

Emotional Intelligence among physiotherapy Students and Its Relationship to Their Critical Thinking

BUSHRA ASHRAF,¹ YASIR ARBAB,² NAZIA ASHRAF ³, SIDRA YASIR⁴ ASIYAH AHMAD ⁵, SADIA MUHAMMAD ASHRAF,⁶ WARDA BALOUCH ⁷ SOBIA AZHAR MALIK⁸

¹ Lecturer at Bahawalpur Institute of Rehabilitation Sciences, Bahawalpur

² Principal at Bahawalpur Institute of Rehabilitation Sciences, Bahawalpur

³ Lecturer at MCON, Multan Medical and Dental College, Multan

⁴ Vice Principal at Bahawalpur Institute of Rehabilitation Sciences, Bahawalpur

⁵ Statistical officer, ibn-e-sina Hospital and Research Institute, Multan Medical and Dental College, Multan

⁶ Worked at Federal government poly clinic Hospital Islamabad.

⁷ Lecturer at Bahawalpur Institute of Rehabilitation Sciences, Bahawalpur

⁸ Assistant Nursing Instructor, school of Nursing ,Layyah

Correspondence to Bushra Ashraf, Email ID: bushraashraf744@yahoo.com

ABSTRACT

Background: Emotional intelligence and critical thinking are the basic skills which can prepare physiotherapy students for delivering competent care and help them adapt to the clinical environment. Although personal emotion is important in critical thinking, it is often a neglected issue to explore the nature of the relationship between emotional intelligence and critical thinking disposition together among physiotherapy students. **Objective:** This study was aimed to describe the emotional intelligence among physiotherapy students and its relationship to their critical thinking. **Methods:** a descriptive correlational research design was conducted using a convenient sample of all physiotherapy students (N=100) studying at Federal institute of Health Sciences, Multan. Emotional Intelligence Scale and Critical Thinking Disposition Scale were used to collect the data after obtaining the official and ethical approvals. **Results:** the highest percentages of physiotherapy students have a relatively high level of emotional intelligence

(54.9%) and moderate (66.4%) disposition towards critical thinking. Emotional intelligence was significantly correlated to critical thinking disposition ($r = 0.594$, $p < 0.001$) and can predict it where the regression model is significant ($F = 52.404$, $p < 0.001$). Furthermore, physiotherapy students differ significantly across academic levels regarding their perception of both skills. Conclusion & Recommendations: Bringing up the emotional intelligence and critical thinking disposition among physiotherapy students would enhance their problem-solving skills and judgment abilities which in turn, lead to providing more qualified health care provider. Educational training courses, workshops and, seminars should be prepared specifically for all academic levels for more development and enhancement of these skills. Adding to this, emotional intelligence and critical thinking disposition ought to be considered for more inclusion and incorporation in the undergraduate and graduate physiotherapy curricula. More study should be conducted as a longitudinal design to evaluate the development of both skills which requires a long time.

Keywords: emotional intelligence, critical thinking disposition, physiotherapy students.

1. Introduction

Now a days healthcare environment has changed a lot, in order to enhance service quality and efficacy, emotional intelligence (EI) and critical thinking (CT) are imperative [1,2,3]. Physiotherapists are providing healthcare, and ought to be emotionally intelligent, critical thinker, creative, and self-directed to make appropriate decisions and solve clinical problems [4,5]. Since Physiotherapists are expected to safeguard and promote the well-being of people and to enhance their quality of living by providing rehabilitation services [1,6]. Management of emotions and information in thinking and acting considered are the main domains of emotional intelligence in practice [7].

Moreover, Physiotherapists' critical thinking is required specially to make sound care related-decisions and meet the patients and families' caring needs in collaboration with the other healthcare professionals [5,8]. An important measure of critical thinking is the disposition of a person to use possessed thinking [9]. Sosu [10] identified critical thinking disposition to be specific; critical openness and reflective scepticism. Likewise Physiotherapists college students should be aware of their own feelings and thoughts before the ones of the patients and their families. [1,11,12] which can prepare students for delivering competent practice and help them

adjust to the clinical environment. While Physiotherapists programs may not offer a formal course for emotional intelligence and critical thinking, different courses across the ten semesters of Physiotherapists programs emphasize those aspects of providing nursing care [1,6].

Empowering students to be emotionally clever and think critically is not only a primary purpose of higher education, yet in addition, encourages the progression of schools and colleges and causes them to survive, create, advance and promote scientific societies [6,13].

The psychologists Mayer and Salovey [14] are the first who applied the word EI and delimited Emotional Intelligence as “the ability to perceive emotions, to assess and generate emotions to assist thought, to understand emotions and emotional knowledge, and to reflectively regulate emotion to promote emotional and intellectual growth”. EI ensures that feelings are acknowledged and no longer brushed off or curbed. As a result, effective discernment of self and others may lead to more insightful judgment into the complex situations that professional relationships bring within physiotherapy clinical training [15]. For this study in the context of undergraduate students, critical thinking disposition instead of critical thinking skill has been chosen because it is a more reliable indicator of how likely a person is to think critically [20].

Healthcare employers oftentimes mentioned the Lack of emotional competency and critical thinking skills demonstrated by new physiotherapy [21]. Yet, many educators incessantly fight to involve students in these activities and students occasionally use critical thinking skills to solve problems [22]. On the same token, employers overwhelmingly agree that the content and quality of education in local universities do not adequately prepare students for the workforce with respect to critical thinking [23]. On the other hand, emotion might be the other culprit at work in producing this deficit of good thinking. Also, part of the problem lies in the difficulty of fostering transfer across situations and the need to practice skills until they become more automatic patterns of action [24].

Since physiotherapy is a crucial discipline that utilizes the mental and intellectual strength and it bases practice upon evidence, it holds great importance to identify the level of their emotional intelligence and critical thinking skills at their undergraduate level to improve them [25] In this regard, the main purpose of the study was to describe the levels of emotional intelligence and critical thinking disposition among undergraduate students and the relationship between them. This study is of great importance in terms of contributing to the literature and shedding the light on these skills for students in Pakistan.

Aim of the Study

The aim of this study was to describe emotional intelligence among physiotherapy students and its relationship to their critical thinking disposition at the federal institute of health sciences, Multan .

Research Questions

1. What are the levels of undergraduate physiotherapy students' emotional intelligence and critical thinking disposition?
2. What is the relationship between undergraduate physiotherapy students' emotional intelligence and their critical thinking disposition? –
3. What is the relationship between undergraduate physiotherapy students' academic level and their emotional intelligence and critical thinking disposition?

Materials and Methods

Research Design and Setting.

This study was a descriptive correlational research design at federal institute of health sciences, Multan, which is affiliated with Sargodha University for Health Sciences, Sargodha admits students and awards degree of Doctor of Physical Therapy after five years of academic studying .Participants A convenient sample of all undergraduate physiotherapy students at the federal institute of health sciences, Multan participated in this study (N=100). The inclusion criterion was physiotherapy students who registered for levels (4 to 10) per the academic year 2017/2018. The study was conducted after finishing their three preparatory semesters. The valid response rate was 95.33%, representing 96 out of 100 students who participated in the study.

Measuring Instruments

Three tools were used for data collection.

1. The Schutte Self Report Emotional Intelligence Test (SSEIT) SSEIT proposed by Schutte et al., [7] was adapted to measure undergraduates students' level of emotional intelligence. The scale consists of 33 items, with three categories which are; appraisal and expression of emotions (13 items), regulation of emotions (10 items) and utilization of emotions (10 items). Responses were measured on a five-point Likert-type scale that

ranged from 1 to 5; (1=strongly disagree, 5=strongly agree). Higher scores indicating the distinctiveness of emotional intelligence.

2. CTDS developed by Sosu [10] was used to measure the critical thinking disposition among nursing students
3. In addition, the demographic information form was developed by the researchers to elicit their age, academic level, the status of participating in training about emotional intelligence and critical thinking or not, and whether they attach importance to these skills in their clinical study.

Statistical Analysis

Data were coded by the researchers and statistically analyzed using SPSS version 20. Frequency and percentages were used for describing demographic and academic characteristics. Descriptive statistics (mean and standard deviations) and Inferential statistics (Student's t-test, and Analysis of Variance (ANOVA), Pearson correlation coefficient and Regression analysis (R^2)) were used to analyze the results of the study. Regression analysis (R^2) was run to test the predictive power of the independent variable (emotional intelligence) on the dependent variable (critical thinking). R^2 change was tested with F- test. A significant F value for R^2 meant that emotional intelligence added a significant prediction of critical thinking. The level of statistical significance was set at $p \leq 0.05$. Pearson correlation coefficient values indicated as follow; $r=0.1$ weak relationship, $r=0.3$ moderate relationship, and $r=0.5$ strong relationship.

Results

Demographic Characteristics illustrates that physiotherapy students were quite youthful with 58.0% of them being between 19 - 22 years of age, with the mean and SD of 20.26 ± 1.19 years old. About one third (35.7 %) of them were enrolled in the fourth academic level and rest of the students were distributed across the other academic levels. The largest proportion of students reported that they had previous information about emotional intelligence (69.9%) and critical thinking (83.2%). The most frequently reported sources of this information were self-reading (53.8%) and lectures (51.7%). All physiotherapy students perceived both emotional intelligence and critical thinking as important skills for practice.

Mean Score and Level of Emotional Intelligence among Students reveals the mean percent score of students' perception of overall emotional intelligence as (67.81 ± 8.81) with the highest mean for utilization of emotions dimension (71.97 ± 10.87) followed by regulation of emotions dimension (68.68 ± 11.45) and appraisal and expression of emotions dimension (63.95 ± 10.33) . In addition, Table 2 indicates that slightly above half proportion of nursing students (54.9%) had high emotional intelligence level while 45.1% of them had moderate emotional intelligence level.

Mean Score and Level of Critical Thinking Disposition among Students reveals the mean percent score of physiotherapy students' perception of overall critical thinking disposition as (67.76 ± 12.12) . Reflective scepticism dimension slightly had the higher mean (68.38 ± 17.77) than critical openness dimension (67.41 ± 12.09) . In addition, Table 3 indicates that the highest proportion of physiotherapy students (66.4%) had moderate critical thinking disposition level, 23.1% of them had high critical thinking disposition level while 10.5% had low critical thinking disposition level.

Discussion

Emotional Intelligence Level

The result indicated that slightly above half proportion of physiotherapy students (54.9%) had high emotional intelligence level while 45.1% of them had a moderate level. This result indicates that physiotherapy students can be regarded as emotionally intelligent and may have the ability to perceive, understand the emotion in others, regulate, manage, and harness emotion adaptively so; they could utilize this information to guide their thoughts and actions. Also, this result also could be related to the students' positive perception in the current study of the importance of Emotional Intelligence as a vital skill that could help them to illustrate better ranges of interactive competencies and cooperation and work more effectively within the team. Supporting this perceived importance of EI; Ibrahim et al., [25] stated EI skill sustain the regulation of own and others' emotions and assist the physiotherapy students to adopt energetic and powerful adapting strategies when coping with issues while that inability to control emotions can lead to increase anxiety, stress and negatively affect the quality of care and emphasized, EI

as a fundamental skill to nursing students. Also, Patterson and Begley [26] emphasized that students with EI skill anticipated to be more successful in the physiotherapist -patient relationship and in all aspects of clinical training competencies as communication, presentation, problem solving and gaining patients' cooperation. Moreover, Agarwal and Chaudhary [27] highlighted that EI help in the personality maturation, consequently, it directs the person to make ethical decisions and act professionally regardless of his own interests. Sharing the same findings on graduate students with high emotional intelligence, Kang [24] found that the graduate students in his study can be regarded as emotionally intelligent. Also, a study in India by Bhaskar et al., [28] found that the majority of respondents had high EI scores. In addition, Kaya et al., [1], Mahmoud et al., [29], and Beauvais et al., [30] found out those physiotherapy students' emotional intelligence was at medium/ moderate level. On contrary, a study by Faye et al., [31] has revealed that more than 70% of the respondents had poor emotional intelligence.

Critical Thinking Disposition Level

The current study revealed that the highest proportion of physiotherapy students had a moderate critical thinking disposition level. In this regard, it can be considered as a favorable result meaning that students will be careful when faced with problems in practice areas, make use of reasoning and objective evidence and be capable of taking on responsibility in problem-solving. In the same line, Sosu [10] clarified that a degree of both critical openness and reflective scepticism is required for an individual to have a disposition to important thinking and to be able to take the choice. What is more, Zhang and Lambert [32] indicated being analytical is about being attentive to situations which potentially create issues, tending to utilize reasoning and objective evidence when confronted with hard problems. Congruent with our finding, graduate students in Kang's study [24] shown high overall critical thinking disposition, but moderate in reflective scepticism and critical openness. On the contrary, past studies have revealed inconsistent findings, Azizi-Fini et al., [5] found that physiotherapy students had a low score of critical thinking. Also, Fidancı et al. [33] and Öztürk and Ulusoy [6] found that students had a low level of critical thinking disposition.

Emotional Intelligence and Critical Thinking Disposition per Academic Levels

Significant differences were found among physiotherapy students across the academic levels regarding their perception of overall emotional intelligence as well as overall critical thinking disposition and in each of the related dimensions. Physiotherapy students at the eighth level had the highest rating of these variables, while, physiotherapy students at fourth level had the lowest rating of them. This result can be regarded as expected considering this discrepancy between the students across their academic levels might be related to the age and experience differences. One explanation could be that the acquisition of emotional intelligence and critical thinking requires a long time. It seems that when students are enrolled in clinical settings, their emotional, cognitive, critical thinking and humanistic skills increase. It is expected to develop more as students' year of study, experiences, professional knowledge and skills increase. In contrast, student at the fourth level are less young with no or very little clinical exposure and experience. In the same line, Snowden et al., [34] stated, it is unequivocally recognized that age and experience assume an essential part in EI acquisition. What is more, Kang [24] concluded that one's emotional intelligence may not really increment with age but rather may increment with more prominent experiential learning openings likewise, the certainty of the person in his/her psychological processes and his critical thinking disposition to secure and learn new things enhance with development and experience. Notwithstanding, Azizi-Fini et al., [5] reported no significant difference between the mean critical thinking scores of freshmen and senior physiotherapy students. They suggested, making a balance between the course content and time available may be the first step in preparing the context for educators to assign more time to the development of the students' CTDs. In this regard, Moattari et al., [35] recommended, educators ought to be set up to execute dynamic, student-centered, collaborative and problem-focused teaching strategies to foster the physiotherapy students' CTDs.

Correlation between Emotional Intelligence and Critical Thinking Disposition

The most prominent finding of the current study is the significantly quite strong positive correlation found between overall emotional intelligence and overall critical thinking disposition as well as between all related dimensions. Also, Regression coefficient value proved that emotional intelligence can contribute significant prediction of the critical thinking disposition. This seems to be good judgment and implied the more sincerely clever emotionally smart physiotherapy students, the higher their manner towards basic reasoning and better their

disposition closer to critical thinking. This result bolsters what is emphasized in the literature that emotional intelligence and critical thinking are features that should be considered together, and the quality of emotional intelligence can determine critical thinking disposition. In such regard, Ibrahim et al., [25] emphasized the necessity and importance of emotions in decision-making for proper clinical performance and enhancing skills necessary for nursing students. For this reason, it's miles essential to increase training packages and educational environments that enable college students to explicit their thinking, gain access to exact information among others and make effective decisions. In a related context, Agarwal and Chaudhary [27] stated that EI enhances one's personality and reasoning to figure out what the right action. EI help in the personality maturation, consequently, it directs the person to think critically, take decisions and act professionally. Similarly, Kang [24] found that emotional intelligence and critical thinking disposition were positively correlated. Therefore, they could successfully apply sound judgment and reasoning to situations and circumstances in the process of shaping an emotional reaction to particular situations.

On contrary, critical thinking ability and emotional intelligence were negatively correlated in th study of Murensky [40]. A recommendation is identified for examining a third variable such as (academic achievement, a locus of control, self-efficacy and academic performance) as it might have influenced this association.

Conclusion and Recommendation

To summarize, this study was one of the very few studies in Pakistan that examined the relationship between emotional intelligence and critical thinking disposition in the context of undergraduate physiotherapy students. The results showed that physiotherapy students can be regarded as reasonable emotionally intelligent with a moderate disposition toward critical thinking. It can be concluded that physiotherapy students have the tendency to learn from their past experiences and be questioning of evidence. Likewise, they would tend to be actively open to new ideas, serious in evaluating these ideas and modifying their thinking in the light of convincing evidence. Physiotherapy students differ significantly across academic levels regarding their perception of both emotional intelligence and critical thinking disposition levels. This difference might be related to the age and exposure to clinical experience. Emotional intelligence and critical thinking disposition were positively correlated, and emotional intelligence can contribute significant prediction of critical thinking disposition, this meant that the more emotionally intelligent students, the higher their disposition towards critical thinking.

To sum up, the results have important implications and recommendations in both Physiotherapy education and practice. Without major revisions to the curriculum Undergraduate and graduate Physiotherapy curricula can be a potential resource to improve both clinical Physiotherapy performance and patient outcomes. To foster these skills, educators, have to apply various dynamic strategies such as; the inclusion of reflective learning experiences, simulation, supportive supervision, mentorship, modeling, and the use of video for observation and feedback. Educational training courses, workshops, and seminars should be prepared specifically for all academic levels for more development and enhancement of emotional intelligence and critical thinking and evaluate the effect of implementing these intervention programs to develop and enhance Physiotherapy students' EI and CTDs abilities.

Research Strengths & Limitations

The present study hopefully might help to enrich our understanding of EI and CTDs constructs and thus enhance the existing research literature. However, readers should approach this study with caution since its generalizability would be limited to the convenience sample of the Physiotherapy students in one college of setting and may not be reflective of all Physiotherapy students. The emotional intelligence and critical thinking disposition were measured using self-report methods as subjects' perceptions, not actual behaviors.

References

- [1] Kaya, H., Şenyuva, E., Bodur, G. (2017). Developing critical thinking disposition and emotional intelligence of students: a longitudinal research. *Nurse Educ Today*, 48, 72-77.
- [2] Özdelikara, G., Bingöl, Ö., Görgen, O. (2012). Critical thinking tendency of Physiotherapy students and factors influencing this. *F.N. Hemsire.Derg*, 20 (3), 219-226.
- [3] Çıtak, A., Uysal, G. (2011). Determining the senior students critical thinking abilities in health sciences faculty in a university. *J Ege Univ. School Nurs*, 27(3), 9-20.
- [4] Khodamoradi, K., Seyed Zakerin, M., Shahabi, M., Yaghmaie, F., AlaviMajd, H. (2011). Comparing critical thinking skills of firststand last-term baccalaureate students of nursing, midwifery and occupational therapy of medical Universities of Tehran city. *Med Sci J Islamic Azad Univ*, 21(2), 134-140.
- [5] Azizi-Fini, I., Hajibagheri, A., & Adib-Hajbaghery, M. (2015). Critical thinking skills in nursing students: a comparison between freshmen and senior students. *Nursing and Midwifery Studies*, 4(1), e25721.
- [6] Öztürk, N., Ulusoy, H. (2008). Baccalaureate and masters' degree Physiotherapy students' levels of critical thinking and factors influencing critical thinking. *e-J. Nurs. Sci. Art*, 1(1):15-25.
- [7] Schutte, S., Malouff, M, Hall, E., Haggerty, J, Cooper, J., Golden, J., and Dornheim, L. (1998). Development and validation of a measure of emotional Intelligence. *Personality and Individual Differences*, 25(2), 167-177.
- [8] Popil, I. (2011). Promotion of critical thinking by using case studies as teaching method. *Nurse Educ Today*, 31(2), 204-227.
- [9] Profetto-Mc Grath, J. (2003). The relationship of critical thinking skills and critical thinking dispositions of baccalaureate Physiotherapy students. *J. Adv. Nurs*, 43(6),569-577.
- [10] Sosu, Edward. M. (2013). The development and psychometric validation of a critical thinking disposition scale. *Thinking Skills and Creativity*, 9, 107-119.

- [11] Heffernan, M., Quinn-Griffin, T., McNulty, R., Fitzpatrick, J. (2010). Self-compassion and emotional intelligence in nurses. *Int. J. Nurs. Pract*, 16, 366-373.
- [12] Atay, S., Ekim, E., Gökkaya, S., Sağım, E. (2009). The levels of critical thinking of students in School of Health. *Hacet. Univ. Fac. Health Sci. Nurs. J*, 16, 39-46.
- [13] Athari, Z., Sharif, M., Nematbakhsh, M., Babamohammadi, H. (2009). Evaluation of critical thinking skills in Isfahan University of medical sciences' students and its relationship with their rank in university entrance exam rank. *Iran J Med Edu*, 9(1), 5-12.
- [14] Mayer, D., & Salovey, P. (1997). What is Emotional intelligence? In: Salovey P & Sluyter D. (Eds.): *Emotional Development and Emotional Intelligence: chapter 1 Educational implications* (pp.10- 11).
- [15] Akerjordet, K., Severinsson, E. (2009). Emotional intelligence: Part 1: the development of scales and psychometric testing. *Nursing and Health Sciences*, 11(1), 58-63.
- [16] Chang, T. (2008). Can we improve emotional intelligence? *Perspectives on Education and Positive Psychology*, 25-45.
- [17] Eslami-Akbar, R., Moarefi, F. (2010). A comparison of the critical thinking ability in the first and last term baccalaureate students of nursing and clinical nurses of Jahrom University of Medical Sciences. *J Jahrom Univ Med Sci*, 8(1), 37-45.
- [18] Khosravani, S., Manoochehri, H., Memarian, R. (2005). Developing critical thinking skills in Physiotherapy students by group dynamics. *Internet J Adv Nurs Prac*, 7(2), 1-12.
- [19] Yildirim, B., Ozkahraman, S. (2011). Critical thinking in nursing process and education. *Int J Hum Social Sci*, 1(13), 257-262.
- [20] Bensley, D. A. (2006). Why great thinkers sometimes fail to think critically. *Skeptical Inquirer*, 30, 47-52.
- [21] Michelangelo, L. (2015). The overall impact of emotional intelligence on nursing students and nursing. *Asia-Pacific Journal of Oncology Nursing*, 2(2), 118-124.

[22] Tempelaar, T. (2006). The role of metacognition in business education. *Industry and Higher Education*, 20(5), 291-297.

[23] Rippen, A., Booth, C., Bowie, S., & Jordan, J. (2002). A complex case: Using the case study method to explore uncertainty and ambiguity in undergraduate business education. *Teaching in Higher Education*, 7(4), 429.

[24] Kang, F. (2015). Contribution of Emotional Intelligence towards Graduate Students' Critical Thinking Disposition. *International Journal of Education & Literacy Studies*, 3(4), 6-17.

[25] Ibrahim, H., Elgzar, W., Mohamed, R., Salem, S. (2016). Relationship Between Nursing Students' Emotional Intelligence and Their Clinical Performance During Obstetrics and Gynecologic Nursing Practical Training. *American Journal of Nursing Science*, 5(6), 240-250.

[26] Patterson, D., Begley, A. M. (2011). An exploration of the importance of emotional intelligence in midwifery, *Evidence Based Midwifery*, 9(3): 128134.

[27] Agarwal, N., and Chaudhary, N. (2013). Role of Emotional Intelligence in Ethical Decision Making a Study of Western U.P. *International Journal of Management & Business Studies*, 3(1): 28-30.

[28] Bhaskar, D.J., Aruna, D.S., Rajesh, G., Suganna, M., Suvarna, M. (2013). Emotional intelligence of pedodontics and preventive dentistry postgraduate students in India. *Eur J Dent Educ*, 17(1): 5-9.

[29] Mahmoud, H. M., Abd El-Dayem, S. M., and Mousa M.A. (2013). Emotional Intelligence among Baccalaureate Students at the Faculty of Physiotherapy, Alexandria University, Egypt: A Cross-sectional Study, *Journal of Education and Practice*, 4(27): 49-61.

[30] Beauvais, A. M., Brady, N., O'Shea, E. R., and Griffin, M.T. (2011). Emotional intelligence and nursing performance among Physiotherapy students, *Nurse Educ Today*,

31(4), 396-401 [31] Faye, A., Kalra, G., Swamy, R., Shukla, A., Subramanyam, A., & Kamath, R. (2011). Study of emotional intelligence and empathy in medical postgraduates. *Indian Journal of Psychiatry*, 53(2), 140-144.

[32] Zhang, H., Lambert, V. (2008). Critical thinking dispositions and learning styles of baccalaureate medical professional students from China. *Nurs. Health Care*, 10, 175-181.

[33] Fidancı, B.E., Çınar, F.İ., Yıldız, D., Akar, F., Türk, A., Tuncer, S., Bala, A., Kökçe, B.D. (2012). Evaluation of the critical thinking skills and factors affecting these skills in students of high school nursing. *Gülhane Med. J*, 54, 35-39.

[34] Snowden, A., Stenhouse, R., Young, J., Carver, H., Carver, F., and Brown, N. (2015). The relationship between emotional intelligence, previous caring experience and mindfulness in student nurses and midwives: a cross sectional analysis. *Nurse Education Today*, 35(1): 152-158.

[35] Moattari, M., Abedi H. (2008). Physiotherapy students' experiences in reflective thinking: A qualitative study. *Iran J Med Educ*, 8(1), 101-12.

[36] Stedman, N.L.P. & Andenoro, A.C. (2007). Identification of relationships between emotional intelligence and critical thinking disposition in undergraduate leadership students. *Journal of Leadership Education*, 6(2), 190-208.

[37] Ebrahimi, M. R., & Moafian, F. (2012). Does emotional intelligence or self-efficacy have something to do with high school English teachers' critical thinking, considering demographic information? *International Journal of Linguistics*, 4(4), 224-242.

[38] Afshar, H. S., & Rahimi, M. (2014). The relationship among critical thinking, emotional intelligence, and speaking abilities of Iranian EFL learners. *Procedia - Social and Behavioral Sciences*, 136, 75-79.

[39] Certel, Z., Çatıkkaş, F., Yalçinkaya, M. (2011). Analysis of the emotional intelligence levels and critical thinking dispositions of physical education teacher candidates. *Selçuk Univ. J. Phys. Educ. Sport Sci*, 13 (1), 74-81.

[40] Murensky, C. L. (2000). The relationships between emotional intelligence, personality, critical thinking ability and organizational leadership performance at upper levels of management. (Order No. 9962991, George Mason University). ProQuest Dissertations and

Theses, 152-152 p. Retrieved from

<http://search.proquest.com/docview/304670322?accountid=27932>. (304670322)

IJSER