Original Article

Emotional intelligence and clinical performance/retention of nursing students

Chelsea Marvos[1], Frankie B. Hale[2]

[1]School of Nursing, University of Hawaii at Manoa, [2]School of Nursing and Dental Hygiene, University of Hawaii, Honolulu, HI, USA

Corresponding author: Chelsea Marvos
E-mail: chelsea.marvos@tenethealth.com

ABSTRACT

Objective: This exploratory, quantitative, descriptive study was undertaken to explore the relationship between clinical performance and anticipated retention in nursing students. **Methods:** After approval by the university's Human Subjects Committee, a sample of 104 nursing students were recruited for this study, which involved testing with a valid and reliable emotional intelligence (EI) instrument and a self-report survey of clinical competencies. **Results:** Statistical analysis revealed that although the group average for total EI score and the 6 score subsets were in the average range, approximately 30% of the individual total EI scores and 30% of two branch scores, identifying emotions correctly and understanding emotions, fell in the less than average range. This data, as well as the analysis of correlation with clinical self-report scores, suggest recommendations applicable to educators of clinical nursing students. **Conclusions:** Registered nurses make-up the largest segment of the ever-growing healthcare workforce. Yet, retention of new graduates has historically been a challenge for the profession. Given the projected employment growth in nursing, it is important to identify factors which correlate with high levels of performance and job retention among nurses. There is preliminary evidence that EI "a nontraditional intelligence measure" relates positively not only with retention of clinical staff nurses, but with overall clinical performance as well.

Key words: Emotional intelligence, nursing students, retention, clinical performance

Introduction

According to the U.S. Bureau of Labor Statistics, registered nursing is identified as the top occupation for job growth through 2020. It is expected that the number of employed nurses will grow from 2.74 million in 2010 to 3.45 million in 2020-an increase of 712,000 new nurses.[1] Yet, retention of new graduates has historically been a challenge for the profession.

Research indicates that 35%-61% of new graduate nurses leave their job during their 1st year of employment as a registered nurse.[2] Considering the cost of new-graduate orientation to an organization, this represents a significant negative fiscal impact on health care organizations. Moreover, the anticipated loss of the baby-boomer generation nurses who were expected to retire by 55 years of age, but are now working into their 60 s and 70 s, will eventually depart from the profession when the economy stabilizes and/or they are unable to continue working for physical or emotional reasons. When added to the professional impact of such a rapid job change, the case is clear for the importance of retention for student nurses anticipating graduation.

It is vital to identify factors which correlate with positive retention among nurses. Wages and benefits have not been good indicators of nurse retention; however, there is preliminary evidence that measured emotional intelligence (EI) correlates positively not only with retention of clinical

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staff nurses, but with overall clinical performance as well.[3] In order to proactively address the issue retention in nursing, new approaches to understanding retention of new graduate nurses are needed. This study was undertaken to explore the relationship between anticipated retention in nursing, clinical performance and measured EI in student nurses.

This exploratory, descriptive, correlational study was undertaken to examine the relationship between EI, self-reported clinical performance, and anticipated retention in a population of student nurses. The following specific research questions were addressed:

1. How do the EI scores of the student sample compare with previously reported scores of practicing clinical nurses?
2. What percentage of nurses scores in the normal, below normal, and above the normal range and how do these findings compare with practicing clinical nurses?
3. What branch EI abilities were most frequently among the highest scores for the student sample? How do these findings compare with practicing clinical nurses?
4. What branch EI abilities were most frequently among the lowest scores for the student sample? How do these findings compare with practicing clinical nurses?
5. What area EI abilities (Strategic EI vs. Experiential EI) were most frequently among the highest scores for the student sample? How do these findings compare with practicing clinical nurses?
6. What area EI abilities (Strategic EI vs. Experiential EI) were most frequently among the lowest scores for the student sample? How do these findings compare with practicing clinical nurses?
7. Were there significant correlations between EI scores and any of the self-reported clinical performance data?
8. Are there significant differences demonstrated in the EI scores between genders or among various ages or ethnic groups?

Emotional intelligence theoretical framework

Major emotional intelligence models

There are currently a number of models for EI in use. Table 1 compares three of the most commonly used models. For this study, the ability model of EI was chosen to measure the EI of nursing students. Within this model, EI is defined as an ability that can be learned, taught, and developed. EI is operationally defined through the four components of EI: Perceiving emotions, utilizing these emotional perceptions to accomplish various activities or tasks, understanding emotional variations, and managing emotions. One instrument based on this model is the Mayer, Salovey, Caruso EI Test (MSCEIT). The MSCEIT

Table 1: Three models of EI		
Name	Characteristics	Instrumentation
Personality model (Bar-On)	5 facets Interpersonal Adaptability Mood Stress management Interpersonal	EQ-i (self-report)
Ability model (Mayer, Salovey, and Caruso)	4 branches Perceiving emotions Using emotions Understanding emotions Managing emotions	MSCEIT (ability test)
Mixed model (Goleman)	Personal/social competencies Self-awareness, self-management Social awareness, social skills	ECI (360°)

EI: Emotional intelligence, EQ-i: Emotional quotient inventory, MSCEIT: Mayer, salovey, caruso emotional intelligence test, ECI: Emotional competence inventory

is an instrument that requires performance of emotional tasks, unlike other EI instruments that rely on self-report or assessments of other individuals. The MSCEIT reports 18 scores and sub-scores, seven of which were utilized in this study [Table 1]. The MSCEIT instrument has undergone rigorous validity and reliability testing.[4]

Student performance

Traditional measures of intelligence (grade point average [GPA], Graduate Record Examination scores, and class standing) do not correlate with performance in the work place or with important organizational parameters such as retention, organizational commitment, and level of performance. Despite this, admission to most nursing schools in the United States is currently dependent largely on GPA and entrance examination scores.[5-7] Nursing research on academic predictors of clinical performance also focus primarily on traditional measures of intelligence such as GPA and the National League for Nursing Examination scores rather than actual postgraduate performance in the workplace.

Accurate prediction of student performance has become a subject of concern to school admission officers, faculty in schools of nursing, and prospective employers seeking to hire top performers.[8,9] As such, the use of alternative admission criteria that do correlate with actual postgraduation workplace performance is increasingly under discussion.

Literature review

A literature search of empirical and theoretical sources in peer-reviewed journals was completed in Spring 2014. Electronic retrieval systems, such as ScienceDirect and

EBSCOhost, and professional organization websites were utilized for the literature search. The role of EI in education, EI and performance (both clinical and academic) of nursing students, and EI and the performance and retention of clinical staff nurses were investigated. There is currently a large body of psychology research on EI and organizational research in the general population on EI; however, since these topics are not directly related to this study they were not included in the literature review.

In the general population, there is evidence that EI predicts academic performance, however, the mechanism for this relationship is unclear.[10] There is also evidence that EI contributes to students' cognitive performance in the general student population.[11] A study of medical students found that those with higher EI performed better in both continuous assessments and final examinations.[12]

Nursing research exploring EI and clinical performance of nursing students demonstrated that performance correlates significantly with the total EI scores, but not branch scores.[13] Research investigating the relationship between EI and the academic performance of nursing students demonstrates that EI correlates significantly with critical thinking ability, help seeking, and peer learning.[14] EI has also positively correlated with well-being, problem-focused coping, and perceived nursing competency of nursing students.[15] Jones-Schenk and Harper found a positive correlation between EI and retention in nursing school. However, EI scores among the nursing student who dropped out were not significantly different from those of successful staff nurses. Thus, student success in baccalaureate nursing programs appeared to be related with EI (i.e., those with higher EI levels proved to be more successful in nursing school).[16] By implication, nontraditional intelligence measures (such as EI) may be a better predictor of student success than traditional intelligence measures (cumulative GPA).

Researching nursing students in Hong Kong, Chan et al.[17] found that those students who were well adept in conflict management fared better in clinical settings. EI levels were a significant predictor of success on five measures of conflict management skills. They concluded that it is worthwhile for nurse educators to coach their students in effective conflict management to enhance their EI, and, as a result, prepare them to face conflict as nursing students as well as future professional nurses.

Ruiz-Aranda et al.[18] found a relationship between EI and evaluations of stressful situations (higher EI individuals evaluated them as less stressful) as well as measures of well-being (life satisfaction and happiness). They recommended that EI training be included in nursing curricula to aid students (nursing as well as allied health) in facing challenging situations. Given the generally higher levels of stress found in healthcare, nursing students may benefit from coaching as to how to effectively manage their emotions.

Senyuva et al.[19] investigated the correlation of self-compassion and EI of nursing students using self-compassion and EI Assessment Scales. The results showed a correlation between self-compassion and EI, which suggested that these two characteristics should be developed among nursing students. They claimed that being emotionally intelligent includes the ability to perceive one's own emotions and then use that information in meeting the physical, social and emotional health-care needs of individuals, families and society. The literature showed that persons who are not supportive in accepting their own emotions and who fail to approach mistakes without prejudice often become depressed, feel emotionally exhausted, have decreased job satisfaction, and lose their sense of personal success. As a result, their quality of life and self-compassion become adversely affected. This further adversely affects the rendering of quality nursing care. They concluded that the development of self-compassion and EI in nursing students is imperative.[19]

Despite the current research on EI, evidence linking EI, clinical performance, and retention of nursing students has not yet been fully addressed in the literature. Given the research findings linking measured EI and performance in general employee performance, and the correlation between EI and performance in clinical nurses, it is possible that EI may correlate with the clinical performance and anticipated retention of nursing students. Thus, further investigation of the relationship is necessary.

Materials and Methods

Setting and sample

The study took place at a large, ethnically diverse, public university located in the pacific region of the United States.

After obtaining approval from the university's Human Subjects Committee, 129 undergraduate nursing students were solicited for study participation. A total of 104 students enrolled in the BSN program recruited agreed to participate. Among the study participants, age ranged from 19 to 52 (mean 26 years). The study participants were 73% (76) female and 27% (28) male, a higher-than-average percentage of men than is found in nursing schools in the

United States. As is typical of the region, ethnicity was diverse. All participants were high school graduates and most in the fourth semester of the nursing program. The student sample was compared with one of the clinical nurses in practice that had similar ethnicity distribution but greater age and with fewer males.

The participants were instructed to complete the Clinical Performance/Anticipated Retention and Demographic Surveys with their study code-names so the data could be matched with their EI data, and to return them to a designated location. Each participant then had approximately 1-week to access and completes the EI test (MSCEIT, version 2.0).

Emotional intelligence instrumentation

The MSCEIT instrument, version 2, was used to measure participants' EI ability. This instrument differs from other EI tools in that it focuses on EI ability, not self-report measures or personality attributes. The MSCEIT scores used for this study included one total EI score and four sub-scores that reflect the four operational definitions of EI:
1. Identifying emotions
2. Using emotions to reason
3. Understanding emotions
4. Managing emotions

The two additional sub-scores experiential EI and strategic EI reflect composite scores. Experiential EI is a combination of the identifying emotions and using emotions to reason scores. Strategic EI is a combination of the understanding emotions and managing emotions scores.[20] The structure of the MSCEIT is illustrated in Table 1. There is considerable evidence that the MSCEIT version 2. has a structure reflective of the ability EI Model. The split-half reliability coefficient for the total EI score is reported to be 94. The split-half reliability for the total score is 0.94. Reliability scores for the sub-scores ranged from 65 to 78. Test-retest reliability for the MSCIET is $r = 0.86$, $P < 0.001$.[21]

Clinical performance/anticipated retention instrumentation

The Clinical Performance/Anticipated Retention Rubric adapted from Lasater's Clinical Judgment/Reasoning Evaluation Rubric was utilized to measure clinical performance.[22] (Lasater, 2007). The rubric has undergone several different methods of reliability and validity testing. Adamson and Kardong-Edgren assessed the inter-rater reliability of data produced using the tool.[23] The intraclass correlation used was (2,1) and the inter-rater reliability

was calculated to be 0.889. Adamson used the percent agreement strategy for assessing inter-rater reliability. Results ranged from 92% to 96%. Sideras used level of agreement for reliability analyzes with results ranging from 57% to 100%.[24]

The 4-point likert describes levels of performance in clinical judgment and covered the following five areas:
1. Noticing
2. Interpreting
3. Responding
4. Reflecting
5. Professionalism

Under these five areas, there were a total of 16 sub-areas. Each participant was instructed to reflect on all of their clinical experiences as a student nurse and rate their performance on the following likert scale:
1. Unsatisfactory
2. Novice developing
3. Proficient
4. Exemplary

The participants' average area scores where used for correlation analysis.

Findings

Emotional intelligence scores
The participant sample was first analyzed for mean and range of EI group scores. The MSCEIT score average range is 90-109. The total EI scores ranged from 59 to 129 with a mean for the sample of 95. Most students (55 or 53%) demonstrated total EI scores in the average range. However, 34% (35) scored below average, and 13% (14) scored above average [Table 2]. All branch score means were also within the average range. The branch score analysis was significant for two findings. Below average scores for perceiving emotions were demonstrated for 32% (33) of the sample, and 35% (36) scored below average in using emotions to reason. The area score analysis revealed

Table 2: EI scores and sub-scores			
Description	Below average <90	Average 90-109	Above average >109
Total EI score %	34 (35)	53 (55)	13 (14)
Experiencing emotions %	34 (35)	50 (52)	16 (17)
Strategic use of emotions %	18 (19)	74 (77)	8 (8)
Perceiving emotions %	32 (33)	48 (50)	20 (21)
Using emotions %	35 (36)	45 (47)	20 (21)
Understanding emotions %	24 (25)	72 (75)	4 (4)
Managing emotions %	16 (17)	76 (79)	8 (8)
EI: Emotional intelligence			

that 34% (35) of the sample also scored below average for experiencing emotions.

The branch scores were also analyzed individually for patterns of high and low scoring. For identifying emotions, 21% (22) of the participants had this score as their highest score while it was the lowest score for 28% (29) of the group. Similar results were found for the other three branch scores. The using emotions score was noted as the highest score for 24% (25) of the participants. For 26% (27) of the subjects, it was their lowest branch score. About 21% (22) of the participants had understanding emotions are their highest score and for 26% (27) it was their lowest. Lastly, the managing emotions score was the highest for 25% (26) of the participants and the lowest for 14% (15). As a group, 9% (9) had equally high scores in two or more categories and 6% (6) of group had two or more equal branch scores as their lowest scores [Figure 1].

For area scores, 56% (58) of the participants had strategic EI as their area of greatest strength while 40% (43) had experiencing emotions as their area of greatest strength. For 4% (4) of the group, their strategic and experiencing EI scores were the same.

Clinical performance

The self-reported clinical performance evaluation scores were first analyzed for the mean rating of following sub-areas: Focused observations (mean 2.7), making sense of data (mean 2.5), responding in a calm, confident manner (mean 2.9), using clear communication (mean 2.8), being caring (mean 3.1), evaluation/self-analysis (mean 2.8), commitment to self-improvement (mean 3.3), and attendance (mean 3.9). All of the mean scores fell between "novice developing" and "proficient."
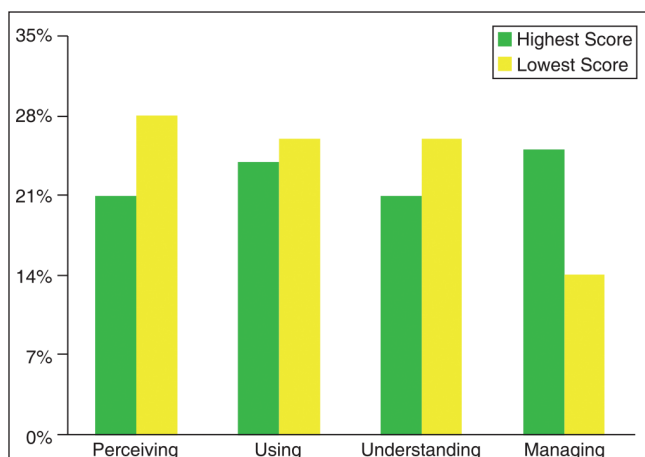

Figure 1: Highest and lowest branch scores.

Next, the self-reported clinical performance scores were analyzed individually. None of the areas or sub-areas were rated as an "unsatisfactory" clinical performance for any of the participants. For "making focused observations," 58% (60) of the students rated their performance as proficient while 27% (28) rated their performance as novice developing. The majority of the remaining students 14% (15) rated their performance in-between novice developing and proficient, and 1% (1) of the students rated their clinical performance as exemplary. For "making sense of data," 47% (49) of the students rated their performance as proficient, 36% (37) rated their performance as novice developing, 16% (17) rated their performance in-between novice developing and proficient, and 1% (1) rated their performance in-between proficient and exemplary.

For "responding in a calm, confident manner," 58% (60) of the students rated their performance as proficient, 19% (20) rated their performance as novice developing, 10% (10) rated their performance in-between novice developing and proficient, 6% (6) rated their performance in-between proficient and exemplary, and 8% (8) rated their performance as exemplary. For "using clear communication," 60% (62) of the students rated their performance as proficient, 21% (22) rated their performance as novice developing, 9% (9) rated their performance in-between novice developing and proficient, 3% (3) rated their performance in-between proficient and exemplary, and 8% (8) rated their performance as exemplary. For "being caring," 63% (65) of the students rated their performance as proficient, 20% (21) rated their performance as exemplary, 6% (6) rated their performance in-between novice developing and proficient, and 4% (4) rated their performance in-between proficient and exemplary.

For "evaluating/self-analysis," 56% (58) of the students rated their performance as proficient, 22% (23) rated their performance as novice developing, 9% (9) rated their performance in-between novice developing and proficient, 4% (4) rated their performance in-between proficient and exemplary, and 10% (10) rated their performance as exemplary. For "commitment to self-improvement," 56% (57) of the students rated their performance as proficient, 4% (4) rated their performance as novice developing, 3% (3) rated their performance in-between novice developing and proficient, 4% (4) rated their performance in-between proficient and exemplary, and 36% (36) rated their performance as exemplary.

For "attendance," 94% (98) rated their performance as exemplary, 4% (4) of the students rated their performance as proficient, 1% (1) rated their performance as novice

developing, 1% (1) rated their performance in-between proficient and exemplary. For a summary of the clinical performance scores in Table 3.

Retention

Each study participant responded to the anticipated retention question: "How long do you plan on working as a Registered Nurse?" Answer choices included, (1) I do not plan on working as a Registered Nurse; (2) 1-5 years; (3) 5-10 years; (4) 10-20 years; and (5) 20 or more years. 72% (75) responded that they plan on working for 20 years or more, 14% (15) plan on working for 10-20 years, 6% (6) plan on working for 5-10 years, 7% (7) plan on working for 1-5 years, and 1% (1) does not plan on working as a Registered Nurse.

Correlation analysis

Correlation analysis was utilized to explore the relationship between self-reported clinical performance, anticipated retention, and each EI score. This analysis revealed that the EI ability "managing emotions" was positively and significantly correlated with the clinical performance task of "responding" ($r = 0.20$). This finding was demonstrated at the $P < 0.05$ level of significance and means that participants who had higher managing emotions scores also had higher ratings for their ability to respond in the clinical setting [Table 4].

Anticipated retention correlated positively and significantly with understanding emotions ($r = 0.25$) and strategic EI ($r = 0.26$) at a $P < 0.01$ level of significance. Anticipated retention also correlated positively and significantly with the total EI ($r = 0.21$) at a $P < 0.05$ level of significance [Table 4]. This means that individuals who scored higher on understanding emotions, strategic EI, and total EI also reported anticipating longer years in the nursing profession.

A correlation analysis was performed to explore relationships between the ethnicity, gender, age variables, and all of the EI scores, as well as all of the clinical performance scores and anticipated retention data. The analysis demonstrated that participant age ($r = 0.19$) was positively and significantly correlated with understanding emotions at the $P < 0.05$ level of significance [Table 4]. This finding means that older participants had higher understanding emotions scores.

Gender ($r = -0.22$) negatively and significantly correlated with managing emotions at the $P < 0.05$ level of significance. This finding means that males had lower managing emotions scores than females [Table 4].

Research questions

Results for research study questions were as follows:
1. Compared with previously reported EI scores of practicing clinical nurses, the student scores were, overall, very similar.
2. Compared with practicing clinical nurses, the percentage of scores in the normal, below normal, and above normal ranges were comparable. Students had a lower percentage of below-average scores for total EI, perceiving emotions, and managing emotions. The clinical staff nurses had a lower below-average percentage for using emotions and understanding emotions [Table 5].
3. Managing emotions branch EI scores were most frequently the highest scores for students and understanding emotions among clinical nurses.
4. Identifying emotions branch EI scores were most frequently the lowest scores for students. Perceiving emotions branch abilities were most frequently the lowest scores for clinical nurses.

Table 3: Clinical performance self-report scores

Description	Novice developing	Proficient	Exemplary
Focused observations %	27 (28)	58 (60)	1 (1)
Making sense of date %	36 (37)	47 (49)	1 (1)
Evaluation/self-analysis %	22 (23)	56 (58)	10 (10)
Being caring %	0	63 (65)	20 (21)
Calm, confident manner %	10 (10)	58 (60)	19 (20)
Clear communication %	21 (22)	60 (62)	8 (8)
Commitment to self-improvement %	4 (4)	56 (57)	36 (36)
Attendance %	1 (1)	4 (4)	94 (98)

Table 4: Correlation between EI scores and age, gender and retention

EI score	Correlation	Significance
Managing emotions	Responding (0.200)	0.05 level
Understanding emotions	Retention (0.253)	0.01 level
Strategic EI	Retention (0.265)	0.01 level
Total EI	Retention (0.211)	0.05 level
Understanding emotions	Age (0.196)	0.05 level
Managing emotions	Gender (−0.221)	0.05 level
EI: Emotional intelligence		

Table 5: Below average scores: Percentage of sample with below average scores

Description	Students	Clinical staff nurses
Total EI %	34	37
Perceiving emotions %	32	41
Using emotions %	35	26
Understanding emotions %	24	11
Managing emotions %	16	22
EI: Emotional intelligence		

5. Strategic area EI abilities, opposed to Experiential, were most frequently the highest scores for both samples.
6. Experiential area EI scores were most frequently the lowest scores for both samples.
7. The EI sub-score managing emotions was positively and significantly correlated with the clinical performance task of "responding" ($r = 0.20$), $P < 0.05$ in the student sample.
8. Gender ($r = -0.22$) correlated negatively with the MSCEIT branch score of Managing Emotions.

Discussion

The purpose of this study was to explore the EI ability in a sample of undergraduate nursing students and determine if any correlation existed between with self-reported clinical performance and anticipated retention data. The EI ability scores of the nursing student participants were also compared to those found in a sample of clinical staff nurses. There were several noteworthy findings discovered throughout the course of this study.

Emotional intelligence scores

Approximately, 30% of the individual Total EI scores and 30% of two branch scores — identifying emotions correctly and understanding emotions — fell in the less than average range. This is a significant finding because the skills that makeup the total EI score (perceiving, using, understanding and managing emotions) are all skills that are or should be required of a registered nurse. In addition, it concerns that a higher percentage of clinical staff nurses had below-average scores than the students. More of the clinical staff nurses scored below-average in their ability to perceive emotions and manage emotions, as well as in their total EI score.

A possible explanation for this could be that as student nurses progress to the role of a practicing clinical nurse, there is a shift in focus and priorities. There may be less time for the clinical nurse than the student nurse to focus on emotional aspects of care. Burnout is also another issue that may have affected the EI ability of the clinical nurses and not the students. Further investigation into the reasons staff nurses had more below-average scores than the students are necessary.

Emotional intelligence and clinical performance

In this study, the EI sub-score "managing emotions" was positively and significantly correlated with the clinical performance task of "responding" ($r = 0.20$) at the $P < 0.05$ level of significance. This relationship is not all that surprising, as an increased ability to manage emotions seems to go hand-in-hand with the ability to respond in a caring manner, to respond in a calm, confident way, to respond using clear communication, to respond with skillfulness, and to plan patient intervention appropriately in response to a variety of situations. Nonetheless, this finding is significant because it provides evidence that EI ability in the student population relates positively with clinical performance. This finding is consistent with evidence in both nursing and the general population.

Emotional intelligence and gender

While there have been a variety of conclusions made about EI and gender in both the general population and in nursing, in this study gender ($r = -0.22$) correlated negatively with the branch score "managing emotions" at the $P < 0.05$ level of significance. The correlation means that males had significantly lower managing emotions scores than females. This finding could be viewed in two different lights when compared against gender stereotypes of western culture. For instance, it could be argued that men have a harder time managing emotions because they are quick to react. It could also be said that because women are more "emotional" than men, they have more experience with managing their emotions. Interestingly, this finding conflicts with a recent study on the EI of male nurses which found no difference in the EI abilities of male and female nurses.[25]

Emotional intelligence and age

There has also been conflicting research in the area of EI and age. Many studies have demonstrated that EI (or EQ) increase with age until the later decades of life.[25,26] Other studies have reported an inverse relationship between age and EI, and some have shown no correlation. In this study, a significant correlation was demonstrated between age ($r = 0.19$), and EI branch score understanding emotions at the $P < 0.05$ level of significance. Interestingly, this finding was also demonstrated in the study of EI of clinical staff nurses.[3] This similar finding is significant and may reflect the positive effect aging can have on an individual's ability to understand emotions.

Emotional intelligence and anticipated retention

Significant correlations between EI and retention have been demonstrated in clinical staff nurses[3] and with student retention in nursing school,[27] however, little research exists in nursing on the correlation between EI and anticipated retention in nursing students. Thus, the positive correlations between anticipated retention and total EI ability ($r = 0.21$), strategic EI ($r = 0.26$), and branch score understanding emotions ($r = 0.25$) are significant findings. The correlations between anticipated retention and strategic

EI and understanding emotions were demonstrated at the $P < 0.01$ level of significance. The correlation between anticipated retention and total EI was demonstrated at the $P < 0.05$ level of significance.

Limitations

The use of self-report data obtained in the Clinical Judgment/Reasoning Evaluation Tool limited the strength of this study by relying on the perception and understanding of the participants. If the understanding of the participants' clinical performance was inaccurate, then the results may be based only on self-perception and not true clinical performance.[28] In an effort to avoid misunderstandings, the researcher was present throughout all data collection to respond to questions and concerns, and to clarify any possible misunderstandings.[29]

When using self-report measures, there is always a potential that participant responses may also lack honesty. If this occurs, the participants responses limit the research. Participants may have rated their clinical performance higher than it is and/or rated their anticipated retention survey longer out of fear or embarrassment. In order increase the likelihood of honest responses, the participants assured that all responses were confidential and that no personal identifiers (such as name) would be collected.

Another constraint of this study is that it was limited to a sample of second through fifth semester nursing students out of a six-semester program. Bias may occur in nonrandom, purposive samples because the sample characteristics may be systematically different from the population.[30] Moreover, the sample demographics in this study are not representative of nursing schools in all geographic regions in the United States. Thus, the findings of this study may not be generalized to other population of nursing students, such as first and sixth semester students, students in ADN and diploma programs, or students in accelerated BSN programs.[30] However, the ethnic makeup of the sample was representative of nurses in Hawaii.

Implications and Conclusion

Given the challenges presented by health care reform and an aging nursing workforce, it is important to identify factors which correlate with high levels of performance and job retention among nurses. The findings of this study reveal significant correlations between EI, anticipated retention, gender, age, and clinical performance in nursing students. These findings pose important questions for the educators responsible for nursing education in both the academic setting and in the postacademic environment. Further investigation of the role EI plays in preparing students for clinical practice and factors that increase or decrease EI in nursing students and clinical staff nurses is warranted.

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