# Correlating Emotional Intelligence and Job Performance Among Jordanian Hospitals' Registered Nurses

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**PROBLEM.** Emotional intelligence (EI) is an ability to recognize our and others' emotions, and manage emotions in ourselves and in relationships with other people. A large body of research evidence outside nursing shows that measured (EI) abilities correlated with employee performance, motivation, and job satisfaction; and preliminary nursing research evidence shows the correlation between EI ability and nurses' clinical performance. There is less research on the EI ability of Jordanian nurses, and the present study was undertaken to address this gap.
**METHODS.** A descriptive, cross-sectional, correlation comparative design (nonexperimental) was employed. Six Jordanian hospitals were included in the study. Two hundred fifty questionnaires were distributed to prospective participants. One hundred ninety-four questionnaires were returned, giving a response rate of 78%. EI was measured using the Genos Instrument. Clinical performance was measured using a self-report measure.
**FINDINGS.** Findings demonstrated significant positive relationships between all subscales of EI and job performance, ranging from $r = .250$, $p = .000$ to $r = .193$, $p = .007$. Regression analysis indicated working in medical–surgical wards, recognizing and expressing emotions scores ($\beta = 0.186$, $p = .048$), and controlling emotions ($\beta = 0.255$, $p = .027$) explained 19.1% of variance in nurses' job performance.
**CONCLUSIONS.** The study findings confirm the correlation between nurse EI ability and clinical performance.

## Introduction

The national health agenda for Jordan includes healthcare reform that places professional nursing on the center stage. The critical role of Jordanian nurses in health and quality of life improvement is acknowledged by nurses' role in national policy, healthcare improvement, education, and research. The Jordanian Nursing Council and other Jordanian nursing organizations have addressed many issues similar to professional nursing in other countries: baccalaureate requirements for entry to practice,

bridging programs for nurses without college degrees, and increasing efforts for best practice research. The influence of nursing on the Jordanian national health agenda has increased steadily. The results of this work have been significant. The number of registered Jordanian nurses doubled between 2007 and 2012, and the percentage of registered nurses within the total nursing workforce has increased. In the early 1980s, there was not one PhD nurse in Jordan, but by 2012, there were 200. Nurses have played an important part in vaccination programs, care of immigrant communities, and other recent public health challenges.

The Jordanian healthcare system is mainly composed of three sectors, each one providing healthcare services for approximately one-third of the population: The Ministry of Health (MOH) provides primary, secondary, and tertiary healthcare services through a network of 31 hospitals and numerous healthcare centers; the Royal Medical Services (RMS) provides primary, secondary, and tertiary services through 12 hospitals to military citizens and their families and the private sector includes 61 hospitals and many private clinics (Oweis & Diabat, 2005).

As awareness of the importance of nurses to Jordanian health care has increased; so also has awareness of workforce and workplace challenges affecting nurses. For this reason, emotional intelligence (EI) has become a subject of interest among Jordanian nurse researchers.

A solid body of international and interdisciplinary research findings has provided evidence that supports the importance of EI ability for healthcare providers. EI is "the capacity for recognizing our own feelings, and those of others, for motivating ourselves, and managing emotions well in ourselves, and in our relationships" (Green, 2008). This means that people with high EI scores are more able to manage their emotions, to understand other people's emotions, to communicate effectively, and to positively influence others. Measured EI ability correlates with employee performance, motivation, and job satisfaction (Boyatzis & Sala, 2004). In nurses, EI ability has been demonstrated to correlate with both performance level and retention (Codier, Kamikawa, Kooker, & Shoultz, 2009).

Job performance is a function of actions or processes involved in performing tasks or voluntary behaviors (Griffin, Neal, & Neale, 2000; Spector & Fox, 2002). Nursing performance is defined as the ability of nurses to accomplish work goals, meet job expectations, achieve benchmarks, and attain organizational goals. Nurses are the "backbone" of patient care and influence every aspect of hospital performance. Nurses' clinical performance has a direct impact on patient experience and health outcomes as well as overall hospital performance (Lee & Ko, 2010).

## Review of the Literature

There is substantive evidence in the EI literature for a positive correlation between measured EI ability and important behavioral and organizational outcomes. In a first pilot study exploring EI ability and clinical performance, Codier, Kooker, and Shoultz (2008) found that total EI scores correlated positively with staff nurse. Limited by sample size, this study was replicated with a sample of several hundred nurses and its findings validated. Additionally, the correlational analysis demonstrated evidence for the relationship between EI ability and retention (Codier et al., 2009). Ming and Lee (2008) found that staff nurses on a clinical ladder demonstrated higher EI scores than those who were not. Additionally, they reported that nurses' EI had a significantly positive influence on job satisfaction (Meng & Lee, 2008). In a study of EI and stress, perceived stress scores were inversely related to EI scores (Tsaousis & Nikolaou, 2005). Current research has demonstrated the relationship between nursing students' clinical performance and retention (Marvos & Hale, 2015), and conceptual work underway has described the relationship between EI ability and patient safety (Codier & Codier, 2015b). In a small experimental study, the peer coaching intervention did not result in a measureable change in EI scores, but did result in a perceived improvement in EI ability (Szeles, 2015).

In 2014, a meta-analysis including 395 research studies was conducted. This meta-analysis concluded that, although limited by a wide variety of definitions for EI among the studies, there was evidence for moderate cumulative effect size of $r = .3022$ for the relationship between EI ability and important nurse traits that included leadership, health, reflection, ethical behavior, nursing student performance, and job retention/satisfaction (Michelangelo, 2015).

Of the hundreds of nursing research studies on EI, most have been conducted in the United States and Europe, with a few notable exceptions. Based on the fact that less research has been conducted on measured EI of Jordanian nurses and the evidence correlating EI ability with clinical performance, nurse retention,

burn out prevention, and leadership outcomes, this study was undertaken to investigate the relationship between measured EI and job performance among Jordanian hospitals' registered nurses.

### Study Purpose

The purpose of the study was to investigate the relationship between measured EI and job performance among Jordanian hospitals' registered nurses.

## Methodology

### Protection of Human Subjects

Institutional Review Board (IRB) approval was obtained from the Jordan University of Science and Technology and from all hospitals involved in the study. Participation in the study was totally voluntary and anonymity was assured. Nurses could withdraw any time without penalty.

### Study Design, Setting, and Sample

A descriptive, cross-sectional, correlation comparative design (nonexperimental) was employed. Most of hospitals center around the cities of Zarqa, Irbid, and capital city, Amman (MOH, 2013), and provide a total bed capacity of 12,060. Of these, six hospitals were included in this study. Of the six, two were private hospitals, two public, and two were teaching hospitals. In the six selected hospitals, the capacity of beds ranged from 250 to 600. A sample of 210 registered nurses employed at these hospitals was recruited. Several participants did not provide complete data of their study, so a final study sample of 194 was used for the study.

### Instrumentation

**EI instrumentation.** EI was measured using the Genos EI Assessment. This instrument measures the following five emotional skills: recognizing and expressing emotions, understanding emotions, emotional reasoning, and emotional management (self and in interactions with others; Genos International, 2009). The instrument reflects self-reported data about how often each test taker believes they demonstrate particular behavior (Genos EI-Assessment Scale [online], 2009). The 25-item instrument reports a possible score range of 25–125. Scores lower than 75 reflect a low level of EI and scores over 100 reflect a high level of EI. Scores between 75 and 100 are considered mid-range, average, scores (Genos EI-Assessment Scale [online], 2009).

The instrument total score for the internal consistency reliability (Cronbach's alpha) is ≥0.91 (the Genos EI inventory). Alpha for the total EI score in this study was 0.93. Content validity was affirmed by a panel of experts. The instrument can be downloaded free of charge from the public domain. Permission was obtained for using and translating the instrument.

**Job performance instrumentation.** Job performance was measured using Schwirian's (1978) 42-item, Six-Dimension Scale of Nursing Performance. Each item was measured using a 5-point Likert scale to indicate a range from 0 "not at all" to 4 "very well." For purposes of comparison, the Likert scale could be divided roughly into low scores less than 2, average (2–2.5) and above average (2.5 and above). Cronbach's alpha for this instrument ranges from 0.84 to 0.98 (Mrayyan & Al-Faouri, 2008). Cronbach's alpha for the scale was 0.94, reflecting overall reliability.

**Data analysis plan.** Descriptive statistics were used to summarize all study data. The Pearson correlation coefficient was used to explore relationships between EI scores and job performance. The analysis of variance (ANOVA) test was used to examine differences in job performance scores between different types of hospitals. An independent sample *t*-test was used to evaluate the relationships between demographic and other study variables. Finally, standard multiple regression was used to explore modeling of possible relationships between EI, performance, and selected socio-demographic data.

## Results

Two hundred fifty questionnaires were distributed to participants in the six hospitals participating in the study. A total of 194 were returned complete, representing a 78% response rate. The mean age for the participants was 28.2 years and the mean years of nursing experience was 5.8 years (see Table 1). The proximity of age and gender to those reported for the general population of Jordanian nurses indicates that the study sample can be considered representative of hospital nurses in Jordan (Al-Ma'aitah & Shokeh, 2009). Demographic analysis with other study variables that were significant included a positive relationship between marital status and EI (single nurses had higher self-reported EI), a positive correlation between performance and education, and

**Table 1. Demographic Characteristics of Participants ($N = 194$)**

| Variables | *M* (*SD*) | Frequency (*f*) | Percentage |
|---|---|---|---|
| Age | 28.2 (4.6) | - | - |
| Years of experience in nursing | 5.8 (4.8) | - | - |
| Number of assigned patients | 6.1 (3.01) | - | - |
| Number of beds in the ward unit | 20 (10.6) | - | - |
| Number of nursing staff on shift | 3.3 (1.1) | - | - |
| Gender | | | |
| Male | - | 88 | 45.4 |
| Female | - | 106 | 54.6 |
| Total | - | 194 | 100 |
| Marital status | | | |
| Single | - | 82 | 42.3 |
| Married | - | 110 | 56.7 |
| Divorced | - | 1 | 0.5 |
| Widowed | - | 1 | 0.5 |
| Total | - | 194 | 100 |
| Shift type | | | |
| A (morning) | - | 56 | 28.9 |
| B (afternoon) | - | 9 | 4.6 |
| C (evening) | - | 12 | 6.2 |
| Rotating shifts | - | 117 | 60.3 |
| Total | - | 194 | 100 |
| Type of hospital | | | |
| Governmental | - | 73 | 37.6 |
| Private | - | 59 | 30.4 |
| University affiliated | - | 2 | 32 |
| Total | - | 194 | 100 |
| Level of nursing education | | | |
| Bachelor | - | 180 | 92.8 |
| Master | - | 14 | 7.2 |
| Total | - | 194 | 100 |
| Type of unit | | | |
| Medical/surgical, orthopedic, pediatric | - | 85 | 43.8 |
| Intensive care unit-coronary care unit | - | 43 | 22.2 |
| Psychiatric | - | 5 | 2.6 |
| Gynecology–obstetrics | - | 16 | 8.2 |
| ER | - | 16 | 8.2 |
| Other | | 29 | 14.9 |
| Total | | 194 | 100 |

no relationship between EI and gender. Differences between findings were also found among the three types of hospitals represented in the study (public, private, and teaching). Nurses in the private hospitals reported higher performance levels than those in public and teaching hospitals.

## EI Scores

The mean and standard deviation statistics for all subscales of EI are summarized in Tables 2 and 3. Analysis of the population's total scores demonstrated that 21% of the sample had low range EI scores. A total of 59% demonstrated mid-range EI scores, and 21% demonstrated high EI scores (see Table 2).

## Job Performance Scores

The overall nurses' job performance scale minimum value is 42 and the maximum value is 168. The mean and the standard deviation for the total sample was $M = 122.56$ and $SD = 36.3$. The five items that had

**Table 2. Means and Standard Deviations of the EI Scale and Subscales ($N = 194$)**

| EI | *M* | *SD* |
|---|---|---|
| EI | 3.49 | 0.61 |
| • Recognizing and expressing emotions | 3.51 | 0.745 |
| • Understanding others' emotions | 3.43 | 0.756 |
| • Decision making | 3.51 | 0.710 |
| • Managing emotions | 3.50 | 0.715 |
| • Controlling emotions | 3.48 | 0.726 |

*SD*, standard deviation; *M*, mean.

the highest means were as follows: (a) Promote the patient's right of privacy ($M = 3.10$; $SD = 0.84$). (b) Perform technical procedures ($M = 3.08$; $SD =$ 0,87). (c) Teach family members about patient needs ($M = 3.07$; $SD = 0.83$). (d) Coordinate medical and nursing plans of care ($M = 3.05$, $SD = 0.88$). (e) Use mechanical devices ($M = 3.01$; $SD = 0.93$. Items that had the lowest mean scores were the following: (a) Communicate facts, ideas, and professional opinions in writing to patients and their families ($M = 2.73$; $SD =$ 0.82). (b) Recognize and meet the emotional needs of a dying patient ($M = 2.783$; $SD = 0.92$), and develop innovative methods and materials for teaching patients ($M = 2.789$; $SD = 0.93$).

## EI and Job Performance

Pearson's product moment correlation was used to assess the relationship between EI scores and job performance scores. According to Cohen (1992), a correlation coefficient of 0.1–0.29 indicates that the relationship between variables is small, 0.3–0.49 indicates that the relationship between variables is in the medium range, and 0.50–1.0 indicates that the relationship between variables is large. Analysis of the EI/Performance scores revealed a small, positive relationship between the total EI score and job performance scale [$r = .27$, n = 195, $p = .000$].

Pearson's product moment correlation was also used to evaluate the relationship between EI subscores and job performance scores (see Table 4). The

**Table 3. Means and Standard Deviations of Each EI's Item ($N = 194$)**

| EI | *M* | *SD* |
|---|---|---|
| Recognizing and expressing emotions | **3.51**[a] | **0.745** |
| • Be aware of my body language when interacting with clients and colleagues | 3.7[a] | 1.05 |
| • Be aware of the tone of voice I use to convey important information | 3.57[a] | 1.03 |
| • Be aware of how my own emotions can influence behaviors at work | 3.56[a] | 1.04 |
| • Communicate my own feelings about an issue at work effectively | 3.43[a] | 0.99 |
| • Be able to talk about my own feelings at work appropriately | 3.29[a] | 1.15 |
| Understanding others' emotions | **3.43**[a] | **0.756** |
| • Know what makes others feel optimistic and positive in workplace | 3.5[a] | 0.96 |
| • Understand the things that can make others feel annoyed/frustrated | 3.4[a] | 0.96 |
| • Pick up on the feelings of clients and colleagues at work | 3.4[a] | 1.03 |
| • Be perceptive of others' feelings at work | 3.37[a] | 1.11 |
| • Understand what attracts clients to the business products/services | 3.32[a] | 1.02 |
| Decision making | **3.51**[a] | **0.710** |
| • Consider perspectives/feelings of others in decision communication | 3.6[a] | 0.89 |
| • Consider emotional information in reasoning and problem solving at work | 3.53[a] | 1.00 |
| • Consider how decisions may affect clients and colleagues | 3.51[a] | 0.91 |
| • Weigh up how I feel about different work-related issues | 3.54[a] | 0.98 |
| • Consider clients feelings about new business products/services | 3.42[a] | 0.98 |

(*Continued*)

**Table 3. Continued**

| EI | *M* | *SD* |
|---|---|---|
| Managing emotions | **3.50**[a] | **0.715** |
| • Be able to help others remain optimistic/positive in the workplace | 3.55[a] | 0.94 |
| • Be able to effectively intervene when colleagues get "worked up" | 3.53[a] | 0.90 |
| • Be able to create a positive work environment for others | 3.52[a] | 0.93 |
| • Be able to remain optimistic and positive in the workplace | 3.51[a] | 1.07 |
| • Be able to persist in the face of a frustrating task at work | 3.40[a] | 0.90 |
| Controlling emotions | **3.48**[a] | **0.726** |
| • Be able to cope with high work demands and occupational stress | 3.57[a] | 1.02 |
| • Show strong emotions in the right way, to the right degree, at the right time | 3.56[a] | 1.02 |
| • Be able to think objectively when upset by a colleague or client | 3.44[a] | 0.93 |
| • Not be emotionally "triggered-off" easily | 3.41[a] | 0.93 |
| • Be able to remain focused on a task when upset by colleagues or clients | 3.39[a] | 1.00 |

Boldface values represent the values for the main score, with subscores listed below them.
*M*, mean; *SD*, standard deviation.
Data from Genos International (2009).
[a]Indicates scores in average or above range.

results demonstrated a small, positive correlation between four EI subscales and job performance. The relationship between the fifth subscale (controlling emotions) and the total job performance scale was not statistically significant.

### Job Performance Modeling: EI Scores and Selected Demographic Data

Standard multiple regression analysis was used to explore the effects of EI Scores and selected socio-demographics (age, gender, marital status, educational level, worked shift, type of unit, and number of assigned patients) on job performance. The model as a whole was not significant. The variables that were included in the model that individually demonstrated unique contributions to the prediction of job performance included the following: (a) working in the medical-surgical wards ($\beta = 0.171$, $p = .040$), (b) EI subscore recognizing and expressing emotions ($\beta = 0.186$, $p = .048$), and (3) EI subscore, controlling emotions ($\beta = 0.255$, $p = .027$).

## Discussion

### Findings Related to Demographics

The finding that marital status correlated with job performance scores (single nurses had higher scores than married nurses), supported by Mrayyan and Al-Faouri (2008), deserves further research, particularly in regard to burnout and role overload, which both correlate with decreased EI scores.

The current study revealed no correlation between gender and job performance scores, a finding not supported by either Bsool (2014), who reported that male nurses perceived their performance level to be higher than female nurses, or Indartono and Chen (2010), who found that female employees achieved higher performance than male employees. This discrepancy in the findings mirrors that in the general EI literature, among which there is not clear concensus. It may be worth further nursing research, however, because of persistent stereotyping among nurses that characterize male nurses as less emotionally able than their female counterparts (Codier & MacNaughton, 2012).

### EI Scores

The nurses' self-reported EI scores were consistent with results from other Jordanian studies influence of EI training on nurses' job satisfaction (Al-Shurman, 2009). The analysis of subscores revealed that the highest subscore demonstrated was recognizing and expressing emotions and decision making ($M = 3.51$). The spread of total EI score across the below average-average and above average continuum is similar to what has been reported in other studies (Codier et al., 2008, 2009). The perceptions of EI ability among three types of hospitals (governmental, private, and university-affiliated) were not statistically different, a finding supported by some research (Sen, Saxena, &

**Table 4. Correlation Between EI Subscales and Job Performance Scale ($N = 194$)**

| | Total performance | Total (REM) | Total (UE) | Total (DM) | Total (ME) | Total (CM) |
|---|---|---|---|---|---|---|
| Total performance | | | | | | |
| Pearson correlation | 1 | 0.250** | 0.222** | 0.230** | 0.193** | 0.253** |
| Sig. (two-tailed) | - | 0.000 | 0.002 | 0.001 | 0.007 | 0.000 |
| *N* | 194 | 194 | 194 | 194 | 194 | 194 |

** Correlation is significant at the .01 level (two-tailed).

Mathur, 2011), but not others (Yousefy & Ghassemi, 2006).

These findings are important for several reasons. First, if EI ability correlates with performance level in nurses, the greater than 20% of nurses who self-reported as being below average in this critical skill is cause for concern. Second, as EI ability has been demonstrated to correlate with retention and burn out prevention, this finding also suggests the importance of measures to address this finding. The EI findings en toto reflect the importance of integrating EI ability into nursing education, and integration of EI abilities into performance criteria for nurses in clinical practice.

### Nurse Clinical Performance

The nurses' job performance scale items reflect daily nursing care duties and the nurse job description. In the present study, the mean for the total sample was 2.56 and the average mean score was 2.92, roughly consistent with Mrayyan and Al-Faouri's finding (2008) of 2.75. The mean of nurses' job performance was 2.92. These findings indicated that among the total sample, registered nurses perceived they were performing their jobs "well." This differs from the marginal performance reported elsewhere (McCloskey & McCain, 1987), although the significant difference in study dates should be noted. More interesting, however, is the distribution of scores across the "low-average-high" continuum. Most nurses in total numbers scored themselves in the above average categories. Scores did differ significantly among the three types of hospitals ($p = .000$). Nurses employed in private hospitals self-reported the highest scores ($M = 3.11$; $SD = 0.39$). This result is congruent with a Ugandan study that compared nurse performance in public and private (Nabirye, Brown, Pryor, & Maples, 2011). The self-report of overall clinical performance varies significantly among the aspects of nursing care that are reported. This suggests that further research on how EI ability affects nurse performance across the range of aspects of nursing care may be important.

The current study found small positive relationship between total EI scores and job performance scores. This result is consistent with the results of other researchers (Bakr & Saffan, 2012; Codier et al., 2008, 2009; Shamsuddin & Ramlee, 2013). There were also significant positive relationships demonstrated between all subscales of EI and the job performance scale. That means registered nurses who reported skills of understanding and expressing emotions, understanding others' emotions, decision making, managing emotions at work environment, and controlling emotions of self and others also reported that they were able to perform their jobs completely and successfully. The strongest correlation among the EI subscales was between controlling emotions and job performance. These findings are supported in part by Lopes, Grewal, Kadis, Gall, and Salovey (2006), who found that the managing emotions subscale had the highest score associated with job performance.

These findings are striking and support the growing evidence that EI ability is an important element for nursing performance in the clinical setting. Combined with other research that indicates EI ability's role in retention and burnout prevention, as well as patient safety and other positive organizational outcomes, these findings contribute significantly to a clarion call for the integration of EI ability into nursing education at all levels.

### Regression Modeling

Standard multiple regression analysis indicated that working in medical–surgical wards, recognizing and expressing emotions, controlling emotions, and selected demographic variables explained 19.1%

of the variance in hospitals' registered nurses' job performance. Recognizing, expressing, and controlling emotions were identified as contributing factors. This supports findings of Al-Bsool (2014), who reported that registered nurses' self-efficacy, perceptions of organizational justice, gender, and hospital settings explained 29.2% of variance in job performance, and Saheed et al. (2012), who reported that length of service, EI, and leadership styles when combined together were significant predictors of job performance. These findings demonstrated that EI abilities contribute to the effects of other important variables that combine to significantly affect job performance.

## Limitations

One limitation of the current study was the use of convenience sampling methods, which may have resulted in sampling errors, minimization of the power of the current study, and, in turn, its generalizability. Additionally, the use of self-report instruments for both EI measures and performance measurement increases the risk of errors well known to be associated with self-reporting, particularly with performance-related variables. A third limitation was the chronic problem of instrumentation in the EI literature as a whole. The lack of consensus for models of EI, definitions of EI, and inconsistency among the instruments utilized for measuring it varied widely across the literature, which was used as a foundation for this study, rendering comparison of research findings problematic.

## Implications

The study results have important implications for clinical practice, research, education, and policy. These results suggest that EI skills, as a support to clinical practice, could be considered important competencies to teaching in nursing school and both require and evaluate clinical settings. Addition of these competencies to those taught in nursing schools, required by regulating bodies, and to clinical evaluation systems could be suggested.

The findings of this study add to the growing literature about the significance of EI ability for clinical nurses. In many ways nursing in Jordan is similar to that in other countries. It has, however, a unique and challenging socio-economic, political, and religious environment. The strain of a large migrant population and a politically unstable and war-torn region surrounding the country may make EI abilities, as a supporter of good clinical practice and a possible mediator of role strain, even more important. Further studies are needed to examine the impact of EI on other important organizational outcomes such as: retention in the clinical areas, patients' satisfaction, organizational citizenship behaviors, organizational commitment, and patient safety.

Findings from the study also suggest the importance of EI education in nursing school curricula at all levels, and in clinical education within the practice settings. The findings of this study, supported by others in the nursing literature, also indicate the importance of integrating EI ability into performance requirements for clinical practice settings. This has already been suggested for particularly high stress clinical environments such as oncology nursing and emergency nursing, and now should be expanded to include EI as a core concept for nursing practice (Codier & Codier, 2015a).

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