



ORIGINAL ARTICLE

Diversity of Emotional Intelligence among Nursing and Medical Students

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Abstract

Objectives: The purpose of this study is to identify the types of perception of emotional intelligence among nursing and medical students and their characteristics using Q methodology, and to build the basic data for the development of a program for the would-be medical professionals to effectively adapt to various clinical settings in which their emotions are involved.

Methods: Data were collected from 35 nursing and medical students by allowing them to classify 40 Q statements related to emotional intelligence and processed using the PC QUANL program.

Results: The perceptions of emotional intelligence by nursing and medical students were categorized into three types: “sensitivity–control type”, “sympathy–motivation type”, and “concern–sympathy type”.

Conclusion: The perceptions of emotional intelligence by nursing and medical students can represent an effective coping strategy in a situation where emotion is involved. In the medical profession, an occupation with a high level of emotional labor, it is important to identify the types of emotional intelligence for an effective coping strategy, which may have a positive effect on the performance of an organization. Based on the findings of this study, it is necessary to plan an education program for vocational adaptability for nursing and medical students by their types.

1. Introduction

Nursing and medicine are professions with a lot of social demands and stress [1]. Therefore, students in these fields have to cope with stress related to excessive workload and burden from clinical practices during their education. In addition, growing attention has been paid to how information on emotion is processed, such as emphasis on interactive skills with the individuals in

clinical practices through the patient-based nursing approach.

The ability to effectively and properly process emotion considerably affects the lives of individuals, such as improving work performance and increasing overall wellness [2]. In this aspect, the concept of emotional intelligence needs to be considered. Emotional intelligence is a useful resource that helps to understand the social environment of individuals and

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helps them handle their emotions [2]. It includes skills for empathy, self-awareness, motivation, self-control, and relationship [3]. It was found that those who had high emotional intelligence had low perceived stress [4], were healthy as they were good at controlling their emotions [5], and had high adaptability to the environment [6]. It is also reported that those who have high emotional intelligence show high academic performance [7] and help to make correct professional decisions related to patient condition in clinical settings, and that female nurses with high emotional intelligence have reduced burnout [5].

Given that nursing and medical students are in preparation for becoming professional clinicians in the future, their emotional intelligence can affect not only their adaptability to studying, but also the formation of trust needed for the establishment of a medical professional–patient relationship, as it enhances the satisfaction of their patients and helps interaction through the recognition of and response to verbal, nonverbal, and emotional information of the individuals.

There is a limitation in quantitatively measuring the subjective meaning of emotional intelligence in nursing and medical students. Q methodology accurately represents the attitude, belief, recognition, and value of individuals toward a phenomenon in views of the participants [8]. Q methodology is a useful and appropriate research method for emotional intelligence in expressing and exploring the subjective view of individuals. It is thought that the identification of the types of emotional intelligence in nursing and medical students can be used as the basic data for the development of a curriculum that helps them establish a strategy to manage and cope with the stress related to studying and positively adapt themselves to their occupations upon graduation.

2. Materials and methods

2.1. Design

This study is an exploratory study to categorize the perceptions of nursing and medical students into certain types and identify the characteristics of each type, using Q methodology, in order to examine their subjective views on emotional intelligence.

2.2. Participants

The participants of this study include 35 junior and senior students in nursing and medical colleges.

2.3. Procedure

2.3.1. Construction of Q population and Q samples

Q populations are a set of items collected for a Q methodological study and are the whole of views shared within a culture. In order to construct Q populations for

emotional intelligence, in-depth interviews were conducted on 16 male and female students in both humanities and natural science colleges, along with a review of literature, including books, newspapers, and academic papers. A total of 121 Q populations were extracted through the processes. In order to select Q samples, Q populations were repeatedly read several times until views on emotional intelligence were categorized, and reviewed by two professors of the nursing department and one expert in Q methodology, and then 40 Q samples were finally selected.

2.3.2. P sampling

Since people are a variable in Q methodology, unlike in quantitative study, P samples were randomly selected based on the small sample doctrine, which states that as P samples become larger, a factor becomes weighted and its characteristics are not clearly defined [8]. The P samples of this study consisted of 15 nursing students and 20 medical students in a region, considering that the number of P samples was the most ideal when it is similar with that of the statements of Q samples, which was 40 [8].

2.3.3. Q sorting

The distribution of Q samples was built based on the principle of Q methodology, in which 40 statements selected as Q samples were forcefully distributed as a nearly normal distribution by classifying the statements with the 9-point scale according to the importance of their views. For the classification of Q samples, the students divided the statements into positive (+), neutral (0), and negative (–), and then classified them from the outside to the inside (+4, –4) by selecting the most positive (negative) statements from positive (negative) statements, and finished at neutral (0). Upon completion of the classification of Q samples, the participants were asked about the reasons for selecting the statements for the most positive (+4) and negative (–). It took 30–40 minutes for a participant to classify Q samples and answer the questions.

2.4. Ethical issues

The study was approved by the institutional review board (IRB No.: 1041386-20140828-HR-007-03), and was conducted in accordance with the principles of the Declaration of Helsinki. The purpose, survey items, and confidentiality of this study were explained clearly to the participants by the researchers. Before data collection, the participants provided signed informed consent. Their rights and privacy were protected throughout the study.

2.5. Data analysis

For the collected data, 1 point was assigned to the item a participant disagrees with the most, while 9 points were assigned to the item a participant agrees with the most in the Q sample distribution, and 5 points

were assigned for the item with a neutral view. The PC QUANAL program [9] was employed for data analysis. For Q factor analysis, the principal component factor analysis was used. In order to determine the ideal number of types, the diverse numbers of types were entered with the criterion of an eigenvalue ≥ 1.0 and reviewed to make the final decision for the ideal number of types.

3. Results

Q factor analysis was used to examine the types of perception of emotional intelligence among nursing and medical students and three types of perception were obtained. Out of 35 participants, 13 fell into Type 1, 12 into Type 2, and 10 into Type 3. Among the statements selected as the most positive (agree) or the most negative (disagree), the characteristics of each type were described for the items with the standard score of ± 1.00 or higher. Individual in-depth interviews were conducted to identify the characteristics of participants in each type. The results are as follows.

3.1. Type 1: sensitivity—control type

The number of participants belonging to Type 1 was 13, including eight men and five women. The statements that Type 1 agrees or disagrees with the most and their weights are presented in Table 1.

The participants in this type consider another person's emotion important, because they think that an evaluation from others is important for them. In addition, they always smile and hide their emotions, so that their emotions are not shown to others, and they try to think positively, even when they are angry or upset. Thus, this type of participant was labeled a "sensitivity—control type".

3.2. Type 2: sympathy—motivation type

The number of participants belonging to Type 2 was 12, including five men and seven women. The statements that Type 2 agrees and disagrees with significantly and their weights are shown in Table 1.

The individuals in Type 2 like talking and sharing the situations they have experienced. In addition, they need to do what they want to do and try to get interested in what they should do as much as possible. Therefore, they are labeled a "sympathy—motivation type".

3.3. Type 3: concern—sympathy type

The number of participants belonging to Type 3 was 10, including four men and six women. The statements that Type 3 agrees or disagrees with the most and their weights are presented in Table 1.

Those who belong to Type 3 try not to start new things or make new situations because they are afraid of something new. When they have to do such things, they carefully do research and make plans before doing them. In addition, they enjoy thinking and talking about their own and others' emotions, and are good at reading between the lines. In this sense, Type 3 was labeled "concern—sympathy type".

3.4. Consensus

Although the three types categorized in this study had their own characteristics, there were three common views across the types (Table 1). The participants in all three types had a positive view on "I tend to consider other person's emotion important ($Z = 1.12$)."

By contrast, they all had negative views on "I am not worried much when someone I know is hurt ($Z = -1.60$)" and "I don't feel sympathy when I see someone crying ($Z = -1.27$)."

4. Discussion

This study analyzed the perceptions of emotional intelligence among nursing and medical students using Q methodology and found three types. Based on this analysis, the meanings and characteristics of each type of perception of emotional intelligence are discussed.

The most common type of emotional intelligence in nursing and medical students was "sensitivity—control type". Those who belong to the sensitivity—control type consider another person's emotion important, while they try not to show their emotional changes to others. Nursing and medicine are occupations with a lot of stress and the students in these areas actually experience the professions through clinical practices as early as in their school years [10]. In these processes, students recognize the need for developing their abilities to control their emotions because they feel a higher level of stress and anxiety when they cannot control their emotions [11]. This seems to be why there are many students falling into this type. It is, in particular, considered that the ability to notice and control their emotions is helpful in the areas of human services, including nursing and medicine, given that the ability helps them build an effective coping mechanism to solve problems in a planned manner [12].

The individuals in the "empathy—motivation type" think it valuable to share the emotions they have experienced with others. They also motivate themselves by autosuggestion when they need to do new things, rather than avoiding them. It was found that empathy of medical professionals reduced complications of diabetes by decreasing stress and anxiety of patients with diabetes, and improved their compliance with the

Table 1. Item descriptions and descending array of Z-scores for each types.

Type	Q statement	Z-scores	
Type1	Q15. I control my emotion by not showing it to others.	1.91	
	Q07. I tend to consider other person's emotion important.	1.56	
	Q01. I can properly control my emotion.	1.52	
	Q19. I easily notice when other person gets angry.	1.38	
	Q03. I am concerned when other person is hurt.	1.17	
	Q18. I like watching other person be happy.	1.10	
	Q24. I don't care much whether other person compliments or blames me.	-1.49	
	Q08. Emotion is a weakness of humans.	-1.49	
	Q35. I don't feel sympathy when I see someone crying.	-1.65	
	Q39. I am not worried much when someone I know is hurt.	-1.99	
	Q12. I once couldn't do anything for a while because I was depressed or sad.	-1.99	
	Type2	Q25. I follow where my heart goes.	1.93
		Q26. I like sharing my emotion that I have experienced.	1.84
Q16. I always tell myself that I am a competent person.		1.38	
Q40. I have a girl/boy friend with the style that I like.		1.14	
Q30. I try to get interested in what I have to do.		1.07	
Q36. I easily cry when I watch a sad movie or drama.		1.03	
Q35. I don't feel sympathy when I see someone crying.		-1.30	
Q28. I don't feel anything when I watch a horrible scene in TV or movie.		-1.38	
Q15. I control my emotion by not showing it to others.		-1.55	
Q39. I am not worried much when someone I know is hurt.		-1.62	
Q02. I just pass by when I see someone in an emergency condition.		-1.77	
Q34. I don't like getting along with others.		-2.25	
Type3		Q17. I feel a fear before I start a new thing.	2.26
	Q05. I am a meticulous person.	1.31	
	Q40. I have a girl/boy friend with the style that I like.	1.27	
	Q36. I easily cry when I watch a sad movie or drama.	1.25	
	Q19. I easily notice when other person gets angry.	1.25	
	Q21. When I get mad at someone, it lingers for a long time.	1.22	
	Q07. I tend to consider other person's emotion important.	1.09	
	Q10. When I fall in love, I don't care about my friends or family members.	-1.27	
	Q25. I follow where my heart goes.	-1.34	
	Q37. I am often told by others that I am not sympathetic.	-1.77	
	Q24. I don't care much whether other person compliments or blames me.	-2.27	
	Consensus	Q07. I tend to consider other person's emotion important.	1.12
		Q35. I don't feel sympathy when I see someone crying.	-1.27
Q39. I am not worried much when someone I know is hurt.		-1.60	

instructions for treatment [13]. In addition, those who properly understand the problematic situations have an important ability as would-be medical professionals, because they can create and maintain positive moods by controlling their emotions and moods in an appropriate manner [14].

Those who belong to the “concern—empathy type” try not to challenge new things because they are significantly stressed by new situations. When they are in an unavoidable situation, they make a plan in advance with thorough research. They are different from those who are in the “sensitivity—control type” in that they enjoy sharing their emotions with others. People who can properly express their emotions can be an appropriate type for the college students of human services,

because they can read another person's emotions well in an interpersonal relationship [10]. Those who use a planned strategy for problem-solving in new tasks are less likely to show depressive reactions related to the new tasks [10], because they look for and use social supports they need in advance [12].

For nursing and medical students, recognizing and controlling their emotions are important because they can help improve their academic performance and increase concentration on the emotions of the patients [15]. However, the curriculum subjects for developing their emotions and social skills are not sufficient [16, 17], because the curricula of nursing and medical schools are directed toward the national examination. Therefore, it is considered urgent to create curriculum

subjects to develop the emotional intelligence of nursing and medical students.

The implication of this study is that it investigated emotional intelligence as a factor that affects the adaptation of students in human services, including nursing and medical students, who have a higher rate of drop-out and a lot of experiences in psychological stress related to clinical practices and studies. It is thought that the results of this study can be of use to help nursing and medical students in their psychological adaptation and health based on the understanding of such students considering the characteristics of their emotional intelligence.

Conflicts of interest

The authors declare no conflicts of interest.

Acknowledgments

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