

The Relationship Between Perceived Nurses' Professional Accountability and Their Emotional Quotient

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Abstract

Background: Professional accountability (PA) a critical behavior that supports consistency between nursing actions and standards associated with patient care quality and safety. Nurses need to focus on the behaviors that lead to the growth and development of PA. One of these behaviors is emotional quotient (EQ). EQ has been described as an array of emotional, personal, and social abilities and skills that influence one's overall emotional perception. **Aim:** This research aimed to explore the relationship between perceived nurses' professional accountability and their emotional quotient. Develop a complete structure equation model between professional accountability and their emotional quotient and its related dimension. **Design:** A descriptive correlational design was utilized in the study. **Setting:** The study was conducted in medical, surgical, and critical care units at Damanhour National Medical Institute. It is affiliated with General Organization for Teaching Hospitals and Institutions. **Tools:** Two questionnaires were used in this empirical study, namely, Burns Professional Accountability Instrument and Genos Emotional Intelligence Concise Inventory. **Participants:** 260 nurses out of 385 nurses in the pre mentioned; A convenience sampling method was used to select the study participants. **Result:** EQ was shown to be positively correlated with PA ($r=.910^*$, $p \text{ value}=.012$). **Conclusion:** In light of the main study findings, it was concluded that there were positive correlation between EQ and PA and its related dimension. The studied nurses perceived high level of total PA and got the highest level of EQ and its related dimensions. **Recommendations:** developing a positive workplace environment with unambiguous managerial support is essential for equipping staff with the knowledge and abilities necessary for them to recognize, make use of, and promote their levels of PA and EQ in this special type of work setting.

Keywords: Professional Accountability, Emotional Quotient, Nurses Liabilities, Emotional Intelligence, Professional Obligations.

Introduction

Accountability in nursing practice is a concept that influences quality care, decision-making, safety standards, and staff values. Therefore, understanding accountability and how it affects nursing practice could improve patient care and nurses' working conditions (Rubio-Navarro et al. 2019). Professional accountability applies to everyone involved in health care. Accountability is a legal obligation in health care, it is also an ethical and moral responsibility. Within professional accountability, there are many factors assuming responsibility for one's nursing practice is the most important. The American Nursing Association (ANA) states in its code that nurses will assume accountability for nursing judgment and actions. A professional nurse is responsible for practicing within his/her scope of care, calling upon his/her knowledge and skills to

make decisions in the patient's best interest (Abd El Wahab. 2019).

Professional accountability (PA) a critical behavior that supports consistency between nursing actions and standards connected with quality and safety in patient care and underpinning safe nursing practice. ((Drach-Zahavy & Srulovici, 2019; Leonenko & Drach-Zahavy, 2016). The phrases professional socialization, professional values, virtue ethics, professional identity, professional behaviors, ethical conduct, Code of Ethics, moral agency, ethical decision-making, professional development, professional liabilities and character formation were all used to characterize and identity PA in the literature. ((Farghaly & Mab, 2018; Neill, 2020).

PA in nursing is a widely recognized, multifaceted notion that includes moral, ethical, and professional facets. This means that nurses are liable for their acts for both themselves and

others. (Chesterton et al., 2021). The Code of Ethics for Nurses with Interpretive Statements of the American Nurses Association (ANA) states that nurses are "accountable and responsible for the quality of their practice." and own responsibility for their activities, holding themselves accountable on both an individual and a team member. (American Nurses Association [ANA]. 2015), and must comply with legal obligations to the law, their employer, professional standards of conduct, and their own moral values. (Rubio-Navarro et al., 2019).

As stipulated by the American Nurses Association (ANA), nurses must adhere to the scope and standards of nursing practice as well as a code of ethical conduct that includes moral principles like fidelity, loyalty, veracity, beneficence, and respect for the dignity, worth, and self-determination of patients. The choices they make and the actions they take while practicing nursing are the responsibility of every nurse. Systems and technology that support clinical practice are an enhancement to a nurse's knowledge and abilities, not a replacement for them. Therefore, nurses are still accountable for their behavior. (ANA, 2015)

Nurses can define accountability from two perspectives, inner or **personal perspective and external or organizational perspective** based on input from their ward or organization (Srulovici & Drach-Zahavy, 2017). Internal accountability, or what Burns (2016) refers to as self-accountability, refers to the nurse's own values, which are a product of their personality, professional training, socialization in their field, and experience. This implies that nurses should be accountable for their decisions and actions and should practise self-leadership, self-management, and self-criticism. According to Drach-Zahavy and Srulovici, 2019; Krautscheid, 2014; Rubio-Navarro et al., 2019; formal requirements, management expectations, and organizational norms are all examples of external or organizational responsibility

In this respect, Burns (2016) categorized organizational or external accountability into three categories, namely: patient/community, professional health care team, and employing agency administration accountability. First, patient/community accountability outlines the nurse's duties in attending to the needs of both

patients and the community. Second, professional health care team accountability outlines obligations to the health care team, including cooperation, collaboration, advice, counselling, and serving as an example. Third, implementing agency administration accountability entails establishing the organization's mission, values, goals, governance, and job descriptions in unambiguous terms. The ability of a nurses to succeed in life is based on their emotional reactions, and responsibility for people's ability to cope with life's circumstances rests on the intertwined collaboration of their intellectual and emotional abilities. Because they are at the frontline of providing health services, health care personnel must improve their job performance by practicing more emotional restraint and having higher PA and EQ (Birks, & Watt, 2007)..

Emotional Quotient (EQ), Emotional Literacy (EL) and Emotional Intelligence (EI) are interchangeable terms (Smith et al., 2009,). It was firstly proposed by Salovey and Mayer (1990), the ability to recognize, comprehend, rationalize with, succeed or process emotions in order to deal with demands and pressures from the environment is referred to EQ. (Collins, 2013; Dwyer & Hunter Revell, 2015; Gignac, 2010; Harper & Jones-Schenk, 2012; Jayawardena & Jayawardena, 2012).

In nursing Profession, emotionally intelligent nurses perceive themselves to be confident and are better able to understand, control and manage their emotions. Nurses' EQ was determined by four factors: **wellbeing, self-control, emotionality and sociability**. "**wellbeing**" refers to a person's high sense of self-worth, as well as their happiness, contentment, and optimistic attitude on life. "**Self-control**" concerned with a person's capacity for emotional regulation and emotional - control as well as their stress-resilience. "**emotionality**" is the capacity to demonstrate empathy, express sentiments, and be conscious of other people's viewpoints in a given scenario. The final factor of "**sociability**" relates to a person's capacity for effective social interaction, as well as their capacity for assertiveness and the ability to persuade others. (Heffernan et al., 2010; Kooker et al., 2007; Wilson, 2014).

Gignac and palmer (2010) uses seven subscales specifically to describe nurses' EQ behaviors in this regard: Emotional self-

management is the capacity to control one's own emotions, emotional expression is the effective expression of emotions, emotional awareness of others is the capacity to perceive and understand others' emotions, emotional reasoning is the use of emotional information in decision-making, and emotional management of others is the ability to have a positive impact on others' emotions.

According to Wilson (2014), EQ has been emphasized as a quality that is essential in nursing. For anyone working in the helping professions, the ability to control one's own emotions while understanding and resolving those of others is crucial, according to Cadmen and Brewer (Cadmen, and Brew, 2001). According to Smith and Faguy, emotionally intelligent nurses may harmonise their ideas and emotions. Nurses need to understand the emotional components of their work as well as the emotional skills and emotional intelligence to handle stressful work environments in order to provide good nursing care (Faguy, 2012); Smith (2008)

Significant of study

The difficulty facing the nursing profession is the demand from service agencies to guarantee task orientation versus PA for the patient's care and safety at the time of hire. ((Debourgh, 2012; Debourgh & Prion, 2012; Dyess & Sherman, 2011). The most frequent patient contacts occur between nurses, who are also subject to strict performance standards for high-quality, safe patient care (Battie & Steelman, 2014). The perceptions of inexperienced nurses and experienced beginning towards PA must therefore be investigated.

In light of the significant roles that EQ and PA play in improving the quality, safety, and social aspects of care as well as the performance of these individuals in promoting community health, it seems necessary to study personal characteristics as well as these essential traits in health workers and healthcare providers. This study looked into how the PA and EQ of nurses in government hospitals related to each other in order to determine the status of these traits, recommend EQ training to healthcare workers, and select the best nurses for this position.

According to scholarly research, there is a knowledge gap surrounding nurses' perceptions of

accountability and their role within it. So, the relevance of this study rests in its ability to provide a greater knowledge of how nurses perceive and present themselves to themselves, their patients, the healthcare team, their employer, the profession, and the general public when engaging in nursing practice. Burns (2016) contends that nurses should consider how their perceptions of their intellectual curiosity, self-awareness, and EQ are perceived as they develop PA in order to give quality and excellence in nursing. This is why the current study intends to add to the body of information about nurse accountability and its connection to EQ.

Aim of this study

This study was directed to explore the relationship between perceived nurses' professional accountability and their emotional quotient. Develop a complete structure equation model between professional accountability and their emotional quotient and its related dimension

Research Questions:

- Q1** Is there Correlation between Perceived Nurses' Professional Accountability and their Emotional Quotient?
- Q2** What is level of Perceived Nurses' Professional Accountability?
- Q3** What is level of Perceived Nurses' Emotional Quotient?

Methods

Research design and setting:

A descriptive-correlational study was conducted to describe the variables and examine relationships among these variables in medical, surgical, and critical care units at Damanhur National Medical Institute. It is affiliated to General Organization for Teaching Hospitals and Institutions. It was established in 1963 and serve El-Behira and Kafr-Elsheikh Governorates. It has 860 beds with wide range of health care services such as inpatient (35 units) divided into male and female for different types of specialties, emergency department (1 unit), outpatient clinics, intensive care (10units), coronary care (2units), kidney dialysis (3units), neonate intensive care (2units) and 12 operating rooms.

Sampling and participants: A non-probability convenience sampling technique was used to determine the study subjects. professional and technical nurses who were present in the previously mentioned units during data collection period, with a minimum of six months' experience and accepted to participate in the research were given the questionnaire. The study subjects were 260 out of total population $N= 385$. Steven equation, (2012); was used to estimate the sample size is given that:

$P= 0.5$

$N=$ Total population

$Z=$ Z value "1.96"

$D=$ Standard Error

$n=$ Sample size

Only 238 nurses successfully completed the survey without leaving any blanks, which translates to a 19% attrition rate. 91.5% of respondents

Tools of this study:

Two questionnaires were used in this empirical study, namely, Burns Professional Accountability Instrument and Genos Emotional Intelligence Concise Inventory.

Professional Accountability Instrument (PAI)

It was developed by Burns (2016) to assess nurse's perceptions of their PA. It was adapted by the researchers and revised by using factor loading and confirmatory factor analysis

The original version was composed of 47 items, after confirmatory factor analysis and factor loading It consists of 45 items categorized into four dimensions, namely: self - accountability (14items); patient / community (13 items); professionalism health care team (11 items); lastly, employing agency administration (7 items). Two items were deleted after FL (28, 43). Each item is scored based on the

respondent's perception of a given situation based on a five-point Likert scale ranging from (1) strongly disagree to (5) strongly agree. A lower composite score indicates less professional accountability and a higher composite score indicates more professional accountability. There are 7 items (14, 15, 19, 25, 27, 42, 44) that are negatively phrased the overall score level will range from 45 to 225. This level of professional accountability will be measured as follows: low level $45 \leq 105$ moderate $106 \leq 165$; high $165 \leq 225$.

Construct validity assessment

Construct validity was assessed using the exploratory factor analysis and confirmatory factor analysis. The Kaiser–Meyer–Olkin (KMO) Index and Bartlett's Test of Sphericity were used to assess sampling adequacy; KMO (0.843) > 0.8 denoted an adequate sample.²⁴ The latent factors of the EFA were extracted by maximum likelihood using varimax rotation and a screen plot. The presence of an item in a factor was determined as approximately 0.2 using the equation $CV \frac{1}{4} 5.152_p (n - 2)$, where CV $\frac{1}{4}$ the number of extractable factors and n $\frac{1}{4}$ sample size.²⁵ According to the three-indicator rule, there must be at least three items for each latent variable in the EFA.²⁴ Items with communalities less than 0.3 were excluded from the EFA. Confirmatory factor analysis as done ,Fit indices employed in the study included Chi-square (w^2), Chi-square/degree-of-freedom ratio (normalized Chi-square CMIN/DF), Adjusted Goodness-of-Fit Index (AGFI) > 0.8, Parsimonious Comparative Fit Index (PCFI) > 0.50, Comparative Fit Index (CFI) > 0.90, Incremental Fit Index (IFI) > 0.90, Parsimonious. Normed Fit Index (PNFI) > 0.50, Root Mean Square Error of Approximation (RMSEA) < 0.05 good.²⁵ (see table 1, figure 1)

Table (1): Rotated component matrix of PA:

Question	Self-accountability	Patient /community	Professionalism health care team	Employing agency
1. Q6	.739			
2. Q8	.643			
3. Q5	.582			
4. Q39	.564			
5. Q40	.564			
6. Q37	.537			
7. Q7	.530			
8. Q38	.519			
9. Q42	.480			
10. Q18	.478			
11. Q9	.477			
12. Q41	.430			
13. Q33	.421			
14. Q32	.416			
• Q28				
• Q43				
15. Q19		.695		
16. Q2		.673		
17. Q27		.615		
18. Q23		.592		
19. Q14		.544		
20. Q20		.538		
21. Q34		.487		
22. Q46		.485		
23. Q36		.455		
24. Q22		.426		
25. Q29		.411		
26. Q26		.405		
27. Q35		.366		
28. Q12			.685	
29. Q11			.540	
30. Q13			.496	
31. Q30			.488	
32. Q31			.475	
33. Q44			.445	
34. Q24			.418	
35. Q25			.399	
36. Q45			.395	
37. Q21			.384	
38. Q10			0.323	
39. Q47				0.49
40. Q1				.659
41. Q15				.622
42. Q3				.557
43. Q16				.505
44. Q17				.485
45. Q4				.435

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.^a

Rotation converged in 8 iterations.^a

Figure (1)

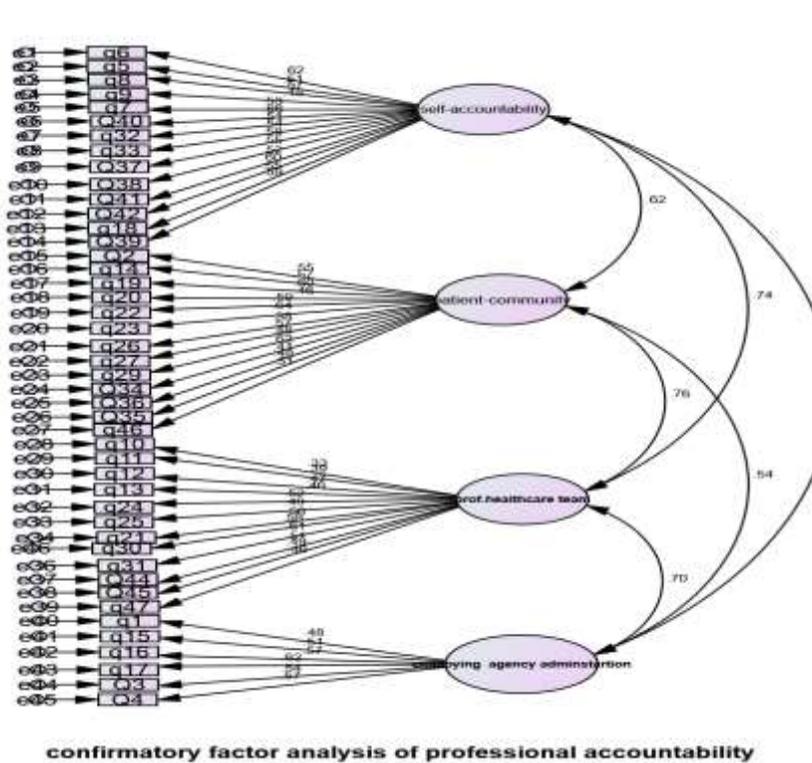


Figure 1 and table 1 showed that only 4 variables are loading on PA in this image, which illustrates the factor loading of PA. The first factor (self-accountability): comprises 14 questions with saturation rates ranging from between (0.416%- 0.739%), and it explains 11.769% of the data. The questions are Q (6,8,5,39,40,37,7,38,42,18,9,41,33,32). The second factor (patient-community): comprises 13 items (19,2,27,23,14,20,34,46,36,22,29,26,35) with saturation rates ranging from Between (0.366- 0.695%) and explains 10.340%. The third factor (professionalism healthcare team): explains 8.304% and has 11 questions with saturation rates between 0.323% and 0.685%, including Q (12,11,13,30,31,44,24,25,45,21,10). The fourth factor (employing agency): explains 6.986% and has 7 questions with saturation rates between (0.435% and 0.659%), which are Q (35-13-31-57-10-47-15-54-30-23). Additionally, two criteria (28, 43) were disregarded

Genos Emotional Intelligence Concise Inventory (Genos EII)

It was developed by Palmer & Stough, (2001) and concise and validated by Gignac (2010) to assess employee effective demonstration of

emotional intelligence or EQ in the workplace. It consists of 31 items categorized into seven dimensions classified as following: (1) emotional self - awareness (4 items); (2) emotional expression (5 items); (3) emotional awareness of others (4 items); (4) emotional reasoning (5 items); (5) emotional self- management (5items); (6) emotional management of others (4 items); and finally,(7) emotional self - control (4 items) . Responses will be measured on a five - point Likert scale ranging from (1) almost never to (5) almost always. There are 12-items (2,4,5,6, 10,11,13,22,23,27,29,31) that are negatively keyed and were reversed coded as 5 = 1, 4 = 2, 2 = 4, and 1 = 5. The overall score level will range from 31 to 155 with a midpoint of 77.5. The higher score will state a higher emotional intelligence level. This level will be measured as follows; low EQ 31 to 72; moderate EQ,73 to 114; high EQ,115 to 155.

In addition to the tools listed above, the participants filled out a demographic form that asked for their age, gender, educational qualifications, working unit, years of experience both nursing and unit, marital status, ...etc.

Validity and Reliability

The two questionnaires were tested for content validity by a panel of experts in the related field, which revealed that they were valid with content validity indices of 0.93 and 0.90 for BPAI, and Genos Ell, respectively. Also, the reliability of internal consistency was determined using Cronbach's alpha coefficient, the results proved to be reliable, with a coefficient value of 0.926, and 0.915, respectively, while the statistical significance level was set at $p < 0.05$. In addition, a pilot study was carried out on 26 nurses (10%) who were excluded from the study subjects to ensure the clarity and applicability of tools and estimate the time required to complete the study questionnaires. with no change in the final tool.

Data collection and statistical analysis

The administrative authority in the specified context gave written consent for the required data collection. Nurses at clinical units filled out questionnaires on paper and with pencil to obtain the data. The researchers gave a self-administered questionnaire to nurses who agreed to take part in the study. Out of 260 nurses chosen using a practical sampling technique, only 238 responded, with a response rate of 91.5%. Each nurse took about 30 minutes to complete the questionnaires.

Data were gathered over the course of three months, from April 2021 to June 2021. The acquired data were edited, coded, and entered into the statistical software packages AMOS version 24 and SPSS version 25. The scaled data was described using the mean score and standard deviation, whereas the categorical data was described using frequencies and percentages. The internal consistency of the employed instruments was assessed using Cronbach's alpha. The nature of the association between the EQ and perceived PA of nurses was examined using Pearson correlation coefficient analysis (r).

Ethical considerations

Approval was obtained from Ethics Committee at Faculty of Nursing, Damanshour University. The researchers explained the aim of the research to all participants. The privacy and confidentiality of data were maintained and assured by obtaining participants' informed consent to participate in the research before data collection. The informed consent forms were attached with the questionnaire. Voluntarily and

anonymity concerning participation in this study were granted.

Results

Table (2) reveals that 73.1% of the nurses under study were female, compared to just 21.9% of the men, and that 63.8% of the nurses under study were between the ages of 20 and less than 30, making up 39.7% of the total. Regarding the working environment, 21.9%, 36.2%, and 41.9% of the nurses in the study were employed in surgical, medical, and intensive care units, respectively. According to their educational backgrounds, more than fifty percent (51.9%) of the nurses held BSC degrees, versus 10% who held diplomas from secondary technical institutes. Instead, 47.1, 47.6%, and correspondingly, of the nurses were married and unmarried. Less than half (38.5%) of the nurses in all study settings had nursing experience of between one and five years, with a mean + SD of 6.1. +4.654.

Table (3) demonstrated that the nurses under investigation felt very strongly about their overall professional accountability. With a mean percentage of 83.85% and a standard deviation of 184.46, Additionally, they reported high levels of self-accountability, patient accountability, professional healthcare team, and employee agency administration (58.56127.61, 51.338.39, 45.455.97, and 29.044.29), respectively. Another angle is that the highest perceived dimension is self-accountability, while the lowest is patient/community (83.84% and 78.97%, respectively).

Table (4) represents the distribution of Emotional quotient levels among studied nurses. the findings revealed that their overall perception of EQ and its dimensions was high, with a mean score of (122.3+17.666 and a mean percentage of 78.91). In this context, the "Emotional self - management" dimension was the highly perceived dimension and ranked first with a mean score of (20.3+4.483), On the other hand, the minimally perceived dimension was "Emotional self - awareness" with a mean score of (14.8+3.859).

Table (5) documented that there is no significant difference between each of age, sex, educational level, marital status, nursing experience and perceived professional accountability among studied nurses.

Table (6) shows that there was significant difference between emotional intelligence and each of the study subjects' age, working unit, nursing experience and their experience in unit.

($\chi^2 = 14.528$ $p = 0.006^{**}$, $\chi^2 = 14.144$, $p = 0.028^*$, $\chi^2 = 10.467$, $p = 0.033^*$; $\chi^2 = 10.406$, $p = 0.034^*$) respectively

Table (7) illustrated that EQ was shown to be positively correlated with PA ($r = 0.910^*$, p value = 0.012), as well as with self-control, patient and community, professional healthcare team, and employing agency dimensions ($r = 0.781^*$, 0.927^{**} , 0.678^* , and 0.9332^{**} , respectively). Additionally, a positive correlation was found between professional accountability and each of emotional self-awareness, emotional expression, emotional awareness of others, emotional reasoning, emotional self-management, management of others, and self-control ($r = 0.605^{**}$, 0.604^{**} , 0.591^{**} , 0.661^{**} , 0.584^{**} , 0.557^{**} , 0.557^{**}).

Table (8) linear regression model between PA and EQ shows that PA had a direct, positive, and

substantial impact on the EQ of nurses. Additionally, a one-unit rise in PA resulted in a 1.93 increase in emotional intelligence. Additionally, PA account for 82% of the variation in the perceived level of EQ.

Figure (2) shows that PA had direct positive effect on EQ. increase one unit in PA will lead to increase EQ by $B = 1.39$. Furthermore, it had $R^2 = 82\%$ effect on the variation of EQ

Figure (3) show that the PA instrument is composed of 4 factors in which the third factor had the highest regression weight followed by factor two ($r = 0.89$, 0.85) respectively. Furthermore PA are responsible of variance in emotional quotient among nurses by 86%. Moreover increase in one unit in PA are responsible in increase in EQ by 7.8.

Table (2): frequency distribution of the studied nurses according to socio-Demographic and professional characteristics

Demographic characteristics	Total (N= 238)	
	No.	%
Working Unit		
Medical	86	36.2
Surgical	51	21.4
ICU	101	42.4
Age (years)		
• 20 -	134	56.3
• 30 -	71	29.8
• 40 -	23	9.7
• 50 +	10	4.2
Min-Max 20 – 59	Mean \pmSD 30.3\pm7.799	
Educational qualifications		
Diploma of Secondary Technical Nursing School	21	8.8
Diploma of Technical Health Institute	95	39.9
Bachelor of Science in Nursing	122	51.3
Years of nursing experience		
1-	81	34
5-	69	29
10 +	88	37
Min-Max 1 – 42	Mean \pmSD 8.9\pm7.122	
Years of unit experience		
1-	99	41.6
5- 6	75	31.5
10 +	64	26.9
Min-Max 1 – 30	Mean \pmSD 7.4\pm5.936	
Gender		
Male	49	20.6
Female	189	79.4
Marital status		
Single	106	44.5
Married	113	47.5
Divorced	14	5.9
Widow	5	2.1

Table (3): Distribution of professional accountability levels among studied nurses

Professional accountability	Min- Max	Mean \pm SD	Mean% Score	Rank
Self- accountability	22.00-70.00	58.5612 \pm 7.61	83.84	1
Patient/ community	22.00-64.00	51.33 \pm 8.39	78.97	4
Professionalism health care team	22.00-55.00	45.45 \pm 5.97	82.63	3
Employing agency administration	14.00-35.00	29.04 \pm 4.29	82.97	2
Total Professional Accountability	93.00- 20.00	184.46\pm 21.48	83.85	

High mean percent score: 66.7-100%

Moderate mean percent score: 33.4-66.6%

Low mean percent score:0-33.3%

Table (4): Distribution of Emotional quotient levels among studied nurses

Emotional quotient dimensions	Min. Max.	Mean SD	Mean % Score	Ranking
Emotional self - awareness	4-20	14.8 \pm 3.859	74.10	7
Emotional expression	9-25	19.8 \pm 3.955	79.03	4
Emotional awareness of others	4-20	15.6 \pm 3.744	78.24	6
Emotional reasoning	8-25	20 \pm 3.703	79.85	3
Emotional self - management	7-25	20.3 \pm 4.483	81.09	1
Emotional management of others	4-20	15.7 \pm 3.708	78.45	5
Emotional self-control	4-20	16.2 \pm 3.679	80.84	2
Total emotional quotient	54-154	122.3\pm17.666	78.91	

High mean percent score: 66.7-100%

Moderate mean percent score: 33.4-66.6%

Low mean percent score:0-33.3%

Table (5): Relationship between study subjects' demographic characteristics and their total professional accountability.

Demographic characteristics	Total professional accountability						χ^2 P
	Low (N=1)		Moderate (N=37)		High (N=200)		
	No.	%	No.	%	No.	%	
Working Unit							
Medical	1	100	13	35.2	72	36	1.986 0.738
Surgical	0	0	9	24.3	42	21	
ICU	0	0	15	40.5	86	43	
Age (years)							
20 -	1	100	20	54.1	113	56.5	3.319 0.767
30 -	0	0	12	32.4	59	29.5	
40 -	0	0	2	5.4	21	10.5	
50 +	0	0	3	8.1	7	3.5	
Educational qualification							
Diploma of Secondary Technical Nursing School	0	0	6	16.3	15	7.5	3.921 0.416
Diploma of Technical Health Institute	0	0	14	37.8	81	40.5	
Bachelor of Science in Nursing	1	100	17	45.9	104	52	
Years of nursing experience							
1-	1	100	16	43.2	64	32	7.229 0.124
5-	0	0	5	13.6	64	32	
10 +	0	0	16	43.2	72	36	
Years of unit experience							
1-	1	100	16	43.2	82	41	1.865 0.760
5-	0	0	10	27.1	65	32.5	
10 +	0	0	11	29.7	53	26.5	
Gender							
Male	0	0	6	16.2	43	21.5	0.793 0.672
Female	1	100	31	83.8	157	78.5	
Marital status							
Single	1	100	14	37.8	91	45.5	4.637 0.591
Married	0	0	22	59.5	91	45.5	
Divorced	0	0	1	2.7	13	6.5	
Widow	0	0	0	0	5	2.5	

 χ^2 =Chi square test*P value (significant) \leq 0.05**P value (highly significant) \leq 0.01

Table (6): Relationship between study subjects' demographic characteristics and their total EQ.

Demographic characteristics	Total emotional quotient						χ^2 P
	Low (N=1)		Moderate (N=84)		High (N=153)		
	No.	%	No.	%	No.	%	
Working Unit							
Medical	1	100	21	25	64	41.8	14.528 0.006**
Surgical	0	0	28	33.3	23	15	
ICU	0	0	35	41.7	66	43.1	
Age (years)							
20 -	1	100	57	67.9	76	49.7	14.144 0.028*
30 -	0	0	23	27.4	48	31.4	
40 -	0	0	1	1.2	22	14.4	
50 +	0	0	3	3.6	7	4.6	
Educational qualification							
Diploma of Secondary Technical Nursing School	0	0	11	13.1	10	6.5	3.855 0.426
Diploma of Technical Health Institute	0	0	32	38.1	63	41.2	
Bachelor of Science in Nursing	1	100	41	48.8	80	52.3	
Years of nursing experience							
1-	1	100	38	45.2	42	27.5	10.467 0.033*
5-	0	0	23	27.4	46	30.1	
10 +	0	0	23	27.4	65	42.5	
Years of unit experience							
1-	1	100	44	52.3	54	35.3	10.406 0.034*
5-	0	0	26	31	49	32	
10 +	0	0	14	16.7	50	32.7	
Gender							
Male	0	0	19	22.6	30	19.6	0.561 0.755
Female	1	100	65	77.4	123	80.4	
Marital status							
Single	1	100	40	47.6	65	42.5	4.829 0.565
Married	0	0	38	45.2	75	49	
Divorced	0	0	6	7.2	8	5.2	
Widow	0	0	0	0	5	3.3	

χ^2 =Chi square test *P value (significant) ≤ 0.05 **P value (highly significant) ≤ 0.01

Table (7): Correlation matrix between Nurses' PA and their EQ

		1	2	3	4	5	6	7	8	9	10	11	12
Self – accountability	R	1											
	P value												
Patient and community	R	.529**	1										
	P value	.000											
Professional healthcare team	R	.596**	.592**	1									
	P value	.000	.000										
Employing agency	R	.592**	.454**	.530**	1								
	P value	.000	.000	.000									
Total professional accountability	R	.844**	.833**	.825**	.732**	1							
	P value	.000	.000	.000	.000								
Total emotional Q	R	.781*	.927**	.678*	.932**	.910*	1						
	P value	.036	.008	.039	.007	.012							
Self-awareness	R	.393**	.591**	.461**	.536**	.605**	.805	1					
	P value	.000	.000	.000	.000	.000	.053						
Expression	R	.492**	.548**	.455**	.456**	.604**	.945**	.564**	1				
	P value	.000	.000	.000	.000	.000	.005	.000					
Self-awareness of others	R	.414**	.567**	.449**	.480**	.591**	.950**	.683**	.526**	1			
	P value	.000	.000	.000	.000	.000	.004	.000	.000				
Self-reasoning	R	.577**	.512**	.560**	.516**	.661**	.951**	.468**	.583**	.508**	1		
	P value	.000	.000	.000	.000	.000	.004	.000	.000	.000			
Self-management	R	.399**	.604**	.498**	.334**	.584**	.058	.589**	.529**	.528**	.598**	1	
	P value	.000	.000	.000	.000	.000	.913	.000	.000	.000	.000		
Management of others	R	.412**	.550**	.437**	.381**	.557**	.555	.643**	.547**	.591**	.468**	.546**	1
	P value	.000	.000	.000	.000	.000	.253	.000	.000	.000	.000	.000	
Self-control	R	.412**	.550**	.437**	.381**	.557**	.372	.643**	.547**	.591**	.468**	.546**	1
	P value	.000	.000	.000	.000	.000	.467	.000	.000	.000	.000	.000	

Table (8): Simple linear regression model between PA and EQ

Model	Unstandardized coefficient B	Standardized Coefficient Beta	t	sig	R ²	F	Sig
(Constant)	54.399		.932	.404	0.829	19.391	.012 ^b
Total of PA	1.372	.910	4.404	.012			

Dependent variables are emotional equitant

a. Dependent Variable: total EQ

b. Predictors: (Constant), total PA

≤ 0.01 df= degree of freedom F= One Way Anova T=Independent samples t- test R²= Coefficient of multiple determination.

F= 18.175, R²= .820 B for unstandardized Coefficient = 1.393 t= 4.263*

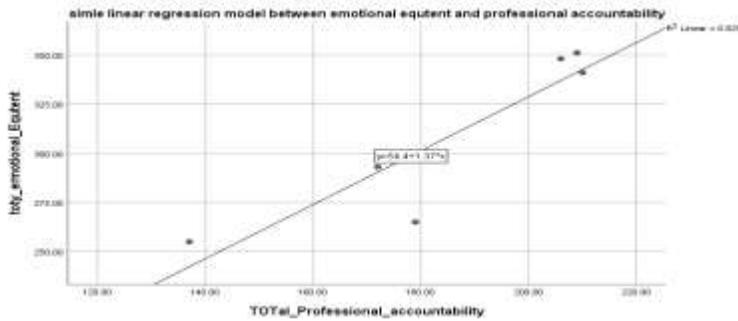


Figure (2) linear regression model between PA and EQ

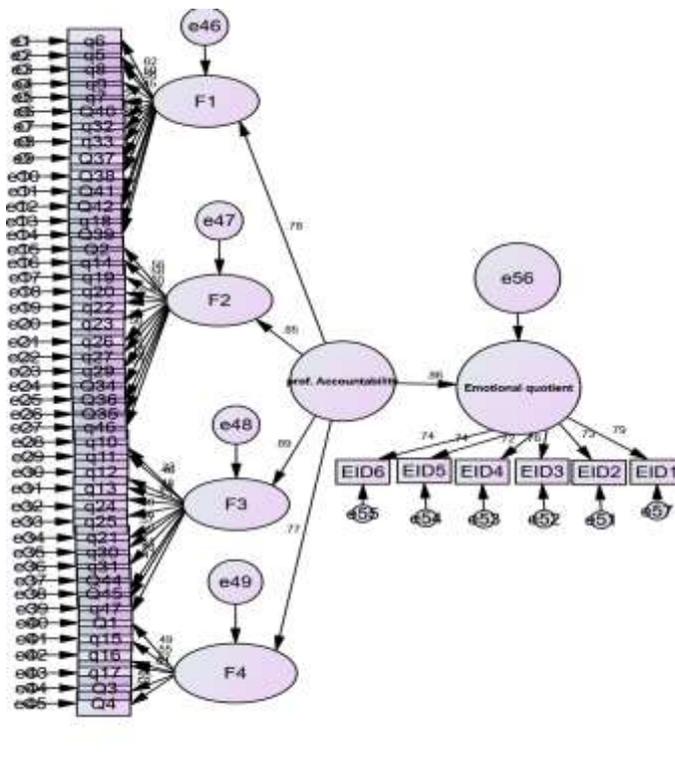


Figure (3) draw the complete structure equation model between PA and EQ and their dimension

Regression Weights: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
F1 <--- accountability	1.000				
F2 <--- accountability	1.945	.306	6.354	***	
F3 <--- accountability	.698	.168	4.150	***	
F4 <--- accountability	1.073	.196	5.480	***	
EQ <--- accountability	7.822	1.010	7.747	***	

Discussion:

Given that nursing is the most difficult and skill-intensive profession worldwide, every professional needs to comprehend accountability in nursing. In the given document every element of Accountability was documented in right way. When it comes to trust and accountability, EQ approaches place a strong emphasis on helping teams and leaders develop their awareness and interpersonal skills. It is assumed that this will naturally reduce low trust (blame) and high blame (disclosure) behaviors and increase high trust (acknowledgement and help seeking) behaviors among all staff members. (Srikanth & Sonawat, 2014, Stebbins, 2016)

Emotional intelligence or EQ is the result of a person's inherited traits and how they interact with outside factors. Research in the area of emotional intelligence has highlighted how important it is to people from all walks of life. Instead of general intelligence, EQ is what determines a person's level of success. Work responsibility and accountability gets a strong push by one's EQ (Jimenez, 2020). Professional nursing organizations and organizations that award nursing education credentials both refer to professional nursing accountability as a key component that supports professional nursing practice. Safe nursing practice is supported by professional nursing accountability, which is a crucial behavior for ensuring consistency between nursing actions and norms linked to high-quality and safe patient care. (Krautscheid, 2014).

The present study illustrated that there were statistically significant positive effect between EQ and professional accountability in which PA was responsible in 82% of variation of EQ among nurses. Furthermore, this study pointed that there were a significant positive correlation between PA and EQ, and its related dimension. This support the Q1. This might be as a result of nurses who set high standards for themselves and

succeed. High degrees of integrity are an essential aspect of accountability in nursing practice, and employers honor nurses with these qualities. Employers, team members, and patients can depend on nurses when they take personal responsibility for themselves and their actions. Accountability increases a person's prospects of success in their current position and in future professional endeavors and changes their attitude, notably their EQ.

Additionally, PA is one such element that is crucial in circumstances that need nursing personnel to smoothly transition from one environment to another and deal with various situations by maintaining emotional control and exhibiting empathy for their patients and the wider community, which heightens their EQ. These finding also indicate that nurses are aware of the organizational concerns regarding patient deaths and know how to handle various circumstances, as well as being aware of their obligations in relation to each patient in different circumstances in terms of overseeing their work and assisting less experienced personnel. This can be relevant to the problem of professional identity and EQ.

This result goes in the same line with Moradi Sheykhjan and Jabari (2014) reported that EQ skills are vital to responsibility and positively correlated with it. Furthermore, burner 2015 reported found only emotional intelligence, with 42% of the explained variance in professional accountability ratings, and 58% residual, entered the regression equation. Also, the findings are in line with Connor and Killmer (2001), Day (2004) and Lordanoglou (2007), who revealed that the effectiveness and accountability of teachers are positively correlated with their emotional intelligence. Similar to Fiftyana and Sawitri (2018), who came to the conclusion that every worker who is committed to their work is able to control their own emotions and, as a result, be

able to develop the organization with complete commitment and accountability.

The present study pointed that the studied nurses perceived high level of total PA. This result may be related to be related to the fact that nurses in this hospital are liable for their actions; have autonomy in their role; utilize the input from their supervisor's or instructor's evaluation to enhance their nursing care; dedicated to innovation, continual quality performance improvement, and perfection. Moreover, they are responsible for gaining the knowledge needed to provide for the patients, are concerned about patient care, and have an ethical duty to put into practice changes that will enhance the standard of patient care. This outcome is validated by Gafar (2020), who concluded that the majority of nurses (81.4%) are accountable for their work. In the same context Rubio-Navarro et al., (2020) reported that accountability in nursing practice is a complicated idea that influences how nurses deliver care. The respondents' points of view demonstrated how decisions, values, and the delivery of care may affect and are affected by accountability for both the nurse and the healthcare facility.

In relation to EQ, the studied nurses got the highest level of perception to EQ and its related dimension. This may be due to adaptability to cope with occupational stress, job satisfaction, empathy and leadership skills are all associated with high emotional intelligence. Furthermore, their ability to develop moderation of their emotion with their patients, community is the key to the highest levels of EQ. From another point of view, it may result of their ability to intertwined emotion and cognition in providing patient care. Similarly, Carminati (2021), has reported that nurse had high level of emotional intelligent, healthcare workers' exceptional professional and personal performance is directly correlated with their high levels of emotional intelligence. Goleman (1996) advocated that having this Self-awareness and the capacity to understand how one's own emotions affect others, promote social success as enables people to connect with others more easily and precisely read their emotions and reactions.

These views are echoed by McQueen (2004), who identified emotional intelligence as distinct from academic abilities and involving a number of qualities such as, individual self-awareness, ability to recognize and control

emotions, and having insight into how to relate to others, echoes these opinions. Parallel to the result of current study Mayer and Salovey (1997) identified that the ability to effectively sense, assess, and express emotions, comprehend the notion of emotional knowledge, and control emotion in a way that fosters both emotional and intellectual progress as emotional intelligence. It is thought of as a group of skills that can define a person's capacity for success in life. Also, Wilson (2014). Claimed that the study participant had high level of EQ, and adding that some survey participants cited the practice of upholding clear boundaries because they thought it was crucial to their ability to control the emotional stress they felt at work. This involves staff indicating that they established clear boundaries, both between work and home and in the closeness of their relationships with patients.

In addition, Stiglic et al., (2018) concluded that emotional intelligence was higher in nursing students. Moreover, Baçoğul and Özgür (2016) reported that the majority of nurses got a high level of emotional intelligence. In the same context, Chisme (2021) said that nursing leaders have high emotional intelligence. In contrast, the findings of the study by Hoer (2011) revealed weakness in New York nurse leaders' emotional intelligence abilities.

The present study shows that there was a significant difference between EQ and age, where the majority of nurses who have from 20 years to 30 years old, got a high perception of EQ. This result may be related to younger nurses are responded to events that frustrate them appropriately; dealing effectively with things that annoy them at work; responding appropriately to colleagues who frustrate them at work; taking criticism from colleagues personally; and handling stressful situations at work effectively. This result is contrary to El-Gazar (2014) who indicated that older and more experienced nurses are more emotionally intelligent than younger. Moreover, Abdel-Aleem (2013) concluded that head nurses who have 35 years or more and 20 years of experience or more are more emotionally intelligent.

Moreover, there was significant difference between EQ and working unit, where the majority of nurses who work in medical and ICU units, got high perception of EQ. This outcome could be attributed to the nature of the workplace, as peers of nurses ensure accountability in the workplace

and hold nurses accountable for the nursing care they provide when it affects patient care; members of the ICU and medical units' health care teams collaborate and serve as role models for new employees. Additionally, nurses are skilled at handling emotional situations at work and know what to say or do when colleagues become angry. This finding is consistent with that of Saeed et al., (2012), who found that nurses working in general units were most likely to exhibit high levels of EQ, whereas nurses working in intensive care units were more likely to need support to do so.

Furthermore, the majority of nurses with more than 10 years of experience had a high perception of EQ, and there were also notable significant disparities between EQ and nursing experience and their experience in the unit. This outcome might be explained by the fact that experienced nurses are aware of the factors that make people feel appreciated at work, how people react to them when they establish rapport, what factors contribute to optimism at work, and how to recognize what motivates individuals there. This finding is consistent with Recee (2012) assertion that emotional intelligence can be learned and developed over the course of a person's life. Furthermore, according to a study by Humpel and Caputi (2001) testing emotional intelligence among nursing students, older students exhibited a considerably greater emotional intelligence than freshmen.

Conclusion and Recommendations:

In light of the main study findings, it was concluded that there was a positive correlation between EQ and PA and its related dimension. The studied nurses perceived a high level of total PA and got highest level of EQ and its related dimension. Moreover, there were significant difference between EQ and age, working unit, nursing experience and experience in unit, while there is no significant difference between each of age, sex, educational level, marital status, nursing experience and PA among studied nurses.

Recommendations:

- **Integrate EQ courses in the nursing curriculum to enhance the nurses' level of EQ to be able to predict,** identify and help in the process of developing the EQ of the patients.
- Inform practice settings about what accountability and responsibility really entail and how to include accountability and responsibility-related material in their nursing orientation experiences.
- Schedule clinical supervision sessions to give the nursing staff information about various experiences and clinical situations, as well as advice on how to handle them calmly and without stress.
- Staff members should be given the opportunity to improve the workplace by participating in leadership as a shared duty.
- Developing a positive workplace environment with unambiguous managerial support is essential for promoting PA, nursing staff development, and retention.
- Equipping staff with the knowledge and abilities necessary for them to recognize, make use of, and raise their levels of EQ in this type of work setting.

Further research:

- A qualitative research study to explore nurse perceptions, understanding, and definitions of accountability in the workplace with a specific focus on empirical and epistemological perspectives.

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