	0.859
No	48.83	4102		49.29	4140.5	

Note: Mann-Whitney test was used to identify any differences.

As age and time spent in an internship year (number of weeks) were continuous variables, Spearman correlation test was used to uncover the relationship between these two variables and MIL and NPSE of the study participants (Table 7).

Results in Table 7 demonstrate that there is only a significant positive correlation between participants' age and their rating of MIL (r=0.238, p=0.018), indicating that becoming more mature nurse increases the chance of having more MIL. However, participant's age has no significant correlation with NPSE. On the other hand, time spent in an internship year (number of weeks) has also no significant correlation with both MIL and NPSE among participants.

Table 7. Correlations between participant's age and internship year time, and Meaning in Life (MIL) and Nursing Profession Self-Efficacy (NPSE)

Variables	Age	Time (weeks)
Meaning in Life (MIL)	0.238*	-0.008
	P=0.018	P=0.937
Nursing Profession Self-Efficacy (NPSE)	0.002	0.094
	P=0.986	P=0.359

Note: Spearman correlation test was used

**Significant at *p≤0.05*

* Discussion

* Discussion of Results

In the present study, MIL was measured using MILS as a reliable and valid measures developed by Wang and Liao (2015). From a literature review, Cheng et al. (2021) was the only study that used this scale to measure MIL among nursing students. The main findings of the current study revealed that the MIL score was at a moderate level (mean=3.6; SD=0.62), which is inconsistent with the findings from Cheng et al. (2021) that showed low MIL among nursing students. This difference in MIL levels may be attributed to the selected sample in the Cheng et al. (2021) study. Cheng et al. (2021) study sample was nursing students, whereas the current study sample was nursing interns. This means that the current study sample was exposed to new practical and social experiences during their in-

hospital training that may influence their levels in MIL. Wong & Stiller (1999) concluded that work experience is one of the primary sources of the meaning of life, as through it the individual feels that he/she is useful in some way to himself /herself, his/her family or others. It appears that the best predictor of an individual's work is his or her level of achievement motivation (Zhang et al., 2015). Social relations are another essential source of meaningful experiences in the lives of respondents in many studies (Ebersole & Flores 1989; Taylor et al., 2000).

Nurses' moderate level MIL compared to Cheng et al. (2021) findings may be related to religious differences, which might serve as a great source of meaning in one's life. Religious systems provide individuals with an integrated collection of beliefs, goals, and meanings that can be utilized to comprehend the world's complexities as well as handle personal incidents and issues. Furthermore, Cheng et al. (2021) findings indicated that religion (yes or no) correlated significantly with nursing students' MIL levels.

Moreover, the effort exerted by Imam Abdulrahman bin Faisal University in encouraging nursing students to have a clear career planning

as well as offering opportunities for the development of nursing professional skills may play to enhance nursing students MIL. However, as nurses' MIL level is related to physical, emotional, resilience, coping, burnout, belonging, nursing professional and provision of care (Edwards & Holden, 2001; Doğan et al., 2012; Mason, 2013; Barnett et al., 2019; Miao & Gan, 2020; Aslan et al., 2021; Rocha et al., 2021), maintaining a high MIL level among nursing interns is a priority in their lives of nurses.

Furthermore, the results demonstrated that "Goals in life" as à factor of MILS has a high score (mean=4.09±0.93) among other scale factors. This means that study sample have à high level in feeling of life purpose as the main focus of this subscale (Goals in life). According to Wang and Liao (2015), the individual's realization of the importance of having a purpose for his/her life makes him/her a healthy, active and influential person in society. Edwards & Holden (2001) study showed that having a life purpose feeling is positively correlated with coherence and coping mechanisms. This partially supports the assumption that meaning in life acts as a barrier between strategies for coping and

suicidal signs in undergraduate students.

Using K-NPSES, the analysis of the NPSE showed that participants have a high score (mean=4.1; SD=0.67). Nursing ethics situation factor was rated highest with a mean score of 4.28 (±0.71) points, followed by "Integrated nursing situation" and "Nursing practice situation" factors with equal means scores of 4.08. Nursing cooperation situation factor comes in the final rank with a mean score of 3.9 (±0.92). However, these findings were inconsistent and tended to be higher than to that reported in some studies conducted in other countries (e.g., Haghani et al., 2013; Zhao et al., 2015; Chegini et al., 2019; Liu & Aungsuroch, 2019; Chen et al., 2020; Yao et al., 2021; Cheng et al., 2021). The variabilities in the level of SE across previous studies may due to the variability in sample size, the selected sample and measurements. Most of previous studies used a general SE scale, however, the current study used a specific SE scale focusing on nursing profession naming NPSE. Other study used a specific SE scale but focusing on another stream of the current study (e.g., relational occupational coping SE; Fida et al. (2018) .

Bandura (1977) believed that the behavior of the initiative and perseverance of the individual depends on his/her expectations and judgments related to behavioral skills and their competencies to deal with the challenges of the environment and the surrounding circumstances, and thus determine the success of treatment for emotional and behavioral problems. Accordingly, as nurses, having high NPSE means that they realize the capabilities they possess which represents the basis on which their aspirations are built and also determines their motivation for achievement to work towards achieving these aspirations (Zhang et al., 2015). Therefore, nurses' awareness of their activities affects the plans they prepare in advance. Nurses who have a high sense of SE draw successful plans that illustrate positive lines leading to realizing a clear goal for life and a bright future, while other nurses who judge themselves ineffective tend to draw failed plans, which makes the future in front of them dark.

Nurses' high level NPSE compared to other previous study findings indicating that sample study have high latent confidences in their abilities during new situations, or situations with many and unfamiliar demands, and they highly believe in their personal powers, with a focus on competence in explaining behavior without other sources or reasons for optimism. As a results, this high level of NPSE have reflections in their life aspects, as indicated by previous work, such as: work performance, resilience, burnout, mental health issues, turnover intentions, job satisfaction, nursing professional (Oh & Wee, 2016; Fida et al., 2018; Chegini et al., 2019; Falk-Brynhildsen et al., 2019; Liu & Aungsuroch, 2019; Chen et al., 2020; Santos, 2020) and academic success (Zhang et al., 2015; Kheirkhah et al., 2017; Ibrahim et al., 2019; Motahari et al., 2020; Karabacak et al., 2023).

Furthermore, since the Imam Abdulrahman bin Faisal University values based on belonging; mastery; team spirit; transparency; diversity; creativity; social responsibility, and entrenching these values in its educational curricula, it is not surprising that the current study showed a high level of NPSE with "Nursing ethics situation" factor was rated highest.

This study has identified correlations of the level of MIL and its subscales with the level of NPSE among nursing interns that were not

previously reported in research. In addition, impact of the MIL of nursing interns on the level of their NPSE was also identified using linear regression model.

The MIL and it's all subscales were significantly and positively correlated with NPSE, which is congruent with the findings of Cheng et al. (2021), who discovered a positive association between MIL and nursing general SE. In addition, the current study's findings revealed significant positive associations between MIL levels and all NPSE subscales. which is congruent with the findings of Cheng et al. (2021), who discovered a positive association between MIL and nursing general SE. In addition, the current study's findings revealed substantial positive associations between MIL levels and all NPSE subscales. From regression analysis results, MIL is a good predicator of NPSE and explained 17.9% of the variation in this dimension among study sample.

The above-mentioned findings can be explained that the higher the nurse's realization that their life have a specific meaning, that their existence is not in vain, and that they are required to perform certain tasks and specific duties towards themselves and towards patients and other people in their environment, this will be a key factor in raising their NPSE. However, these findings showed the association between Frankl's (1963) construct of purpose in life with Bandura's (1977) theory of SE in nursing working life.

The current study also investigated the influences of some nursing demographic variables (age, gender, and marital status), illnesses, role models and time spent in an internship year on nursing levels of MIL and NPSE. The results showed that participants' age was the only variable influencing the nurses' rating of their MIL; becoming a more mature nurse increases the chance of having more MIL. As no previous studies have directly focused on investigating the impact of the study selected variables on MIL and NPSE, there is no systematic information or guideline available for comparison purposes. Wong (2011) argues that the meaning of life represents the cognitive system that the individual forms about his/her personal experiences that went through his/her life. Therefore, as nurses get older, they will have more personal experiences that will play a vital role in giving their lives meaning and purpose. According to Erikson (1959), the relationship between age and

purpose in life becomes stronger as one gets older. He contended that as people grow older, they seek to accept the kind of person they have become by taking steps to reconcile the inevitable gap between what they set out to do in life and their actual accomplishments, meaning that life develops accordingly during these steps, specifically in late life (Krause & Rainville, 2020).

Consistent with adapted conceptual framework proposed for this study as mentioned previously in chapter one, MIL was identified as affecting the NPSE in nursing interns. Other factors included gender, marital status, time spent in internship, having medical or physical illness and role model were have no impact on nursing interns MIL and PSE. However, age was the only factor related to MIL of the participants.

* **Research and Practice Implications**

The study contributes to the literature on Meaning in Life (MIL) and Nursing Profession Self-Efficacy (NPSE) among nursing interns, highlighting their significance in various life and performance aspects. The findings suggest that enhancing MIL can positively influence NPSE among nursing interns. While academics or supervisors cannot directly instill these qualities, interventions focusing on life goals, purpose development, and confidence-building can be valuable. Universities should actively promote MIL through educational and counseling programs, fostering meaningful activities and awareness of valuable life goals.

* **Study Limitations**

Limitations include the focus on a single college, impacting generalizability. The use of a one-time measurement may not fully capture the dynamic nature of MIL and NPSE over time. Self-report instruments pose potential response bias and social desirability limitations, cautioning the interpretation of study conclusions.

* **Recommendations for Future Research**

Future research should explore longitudinal trends and dynamic changes in MIL and NPSE among nursing interns. Developing a conceptual model incorporating socio-demographic, academic, health-related, and personality variables as predictors of NPSE is recommended. Enrolling more , diverse cohorts and conducting qualitative research for a detailed understanding of nursing interns' experiences is essential for comprehensive insights.

* Conclusion

MIL and NPSE in nursing interns require attention, and accurate measurements and predictors are crucial. Interventions based on enhancing nursing MIL can positively impact NPSE, improving future performance and patient care. While this study focuses on Saudi nursing interns, the conceptual model developed can inform interventions and support related theories in diverse settings.

* Availability of Data

The data that were generated and analyzed in this study are mostly included within the published article. However, source material and the raw datasets are available from the corresponding author upon request.

* Abbreviations

GPA: Grade Point Average

IRI: Interpersonal Reactivity Index

IAU: Imam Abdulrahman Bin Faisal University

SPSS: Statistical Package for the Social Sciences

* Declarations

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* Contributions

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* Ethics declarations

* Ethics approval and consent to participate

The study is carried out in an ethical and confidential way. After explaining the research's purpose to

participants, their informed written consent was acquired, and participation in the study was optional. Before conducting the survey, the researchers got permission from the Institutional Review Board (IRB). The surveys were answered anonymously and were only gathered for study purposes. The surveys did not contain any personal information. Participation was entirely voluntary, with the option to withdraw at any moment. All methods were used in conformity with the applicable standards and regulations. The study was approved by the institutional review board (IRB) of the Imam Abdulrahman bin Faisal University's (IAU) (Ref. No. IRB-PGS-2023-04-165).

* Consent for publication

Not Applicable.

* Competing interests

The authors state that they do not have any conflicts of interest.

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