ORIGINAL ARTICLE

A study of emotional intelligence and coping strategies among UiTM medical imaging students

Angeline Amyliana Anuar, Shahridah Kassim, Ann Erynna Lema Thomas Sudin*

Centre of Medical Imaging, Faculty of Health Sciences, Universiti Teknologi MARA, (UiTM), UiTM Kampus Puncak Alam, 42300 Bandar Puncak Alam, Selangor, Malaysia

***Corresponding Author**

Ann Erynna Lema Thomas Sudin
Email: angela@uitm.edu.my

Abstract:

Emotional intelligence is essential in coping with stressful situation. Coping may be also related to emotional aptitude, empathy and self-monitoring and stress duration. Thus, this study was to investigate the relationship between emotional intelligence and coping strategies among medical imaging students at Universiti Teknologi Mara (UiTM) Puncak Alam. The samples involved in this study were 207 medical imaging students from diploma and degree programmes. A survey was carried out using the adopted version of Schutte Self-Report Emotional Intelligence Test (SSEIT) and Coping Strategies Inventory (CSI). The result of this study revealed that 79.7% of 207 students had moderate level of emotional intelligence. The results also showed that emotional intelligence had a positive significant relationship with four subscales of engagement coping strategies including problem-solving, cognitive restructuring, express emotion and social contact ($p < 0.001$).Among these subscales, cognitive restructuring showed moderate relationship ($r=0.525$) while the other subscales showed weak relationship ($r < 0.5$). This study reveals that students with moderate to a high level of emotional intelligence tend to use engagement coping strategies.

Keywords: medical imaging; emotional intelligence; coping strategies

1. INTRODUCTION

Emotional intelligence (EI) which originates from social intelligence has begun to be relatively studied and it has a potential role in medicine, nursing and other healthcare disciplines. The concept of EI as proposed by Mayor and Salovey was defined as "the ability to perceive accurately, appraise, and express emotion; the ability to access and/or generate feelings when they facilitate thought; the ability to understand emotion and emotional knowledge; the ability to regulate emotions to promote emotional and intellectual growth" [1]. It has been reported that emotional intelligence correlated with professional and academic achievement, incorporating medical work environment and setting [2]. Based on the study conducted at the University of Albert, the results demonstrated that health sciences students have a higher stress level and depression compared to other graduate students [2]. The competitive nature of health science, added together with certain academic shortcomings, serves to make inadequately adaptive perfectionism in students inside this programme that leads to unreasonable and extreme worries about performance [2]. A study conducted by Petrovici and Dobrescu asserted that emotional intelligence could enhance the sense of control on inner feeling and this could incite the logical responses [3].

Coping is defined by Lazarus and Folkman as "constantly changing cognitive and behavioural efforts to manage specific external and internal demands that are appraised as taxing or exceeding the resources of the person" It incorporates effort to handle with a new occasion that is conceivably alarming and challenging. The kind of strategy used by every individual to adapt with stress is viewed as the major aspect of the vulnerable profile of that individual [4]. Lazarus and Folkman classify coping strategies into three categories. The first category is a problem- or task-focused coping strategies that intent to resolve the problem and change the reality externally to influence the stress source and result in diminishing tension [5]. It is a method where an individual tackle and manage his or her source of stress directly [6]. The second category is emotion-focused coping strategies that focuses on channelling the stress feeling and re-conceptualized the issue to reduce tension emotionally. The third category is avoidance which an effort to minimize tension by dissociation of oneself from the difficulties that an individual

facing. In 2001, Lazarus has incorporated avoidance in emotion-focused coping as one of its sub-element [5]. According to Endler and Parker avoidance coping responses is divided into further subscales which are task-oriented and person-oriented. Task-oriented presented as distracting oneself with another task while person-oriented is a social diversion, for example seeking out others [2].

An individual with high emotional intelligence has a solid sense of self-efficacy in managing their emotion and believe they have the asset to utilise the fundamental strategies for improving the negative mood that comes with the stressful circumstances. Therefore, they can effectively change their attention to focus on coping and limiting the possibly harming impact of stressful circumstances [5]. The keen discernment of emotions and capability to manage the emotion are the focal part of emotional intelligence and are important to cope adaptively with stressful circumstances. The variety of emotional ability that is demonstrated in emotional intelligence facilitates individual to gain a basis of knowledge that helps individuals to cope with emotional circumstances [5].

It has been said that emotional intelligence can assist individual go through their life starting in the college and later in their career. It is believed that an individual with better emotional intelligence skill can cope well in the challenging obstacle. Low and Nelson claim that emotional intelligence is essential to student's health and success in college. They also said that students who are equipped with emotional intelligence skill are better in coping with challenging and complex college life [1]. Coping maybe also related to emotional aptitude, empathy and self-monitoring and stress duration [7]. Therefore, it is can be considered that emotional intelligence also affects the type of coping style use. An individual with a high level of emotional intelligence mostly uses problem-solving strategies [7]. In a study conducted by Mohzan, Hassan and Halil [1], they found that most the students had a high level of emotional intelligence. Manjusha, Soja and Usha [8] showed most of the students (52.7%) had an average level of emotional intelligence. A study done by Abdel-Fatah Ibrahim et al. [9] that showed that the majority of the students had moderate (70.40%) level of emotional intelligence. Kim and Han [10] in their study to investigate the relationship between emotional intelligence and coping strategies in nursing students showed that there was a positive relationship between emotional intelligence and problem solving coping and social support seeking coping strategies. They also found that emotional intelligence is not significant with avoidance coping strategies [10]. Therefore, this study was aimed to determine the level of emotional intelligence among medical imaging students and its relationship with coping strategies.

2. MATERIALS AND METHODS

2.1 Research Design

This study was a descriptive correlational in design to determine the level of emotional intelligence and to assess the relationship between emotional intelligence and coping strategies. This study was conducted on both diploma and degree medical imaging students. Students undergoing clinical placement were not included in this study.

2.2 Sample and Sampling Technique

Convenience sampling was used and questionnaires were administered to two hundred and seven medical imaging students at Universiti Teknologi MARA Puncak Alam.

2.3 Instrumentation

2.3.1 Demographic Survey

The demographic survey sought to gather information regarding age, gender, level of education and semester.

2.3.2 Emotional Intelligence

The Schutte Self-Report Emotional Intelligence Test **(**SSEIT) was used to measure the participants' general emotion. It is a self-administered scale containing 33-items. Each item is rated on a five-point Likert-type scale ranging from 1 to 5. Scale of 1 indicate strongly agree, scale of 2 indicate disagree, scale of 3 indicate neither disagree nor agree, scale of 4 indicate agree and scale of 5 indicate strongly agree. The 33 items represented the conceptual model of emotional intelligence (EI) espoused by Salovey and Mayer (1990), namely: 'appraisal and expression of emotion', 'regulation of emotion' and 'utilization of emotion'. The scale for items numbers 5, 28 and 33 were reversed as the sentences is in passive form. The total score that can be obtained ranges from 33 to 165 which is the sum of all responses in this scale. Higher score indicates high level emotional intelligence. In this sample, the Cronbach's alpha was .89

2.3.3 Coping Strategies

The Coping Strategy Inventory - Short Form (CSI-SF) was used to assess the student's preferred coping strategies. There are 32 items in this section with five choices of answer. The answers are based on five-point Likert scale ranging from 1 to 5 to indicate the degree of that student elicited a specific response. Scale of 1 indicates not at all, scale of 2 indicates a little, scale of 3 indicates somewhat, scale of 4 indicates much and scale of 5 indicates very much. The higher the score indicate the coping strategies students use. CSI-SF consist of eight primary subscale which are problem solving, cognitive restructuring, express emotions, social contact, problem avoidance, wishful thinking, self-criticism and social withdrawal; four secondary subscales: problem focused engagement, emotion focused engagement, problem focused disengagement and emotion focused disengagement. The scale utilised a five-point Likert-type

scale ranging from '1' (Not at all) to '5' (Very much) to indicate the degree that participants elicited a specific response. In this sample, the Cronbach's alpha was 0.82.

3. RESULTS AND DISCUSSION

3.1 Respondent's Demographic Characteristic

A total of 207 medical imaging students participated in this study. Results of the demographic characteristics of the respondent are presented in Table 1. Most of the respondents in this study, 173 (83.6%) were female and only 34 (16.4%) were male respondents. Most of the respondents were at the age of 19 to 21 years old, followed by 22 to 24 years and then 25 years old and above with each group of age has the total number of 112 (54.1%), 79 (38.2%) and 16 (7.7%) respectively. More than half of the respondents were degree students which are 138 (66.7%) out of 207. There are 73 (35.2%) respondents from semester 2, 57 (27.5%) from semester 4, 37 (17.9%) from semester 6 and 40 (19.3%) from semester 8.

Table 1: Distribution and percentage of respondents according to gender, age, level of education and semester.

Variables		Frequency (%)
Gender	Male	34 (16.4)
	Female	173 (83.6)
Age	19-21	112 (54.1)
	22-24	79 (38.2)
	25 and above	16 (7.7)
Level of education	Diploma	69 (33.3)
	Degree	138 (66.7)
Semester	2	73 (35.2)
	4	57 (27.5)
	6	37 (17.9)
	8	40 (19.3)

3.2 Level of Emotional Intelligence

The ranges of total score that can be obtained from the 33 items were 33 to 165. The minimum score obtained in this study was 92 and the maximum score was 159 with a mean score of 121.60 (SD 11.230). The result showed 165 (79.7%) respondents had a moderate level of emotional intelligence, 21 (10.1%) had a low level of emotional intelligence and 21 (10.1%) had high emotional intelligence.

The result of this study shows that most medical imaging student in UiTM Puncak Alam had a moderate level of emotional intelligence. Moderate level of emotional intelligence indicates students are moderately aware of their feelings and emotion and pay some consideration to other people's emotions and feeling [11]. They also enable instincts and intuition to affect their choices and decisions to a moderate extent. Furthermore, they have some capacity to capitalise by temperament changes in a positive way to explore and analyse issues. Hence, they have some ability to utilise their own and other people's feelings and emotions to help solve problems and can recognize common emotions in certain circumstances but not in others [11]. The result of this study was similar to the result found in a study conducted by Manjusha, Soja and Usha [8]. The study revealed that most of the students (52.7%) had an average level of emotional intelligence. A similar result also found in a study done by Abdel-Fatah Ibrahim et al. [9] that shows that the majority of the students had moderate (70.40%) level of emotional intelligence. In contrast, Larijini et al. [2] in their study found that most of the respondents had good (77.71%) level of emotional intelligence.

3.3 Correlation between Emotional Intelligence and Engagement Coping Strategies

The result presented in Table 2 reveals that emotional intelligence had a positive statistically significant relationship with four subscales of engagement coping strategies which are problem-solving, cognitive restructuring, express emotion and social contact ($p < 0.001$). Among the four subscales, it showed that cognitive restructuring had moderate relationship with emotional intelligence ($r=0.525$) while social contact and express emotion showed very weak relationship ($r =0.298$ and $r = 0.280$, respectively). There was a positive significant relationship between emotional intelligence and problem-focused engagement (problem-solving; $r = 0.447$, $p < 0.001$ and cognitive restructuring; $r = 0.525$, $p < 0.001$). There was a positive significant relationship between emotional intelligence and emotion-focused engagement (social contact; $r = 0.280$, $p < 0.001$ and express emotion; $r = 0.298$, $p < 0 .001$).

Table 2: Correlation coefficients (Pearson r) between emotional intelligence and engagement coping strategies

	Pearson Correlation (*r*)	*p-value*
Problem-solving	.447	<0.001
Cognitive restructuring	.525	<0.001
Express emotion	.280	<0.001
Social contact	.298	<0.001

Most of the respondents in this study preferred to use engagement coping strategies. In engagement coping strategies, a person is most likely to solve the problem or manage stress situation directly or control the related emotion [12]. The most use of engagement coping strategies was cognitive restructuring. Based on theory by Tobin et al. people who use cognitive restructuring coping strategies view the problem or stressful situation in a new perspective by altering the meaning of the situation as a less threatening and looking at the positive side of that situation [13]. This shows that respondents who had moderate to high emotional intelligence used engagement coping strategies.

This is also consistent with the result of present studies; there was a positive relationship between emotional intelligence and problem-focused and positive emotional-focused coping [14,15]. Por et al. [16] in their study found that emotional intelligence has a significant positive correlation with planful problem-solving strategies. Emotional intelligence was found to have a positive relationship with task-oriented strategies [17]. A study by Kim & Han [10] showed that there was a positive relationship between emotional intelligence and problem-solving coping and social support seeking coping strategies. In contrast, Kovaþeviü et al. [17] in their study found that emotional intelligence had no significant association with emotion-oriented strategies.

There are many factors to be considered in examining the relationship between emotional intelligence and coping strategies. In this present study, just one effective variable, namely, emotional intelligence impacts the application of different coping strategies was investigated. There may be intervening and moderator variables that influence the emotional intelligence impact on accepting different coping strategies. So, other effective factors besides emotional intelligence in accepting different coping strategies should be investigated or controlled in the future studies. The population of this study is limited to medical imaging students in UiTM, therefore the results from this study must be interpreted with caution

4. CONCLUSION

The finding indicates that medical imaging students had a moderate level of emotional intelligence and tend to use engagement coping strategies. This study showed that emotional intelligence does affect the student's way of coping with a stressful situation.

ACKNOWLEDGEMENTS

The authors would like to thank the students from Diploma and Bachelors' Degree of Medical Imaging Program, Faculty of Health Sciences UiTM for participating in this study.

REFERENCES

[1] Mohzan, N. Hassan, and N. A. Halil, "The influence of emotional intelligence on academic achievement," *Procedia - Soc. Behav. Sci.*, vol. 90, no. InCULT 2012, pp. 303–312, 2013.

[2] T. T. Larijini, M. R. Movaghari, M. Rostami, N. Zamani, and F. Ghadirian, "The relationship between emotional intelligence and coping styles against stress among nurses," *World J. Res. Rev.*, vol. 4, no. 5, pp. 71–75, 2017.

[3] A. Petrovici and T. Dobrescu, "The role of emotional intelligence in building interpersonal communication skills," *Procedia - Soc. Behav. Sci.*, vol. 116, pp. 1405–1410, 2014.

[4] A. Moradi, N. Pishva, H. B. Ehsan, P. Hadadi, and P. Farzaneh, "The relationship between coping strategies and emotional intelligence," *Procedia - Soc. Behav. Sci.*, vol. 30, pp. 748–751, 2011.

[5] D.O. Shemesh, "Youth emotional intelligence as related to adaptive coping with stress encounters," *J. Psychol. Res.*, vol. 7, no. 1, pp. 1–19, 2017.

[6] A. D. Yazon, K. Ang-manaig, and J. F. B. Tesoro, "Coping mechanism and academic performance among filipino undergraduate students," *KnE Soc Sci*., vol. 3, no. (6), pp. 30–42, 2018.

[7] H. Kulkarni C.Y. Sudarshan and S. Begum, "Emotional intelligence and its relation to coping styles in medical internees," *Int. J. Contemp. Med. Res.*, vol. 3, no. 5, pp. 1270 - 1274, 2016.

[8] S. Manjusha, S. L. Soja, and V. K. Usha, "Emotional intelligence and academic performance among nursing students," *J. Curr. Res.*, vol. 9, no. 3, pp. 48116–48118, 2017.

[9] H. A. F. Ibrahim, W.T. Ibrahim Elgzar, R.E Mohamed and G.M. Mohamed Salem, "Relationship between nursing students' emotional intelligence and their clinical performance during obstetrics and gynaecologic nursing practical training," *Am. J. Nurs. Sci.*, vol. 5, no. 6, p. 240, 2017.

[10] M. R. Kim and S. J. Han, "A study of emotional intelligence and coping strategies in baccalaureate nursing students," *Int. J. Bio-Science Bio-Technology*, vol. 7, no. 3, pp. 275–282, 2015.

[11] MySkillsProfile.com, *Emotional intelligence questionnaire user manual*. MySkillsProfile.com Limited, 2014.

[12] M. T. M. Dijkstra and A. C. Homan, "Engaging in rather than disengaging from stress: Effective coping and perceived control," *Front. Psychol.*, vol.

7, no. SEP, pp. 1–12, 2016.

[13] D. L. Tobin, *User manual for the coping strategies Inventory*. 2001.

[14] F. Bibi, S. F. Kazmi, A. G. Chaudhry, and S. E. Khan, "Relationship between emotional intelligence and coping strategies among university teachers of Khyber Pakhtunkhwa.," *Pak. J. Sci.*, vol. 67, no. 1, pp. 81–84, 2015.

[15] S. Najmeh, M. Ali, and J. Zarei, "Emotional intelligence and coping styles with stress," *Procedia - Soc. Behav. Sci.*,vol. 5, pp. 818–822, 2010.

[16] J. Por, L. Barriball, J. Fitzpatrick, and J. Roberts, "Nurse education today emotional intelligence : its relationship to stress, coping, well-being and professional performance in nursing students," *YNEDT*, vol. 31, no. 8, pp. 855–860, 2011.

[17] M. P. Kovaþeviü, I. Požgain, P. Filakoviü, and I. Grujþiü, "Relationship between coping strategies and emotional intelligence among patients with schizophrenia," *Psychiatr. Danub.*, vol. 30, no. 3, pp. 299–304, 2018.