

# PERCEPTION OF INTERPROFESSIONAL COLLABORATION AND OCCUPATIONAL WELL BEING AMONG PRECLERK

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## Abstract

**Introduction:** Professionalism means the collection of values and skills that distinguish the attitude of humanism in professional work. Inter-professional collaboration, lifelong learning and empathy are components of medical professionalism that have been associated with professional well-being in health care staffs. **Aim of Work:** - To assess the overall perception of well-being and the general state of health of a sample of health professionals ending their internship year, to evaluate empathic attitude in dealing with patients, inter-professional collaborative work skills, and lifelong learning skills and to recognize which of these three elements have a positive influence on the overarching well-being of the sample of health professionals. **Materials and Methods:** The Scale of Life Satisfaction (SWLS) and the General Health Questionnaire (GHQ-28) were used, respectively, to assess the impression of wellbeing and overall general health state. Teamwork was assessed by The Jefferson Scale of Attitudes toward Physician-Nurse Collaboration (JSAPNC), lifelong learning assessed by The Jefferson Scale of Physicians Lifelong Learning (JeffSPLL), and Jefferson's scales of empathy were used to gauge professionalism (JSE-HP). To explain the linear link between the overall feeling of well-being and the other factors under study, a multiple regression model was created. **Results:** The study was conducted on 226 students half of them were medical students and others were nursing students, 116 (51.3 %) were males. The mean age of studied group was 23.9±1.7 years. There was a significant difference between medical and nursing students regarding SWLS, the mean score was 31.3 (3) and 18.5 (6.1) among medical and nursing students respectively. Multiple regression revealed that sex, discipline, anxiety and insomnia (GHQ), JSE and JSAPNC were associated with global wellbeing. **Conclusion:** The findings of the current study demonstrated the critical role which professionalism plays in enhancing the general wellbeing of healthcare practitioners

**Key words:** Professionalism, Empathy, Well-being, Interprofessional collaboration and Life- long learning

## Introduction

The transition from university to the working world is a time of change that is typically accompanied with difficulties and uncertainty on both a professional and personal level (Geirdal et al., 2019). Professionalism is required to ensure good patient care while enabling a proper adaptation to the working environment (López-Morales et al., 2020).

Although there is no single, comprehensive definition of professionalism in medicine, but it can be defined by experts and educators as: dependability to patients' confidence, accountability, respect, compassion, integrity, sound ethics, altruism, and honesty (Hoonpongsimanon et al., 2018).

Being able to work and give services to patients requires a mix of possessing talents, knowledge, and skills that are sufficient. This is accomplished in order to deliver effective treatment outcomes while preserving client safety. Professionalism in the health field also entails maintaining a positive outlook on the field and a strong sense of its significance (Ploylearmsang, 2021).

Three professional competencies

have been identified as particular elements of such professionalism in this context: interprofessional collaborative work skills, lifelong medical learning skills and empathy in dealing with patients (Berduzco-Torres, 2020).

According to our knowledge, no research has been done on this topic in Egypt.

## Aim of Work

(1) To assess the overall perception of well-being and the general state of health of a sample of health professionals ending their internship year; (2) To evaluate empathic attitude in dealing with patients, inter-professional collaborative work skills, and lifelong learning skills; (3) To recognize which of these three elements have a positive influence on the overarching wellbeing of the sample of health professionals.

## Materials and Methods

**Study design:** This is a cross-section study.

**Place and duration of study:** The study was conducted on 113 medical and the same number of nursing students at the end of their internship, before the start their clerk life. Medical and nursing students were chosen from Benha University hospital. Data was

collected during two weeks in October 2022.

### **Study Sample**

The sample size calculation was done by (Open epi 1.4.3) considering power 80%, CI 95 % and mean SWLs was 26.4 vs 23.8 in medical vs nursing students (Samaranayake, 2011). The revealed sample size was 93 in each group that was increased to 113 in each group to compensate drop out.

### **Study methods**

**A- A questionnaire** was used to collect data from all participants, that included some socio-demographic features as age, gender, profession (medicine or nursing), professional field, and whether they want to be specialized in primary care or others in the future.

**B- Scale With Life Satisfaction (SWLS):** Five items, created by Diener et al. 1985, measures one's level of life satisfaction; was used to the global perception of well-being. The SWLS assesses a person's level of general life satisfaction. Five items make up the SWLS. When completing the survey, participants are asked to rate their degree of agreement with each of the items using a seven-point scale, with

one indicating "Strongly disagree" and seven indicating "Strongly agree."

**C- General Health Questionnaire (GHQ-28):** It was used to measure the general state of health. GHQ-28 is self-report screening tool used to detect possible psychological disorder (Goldberg and Hillier, 1979). The four domains of the GHQ-28's 28 questions:"somatic symptoms," "anxiety and insomnia," "social dysfunction," and "severe depression";each contain seven questions. On a 4-point Likert scale, each question is graded. The overall score obtained across all areas is used to measure the general status of mental health. A great score is linked to a recent decline in mental health in the locations under investigation (Lobo et al., 1986).

**D- Jefferson Scale of Empathy (JSE-HP):** was used to evaluate the healthcare professional's empathy. The JSE rates how empathically a medical professional communicates with a patient. Three categories:"perspective taking," "compassionate care," and "walking in the patient's shoes"; are used to categorise the 20 items on the JSE. The scores for each item range from one (Strongly disagree) to Seven on a Likert scale (Strongly agree). A

higher score is related to a more patient-centered empathic perspective (Alcorta et al., 2011).

**E- Jefferson Scale of Attitudes toward Physician-Nurse Collaboration (JSAPNC)** was used to evaluate interprofessional collaboration. It uses four factors to assess interprofessional work skills: “collaboration and shared education,” which refers to the perception of interprofessional work as a whole; “caring as opposed to curing,” which involves the capacity to distinguish between the various professional fields of action that define nursing medicine; “autonomy of the nurse,” and “authority of the doctor,” which each refers to the perception of the particular profession. A Likert scale of one (Strongly disagree) to four (Strongly agree) is used to score the 15 items on the JSAPNC (Hojat et al., 1999).

**F- Jefferson Scale of Physicians Lifelong Learning (JeffSPLL)** : was used to assess lifelong learning .It measures a healthcare professional’s aptitude for looking up scientific information, being self-driven, and seizing opportunities for learning.

Three factors:”beliefs and motivations in learning,” “attention to learning opportunities,” and “skills in the quest for information”;are covered by the 14 items on the JeffSPLL .A Likert scale of one (Strongly disagree) to four (Strongly agree) is used to rate each item. (Hojat et al., 2009).

### **Consent**

An informed written consent was taken from all participants.

### **Ethical Approval**

The study protocol was approved by the Ethical committee of Benha Faculty of Medicine (RC 6-9-2022).

### **Data Management**

SPSS version 21 was used in statistical analysis. Number, percent and Chi-Square test was used to study relation of qualitative data but mean, standard deviation and unpaired t-test for quantitative variables. The measure of overall well-being (life satisfaction) was handled as a dependent variable in a multiple linear regression analysis, whilst all the other factors were considered to be possible independent variables. P value will be valid at less than 0.05%.

## Results

**Table (1 ): Characteristics of the studied group according to discipline :-**

Characteristics	Total (No :226)	Medical students (No: 113)	Nursing students (No: 113)	Test value	p value
Age (Mean ± SD)	23.91± 1.7	25.2 ± 1.4	22.6 ± 0.77	17.1#	<b>0.001**</b>
Sex (No %)					
Male	116 51.3	56 49.1	60 53.6	0.45##	0.50
Female	110 48.7	58 50.9	52 46.4		
Specialty intended (No %)					
PHC	117 53.7	55 51.9	62 55.4	0.26##	0.6
Other	101 46.3	51 48.1	50 44.6		
SWLS	24.96 ±8.01	31.3 ± 3	18.5 ±6.1	20.2#	<b>0.001**</b>
<b>GHQ 28</b>					
Somatic symptoms	12.7 ±4.75	9.6 ±3.1	15.9 ±4	13.2#	<b>0.001**</b>
Anxiety and insomnia	12.8 ±4.8	9.3 ±2.6	16.3± 3.9	15.9#	<b>0.001**</b>
	12.5 ±4.8	9.5 ±2.7	15.5 ±4.6	11.8#	<b>0.001**</b>
Social dysfunction	12.6 ±5.5	9.2 ±3.5	16.1 ±4.9	12.1#	<b>0.001**</b>
Severe depression					
JSE	87.5 ±35.4	118.4 ±13.4	55.7± 19.1	15.1#	<b>0.001**</b>
JSAPNC	87.4 ±35.4	41.2 ±10.7	46.6 ±14.9	28.5#	<b>0.001**</b>
JEFFSPLL	43.9 ± 13.2	45.5 ±9.4	29.3 ±6.5	3.1#	<b>0.001**</b>

\*\* : Highly statistically significant, SWLS: Scale of Life Satisfaction;

GHQ-28: General Health Questionnaire; JSE: Jefferson Scale of Empathy;

JSAPNC: Jefferson Scale of Attitudes toward Physician-Nurse Collaboration;

JeffSPLL: Jefferson Scale of Physicians Lifelong learning PHC: Primary Health care

Other specialties other than PHC

# : t test

## : X<sup>2</sup> test

The present study included 226 students; half of them were medical students and the others half are nursing students; 116 (51.3 %) were males and 110 (48.7) were females. The mean age of studied group was  $23.9 \pm 1.7$  years. There was a statistically significant difference between medical and nursing students regarding SWLS as it was higher among the medical students. There was a statistically significant difference in all domains of GHQ28 as it was higher among the nursing students. Also there was a statistically significant difference in JSE and JEFFSPLL as it was higher among the medical students compared to the nursing students but the reverse with JSAPNC as it was higher among the nursing students compared to the medical students (Table 1).

**Table (2): Characteristics of the studied group according to gender.**

Characteristics	Total (No :226)	Male (No :116)	Female (No :110)	Test value (t test)	p value
SWLS	24.96 $\pm$ 8.01	23.9 $\pm$ 7.4	26.1 $\pm$ 8.5	2.1	<b>0.03*</b>
<b>GHQ 28</b>					
Somatic symptoms	12.7 $\pm$ 4.75	12.5 $\pm$ 4.7	12.9 $\pm$ 4.8	0.67	0.4
Anxiety and insomnia	12.8 $\pm$ 4.8	13.1 $\pm$ 5	12.5 $\pm$ 4.6	1.03	0.3
Social dysfunction	12.5 $\pm$ 4.8	12.7 $\pm$ 4.6	12.3 $\pm$ 5	0.59	0.5
Severe depression	12.6 $\pm$ 5.5	13.4 $\pm$ 5.4	11.8 $\pm$ 5.6	2.2	<b>0.02*</b>
JSE	87.4 $\pm$ 35.4	87.3 $\pm$ 36.3	87.4 $\pm$ 34.6	0.01	0.9
JSAPNC	87.4 $\pm$ 35.4	42.6 $\pm$ 14.2	42.3 $\pm$ 12	1.5	0.12
JEFFSPLL	43.9 $\pm$ 13.2	35.5 $\pm$ 11.3	39.5 $\pm$ 11.4	0.02	<b>0.008*</b>

\*: Statistically significant, SWLS: Scale of Life Satisfaction; GHQ-28: General Health Questionnaire; JSE: Jefferson Scale of Empathy; JeffSPLL: Jefferson Scale of Physicians Lifelong learning JSAPNC: Jefferson Scale of Attitudes toward Physician-Nurse Collaboration.

There was a statistically significant difference among the studied group regarding SWLS, JEFFSPLL as they were higher among females while severe depression domain of GHQ was higher among males (Table 2).

Correlation was carried to assess relation between SWLs and other variables; it was found that there is a positive linear correlation between SWLs and (age, JSE and JEFFSPLL) but a negative linear correlation between SWLs and all areas of GHQ( somatic symptoms, anxiety and insomnia, social dysfunction and severe depression) (Fig.1).

**Table (3): Multiple linear regression model for global perception of well-being.**

Characteristics	$\beta$	95% CI	Standardized $\beta$	p-value	VIF
Sex	1.9	0.79-2.9	0.12	<b>0.001**</b>	0.8
Discipline	-7.1	0.03-0.4	0.4	<b>0.002**</b>	1.3
Anxiety and insomnia (GHQ)	-0.2	-10.8- -3.4	-0.12	<b>0.02*</b>	
JSE	0.13	0.09- 0.16	0.56	<b>0.001**</b>	1.4
JSAPNC	0.12	0.08 – 0.16	0.19	<b>0.001**</b>	1.09

\*\* :Highly significant,  $\beta$ : regression coefficient; CI: confidence interval;

VIF: Variance inflation factor, GHQ-28: General Health Questionnaire;

JSE: Jefferson Scale of Empathy; JSAPNC: Jefferson Scale of Attitudes toward Physician-Nurse Collaboration

Multiple regressions were performed to determine which factors have positive effect on perception of global wellbeing (SWLs). It was found that sex, discipline, anxiety and insomnia (GHQ), JSE and JSAPNC were associated with global wellbeing (Table 3).

## Discussion

Internationally, there has been an increase in concern over healthcare professionals' well-being in recent years due to greater understanding of its influence on patient outcomes, their loved ones and the community (Ooms et al., 2022).

Physicians' occupational well-being has been linked to medical professionalism traits such as interprofessional teamwork, empathy, and lifelong learning. It is unclear, nevertheless, if this position endures in challenging working circumstances (Viruez-Soto et al., 2021).

The aim of the current study was to examine a sample of medical and nursing students who had finished their internships to determine out how they felt about their overall health and sense of wellbeing. Additionally, it looked at lifetime learning abilities, inter-professional collaboration, and patient empathy, determining which of these three variables had a beneficial consequence on the professionals' total knowledge of well-being and revealing the influences that affect these elements.

The studied group included 226 students half of them were medical

students and the other half were nursing students, 116 (51.3 %) were males. The mean age of studied group was  $23.9 \pm 1.7$  years.

There was a highly statistical significant difference between both studied groups regarding SWLS with the mean higher in medical ( $31.3 \pm 3$ ) than nursing students ( $18.5 \pm 6.1$ ) (Table 1). Nurses may be less satisfied with their life due to factors associated with the work environment and individual nurses' features. The former include the organization of work, relations in the therapeutic team, the system of internal and external training, prestige and professional autonomy, salary, and equipment available at one's work post which may be lacking. Moreover personal factors that may be related to a sense of life and work satisfaction as age and self-esteem (Aeschbacher and Addor, 2018).

There was a statistical significant difference regarding GHQ-28 between both groups about four main elements: somatization, social dysfunction, anxiety and severe depression as it was higher among the nursing students (Table 1). These results were on the same line with Uchmanowicz et al., 2019; in their study on life satisfaction,



job satisfaction, life orientation and occupational burnout among nurses and midwives in medical institutions in Poland.

There was a statistical difference between both studied groups regarding JSE ( $p < 0.001$ ) as the mean was higher among medical  $118.4 \pm 13.4$  compared to nursing students  $55.7 \pm 19.1$  (Table 1). This may be explained that the current model of health care organization and delivery, which often seem to underline curing over caring and efficiency over excellence so influencing the empathetic attitude of nurses. In addition, long working hours during shifts, low salaries, attitude of their colleagues towards them, attitude of society towards them and estimation of the importance of their work all may lessen empathy of nurses towards patients. This is in agreement with William et al. (2014) who found that Australian medical students had significantly higher empathy scores than nursing students. In contrast Petrucci et al., 2021 in their study on empathy levels in Albanian health professional students detected that nursing students revealed significantly greater levels of empathy than the students in other health professions.

The results illustrated highly statistically significant difference between medical and nursing students regarding Jefferson Scale that measures Attitudes toward Physician-Nurse Collaboration (JSAPNC) ( $p < 0.001$ ). Nurses showed more favorable attitudes than physicians, which was in accordance with the results presented by (Mahboube et al., 2019) from Iran.

Similarly, Hossny and Sabra (2021) found significant differences between nurses and physicians in the medical and surgical patient care setting with regard to attitude toward nurse-physician collaboration at Mansoura University Hospital. This indicates that overall, the studied nurses showed considerably ( $P: 0.05$ ) more favorable attitudes regarding teamwork than did the studied physicians. The results are further confirmed by earlier, related research that was done in a hospital based setting in Egypt (Hossny et al., 2022).

Aghamohammadi et al., 2020 noticed different results in which physicians had extra positive collaboration than nurses. When people collaborate to solve problems, there is no hierarchy of authority or relationship of command. Mutual respect, honest

communication, and equitable, shared decision-making are all necessary for true collaboration. Traditionally, physicians have viewed nurses as a subordinate group from whom they get directives. The attitudes of healthcare professionals concerning collaboration may be impacted by their beliefs about the physicians -nurse relationship.

Lifelong learning assessed by JEFFSPLL among the studied group showed that there was a highly statistical significance between both groups as the mean of total score was higher in medical ( $45.5 \pm 9.4$ ) than nursing students ( $29.3 \pm 6.5$ ) (Table 1). The discrepancy may be due to nursing students' exaggerated perception of their skills. Contrarily, Tuirán-Gutiérrez et al., 2019 found no differences in the orientation toward lifelong learning between Mexican nursing and medical students, indicating that both groups of students in the health professions may view lifelong learning as having an equal value despite having different educational backgrounds and learning experiences from various health educational programs.

Another important finding was that there was a statistically significant difference between both studied groups

as regards SWLS when comparing males and females (Table 2). The mean of SWLS was higher among females ( $26.1 \pm 8.5$ ) compared to males ( $23.9 \pm 7.4$ ). Female professionals' life happiness may be correlated with their contentment with being mothers, as well as with other family members, particularly their children, in daily life (Yun et al., 2019).

Also there was no statistically significant difference between males and females concerning JSE and JSAPNC. JSE was slightly higher among females ( $87.4 \pm 34.6$ ) compared to males ( $87.3 \pm 36.3$ ) without statistical significance (Table 2). Nazir and Alhumaid, 2021 ; from Dammam , Saudia Arabia found that females score was higher on empathy as measured by the JSE, which is consistent with our findings.

The larger potential for social relationships in women compared to men, the function of social learning and cultural variables in creating empathy, as well as the role of women in childrearing as possible explanations for this finding (Treglia, 2020). On the contrary, Andersen et al., 2020 from Denmark; concluded that female medical students showed a significantly higher empathy score than their male counterparts.

There was a statistically significant difference between males and females ( $p = 0.008$ ) as regards JEFFSPLL. The mean was higher among females ( $39.5 \pm 11.4$ ) compared to males ( $35.5 \pm 11.3$ ) (Table 2). This may be clarified by the fact that high economic burden on males especially in our society may lead to male's perception of the significance of engaging in work more than developing their learning abilities.

On the other hand, Wu et al., 2020 noticed insignificant difference between male and female students in their attitude toward lifelong learning and information self-efficacy.

Multiple regression analysis was done to determine which factors have positive effect on perception of global wellbeing (SWLs) (Table 3). It was found that being a female physician; JSE and JSAPNC were associated with global wellbeing while anxiety and insomnia assessed by GHQ were associated with less perception of global wellbeing.

Being a female physician has a beneficial impact on how people view overall wellness because women may attribute their own wellbeing to being good mothers who take good care of and interact well with their kids.

In contrast to interdependence, conversation, or discourse, being a physician has placed a greater emphasis on competency, autonomy, and accountability. Contrarily, nursing has prioritized hierarchy and bureaucracy; however, this focus has decreased along with respect for physicians (Braam et al., 2022).

The results of the current work approved the function that inter-professional collaboration skills have as a beneficial effect on newly graduated healthcare workers' overall feeling of well-being (Table 3). These results were in line with the findings of Ndibu et al., 2020 in their study on variables associated with inter-professional collaboration in Quebec, Canada that showed a relationship between certain social abilities and psychological and occupational well-being. So JSAPNC is a tool designed to test certain abilities related to inter-professional cooperation in the medical and nursing fields.

The tool evaluates perceptions of shared education and the capacity to recognise parallels and divergences between the two professions (Berduzco-Torres et al., 2020). It is reasonable to assume that higher-scoring professionals will be better able to quickly adapt to

new situations, foster a positive work environment, and establish channels of communication and personal and professional support with professionals from other healthcare specialties in their new position. These professionals will show a greater level of development of these skills.

Indicating the positive role of empathy, a key component of healthcare that is linked to favorable effects on patients as well as healthcare professions, there was a positive association of high statistical significance between JSE and global feeling of wellbeing (Table 3). Compiling with the results of the current study (Moudatsou et al., 2020) proved that upper QOL in specific domains correlated with greater empathy scores amongst medical students. In addition to the aforementioned abilities, recent graduates in medicine and nursing who were finishing their internship year appeared to be influenced by their general health status.

Similarly Ibrahim et al., 2022 in their study of correlation of job satisfaction and stress of nurses in Tanta and Benha, Egypt, established that nurses with severe psychiatric symptoms (somatic symptoms, anxiety and insomnia, social dysfunction and severe depression)

were the least satisfied with their work in general, their supervisors, their colleagues and with opportunities for promotion. Other studies on nurses with years of professional experience (Lorber and Dobnik, 2022) detected that severe anxiety and stress affect well being of nursing staff. Medical participant have revealed a reverse relation between the four components of GHQ and life satisfaction ((López-Morales et al., 2020 and Ooi et al., 2022)).

**Conclusion:** The core finding of this study was experimental evidence that professionalism has a positive impact on healthcare personnels' subjective judgments of wellbeing as they start their administrative jobs.

### **Conflict of Interest**

There is no conflict of interest.

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