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Nursing Students' Perceptions of Nurses' Image after a Nursing History Class : Q Methodological Approach

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Abstract

Purpose

This study aimed to identify and categorize nursing students' perceptions of nurses' image after taking a nursing history class using Q methodology and to explore the characteristics of each type. The findings were intended to provide foundational data for establishing a positive image of nurses and to highlight the educational significance of nursing history courses.

Methods

To construct the Q population, written interviews were conducted with nursing students regarding their perceptions of nurses' image after completing a nursing history class. In addition, relevant literature related to nurses' image was reviewed to collect statements. Duplicate or ambiguous statements were revised and refined, resulting in a final set of 34 Q-sample statements. The finalized Q-sample was sorted by 47 nursing students, who served as the P-sample, using a forced distribution method based on a 9-point scale. The collected data were analyzed using the pc-QUANAL program.

Results

The analysis identified four types of nurses' image perceived by nursing students after the nursing history class. Type I was "Nurse Identity Concern Type," Type II was "Preparation and Commitment as a Future Nurse Type," Type III was "A new factual cognitive form of nursing history," and Type IV was "Desired nursing development type in the future."

Conclusion

This study is meaningful in that it identified the influence of nursing history education on the formation of nursing students' perceptions of nurses' image. The findings may serve as foundational data for developing educational strategies to promote a positive image of nurses and to establish professional nursing identity among nursing students.

Keywords: Nursing student, Nursing History Education, Q methodology

Introduction

Nursing is a professional discipline that provides specialized knowledge and holistic care to promote patients' recovery and quality of life, emphasizing social responsibility and ethical values. Nurses are recognized as key healthcare professionals who interact most closely with patients in clinical settings and deliver comprehensive nursing care (Kim & Lee, 2021). Nursing students develop their professional nursing identity and perceptions of nurses through educational and clinical practice experiences, and these perceptions significantly influence professional values, job satisfaction, and clinical adaptation (Choi & Park, 2020). Therefore, understanding how nursing students form images of nurses is an important issue in nursing education.

Nursing history education is considered one of the essential components of nursing curricula that helps students understand the values and identity of the nursing profession. Through learning about Florence Nightingale and other nursing pioneers, as well as the historical development of nursing, students gain insight into the social roles and professionalism of nurses (Bender, 2018). Furthermore, learning nursing history positively influences nursing students' professional pride and facilitates the internalization of professional roles and responsibilities as nurses (Yang & Kim, 2019). Despite the educational significance of nursing history courses, relatively few studies have explored changes in students' perceptions and the formation of nurse images following nursing history education.

Perceptions of nurses are formed subjectively based on individuals' experiences, values, and sociocultural backgrounds, making them difficult to explain solely through objective attitudes or perceptions. Q methodology has been widely utilized as an effective approach for systematically exploring subjective viewpoints and identifying typologies related to a specific phenomenon (Stephenson, 1953). In nursing research, Q methodology has been applied to investigate professional identity, clinical practice experiences, and perceptions of nurses (Shin & Kim, 2022). Therefore, a Q methodological approach is appropriate for comprehensively exploring nursing students' perceptions of nurses following a nursing history course.

Accordingly, this study aimed to identify and categorize nursing students' perceptions of nurses after completing a nursing history class using Q methodology and to explore the characteristics of each perception type. The findings of this study are expected to provide foundational data for understanding the influence of nursing history education on the formation of nurse images and for developing educational strategies to promote positive nurse images and professional nursing identity among nursing students.

Method

1. Research Design

This study employed an exploratory research design using Q methodology to identify and classify nursing students' subjective perceptions of nurses' image after completing a nursing history course and to examine the characteristics of each perception type. Q methodology is a research approach that systematically explores and categorizes human subjectivity and is useful for scientifically analyzing participants' viewpoints and perceptions. In particular, it is considered an appropriate methodology for understanding individuals' subjective meanings and perception structures regarding a specific phenomenon.

Q methodology proceeds through the processes of establishing the Q population, selecting the Q sample, and selecting the P sample. Perception types are identified by analyzing the arrangement and distribution patterns that emerge during participants' sorting of statements. In this study, the research was conducted according to the following stages in order to identify the types and characteristics of nursing students' perceptions of nurses' image after a nursing history class: construction of the Q population and selection of the Q sample, selection of the P sample, Q sorting, and data analysis.

2. Sampling method

1) Construction of the Q Population and Selection of the Q Sample

In this study, a Q population was constructed to explore nursing students' subjective perceptions of nurses' image after completing a nursing history course. To collect the Q population, written surveys were conducted with 120 students enrolled in the liberal arts course Disease and History at the Department of Nursing of K University located in Incheon. Participants were asked open-ended questions such as, "What image of nurses do you currently have?", "What kind of image do you hope nurses will have in the future?", and "How do you perceive the current image of nurses in Korea?"

During the data collection process, participants were encouraged to freely discuss the roles and historical significance of nurses learned through the nursing history class and to describe their own thoughts and feelings regarding nurses' image in conversational statements. All opinions expressed during the group discussions were recorded regardless of whether they represented individual or shared perspectives. The researcher also provided immediate responses to participants' questions in order to facilitate smooth and active discussions. The collected materials were repeatedly reviewed and analyzed by the researcher to derive meaningful statements related to nurses' image.

In addition, previous studies, professional books, and domestic academic literature related to nursing students' perceptions of nurses' image were reviewed to supplement the statements. Through repeated examination and revision with a nursing professor experienced in Q methodology research, a total of 188 Q population statements were generated.

Subsequently, the 188 Q population statements were repeatedly reviewed, compared, and categorized according to similarities in meaning. The statements were then examined for redundancy, clarity of expression, and relevance to the research topic. Statements with similar meanings were integrated, while ambiguous or inappropriate statements were revised or removed. Furthermore, the validity and appropriateness of the statements were re-evaluated through consultation with a nursing professor who had extensive experience in Q methodology research. Through this process, a final set of 34 Q sample statements was selected.

2) P-sample

According to the small-sample theory suggested in Q methodology, an excessively large P sample may lead to statistical limitations in which multiple participants are concentrated within a single factor, making it difficult to clearly identify the characteristics of each type. Therefore, the number of participants only needs to be sufficient to generate factors and enable comparisons among them (Kim, 2008). Accordingly, the P sample in this study consisted of nursing students currently enrolled in the

Department of Nursing at K University. Among the assignments submitted in a required liberal arts course for first-year nursing students, responses that sincerely answered the questions corresponding to the Q-sorting items and were considered appropriate for the purpose of the study were purposively selected by the researcher. As a result, a total of 47 responses were included in the study.

In addition, in order to include participants with diverse characteristics, factors such as age, gender, experience of taking nursing history courses, experience of learning Nightingale's theory, career plans after graduation, and satisfaction with the nursing major were considered during the selection process.

3) Q-sorting and statistical analysis

Q sorting was conducted according to the principles of Q methodology by having participants forcibly distribute the 34 Q-sample statements based on their subjective perceptions. Prior to the sorting process, participants were provided with a brief explanation of the study purpose and asked to read each statement written on the Q cards. The statements were first categorized into positive, neutral, and negative groups and were then arranged on a forced distribution grid according to the degree of agreement or disagreement. Statements with which participants most strongly agreed were placed on the positive end, whereas statements with which they most strongly disagreed were placed on the negative end.

In particular, participants were interviewed regarding the reasons for selecting the statements placed at the extreme ends (+4 and -4), as these responses provided important information for interpreting the Q factors (Kim, 2008). The collected data were coded on a 9-point scale, ranging from 1 point for the most negative statement (-4) to 9 points for the most positive statement (+4). The data were analyzed using the pc-QUANL program.

Factor analysis was conducted by entering various factor numbers based on eigenvalues greater than 1.0, and four factors with the greatest conceptual significance and discriminative power were ultimately selected. The characteristics of each type were interpreted by comparing factor scores and standard scores, focusing particularly on statements showing strong agreement or disagreement, while also considering participants' demographic characteristics and factor weights.

Result and Discussion

1. Formation of Q type

The responses to 34 statements from the study participants were analyzed using the PC-QUANL program. As a result, the images of nurses perceived by nursing students after taking a nursing history course were classified into four types. These four factors explained 56.46% of the total variance. The explanatory power of each factor was 34.63% for Type 1, 12.95% for Type 2, 5.27% for Type 3, and 3.61% for Type 4 <Table 1>.

2. Characteristics by Type

The composition of the study participants was as follows: 11 individuals in Type 1, 10 in Type 2, 5 in Type 3, and 21 in Type 4. The demographic characteristics and factor loadings for each type are presented in <Table 2>. Participants with high factor weights within each type are considered representative individuals who exhibit the prototypical characteristics of that type.

For the purpose of identifying the most ideal typology, analyses were conducted by specifying 2 to 5 factors. As a result, the four-factor solution was determined to be the most appropriate model, as it showed the highest total explained variance and the highest factor weights, indicating that it best represented each type <Table 2>.

1) Type I : Nurse identity concern type

Type I included 11 out of 47 people. The items with high consent in Type I were the ease of employment of nurses, low social compensation and recognition of social status, and regret for the succession of Nightingale ideology. On the other hand, they showed negative consent to the perception of nurses as simply assisting doctors or to statements about nurses' organizational solidarity and activity. In addition, compared to other types, they showed relatively high consent to vague fears about future nursing jobs and low consent to the perception of development into professional nursing.

Subject No. 33, who showed the highest factor weight, had a problem consciousness about the social perception and educational level of nurses, recognized the role of nurses as a cooperative profession, and showed a critical view of social prejudice.

Taking these data together, Type I is interpreted as a type that critically recognizes the social position and role of nurses through nursing history classes, but at the same time experiences confusion and vague fear in establishing an identity as a nurse. Therefore, it was named "Nurse identity concern type".

2) Type II : Preparedness as a prospective nurse

Type II included 10 out of 47 people. The statements that showed high consent in Type II were the low social status and awareness of compensation of nurses, the difficulties and fears of nursing jobs, and the regret for the succession of Nightingale ideology. On the other hand, there was a strong negative agreement on the items of the nurse's kind and positive image, the perception that the job was recommended to the family, and the disconnection of the past and present nursing image. In addition, compared to other types, they showed relatively low consent to the vague fear of the nurse's role in policy participation or job, and high consent to the role expectation and professional reward of a nurse to support and care for patients.

Subject No. 36, which showed the highest factor weight, had a sense of mission and will to grow as a professional through nursing history, and was positively aware of the independent role and expertise of nurses. On the other hand, they showed negative views on the recognition of the role of nurses in policy participation or simple auxiliary roles.

When these data are put together, the second type is interpreted as a type that forms a sense of mission and pride for nursing through people and values in nursing history, specifically imagines the role of a future nurse, and prepares for itself. Therefore, it was named "Preparation as a prospective nurse."

3) Type III : A new factual cognitive form of nursing history

Type III included 5 out of 47 people in total. Statements with high consent in Type III were the low social status and recognition of compensation of nurses, and limitations in the succession of Nightingale ideology. On the other hand, they showed strong negative consent to statements that recognize nurses as assistants

of doctors, items for job recommendations, and recognition of employment advantages. In addition, compared to other types, they agreed highly on statements emphasizing the independence and autonomy of nurses, and showed relatively strong negativity in items related to the perception that nurses are assisting doctors and the lack of practice of Nightingale ideology.

Subject No. 31, who showed the highest factor weight, recognized nursing as a profession and viewed it as a job that required social respect, and at the same time had a critical perception of the insufficient succession of the Nightingale ideology and the social reality of nursing. In addition, the relationship between nursing and doctors was understood as a mutually cooperative and independent profession.

Taken together, the third type is interpreted as a type that forms a new perception of nursing through nursing history and clearly recognizes that nurses are independent and autonomous professions rather than doctors' assistants. Therefore, it was named "a new fact cognitive type of nursing history."

4) Type IV : Desired nursing development type in the future

Type IV included 21 out of 47 people. Statements with high consent in Type IV were related to the professional reward of nurses, respect as a professional profession, and willingness to grow as nurses. On the other hand, they showed strong negative consent to statements that simply recognized nurses as doctors' assistants, and negative reactions were also found in items related to the impact of changes in nursing image. In addition, compared to other types, they showed high consent to the necessity of nurses' participation in policy-making and joint efforts to improve nursing status, but relatively low consent was given to items such as ease of employment and succession of Nightingale ideology.

Subject No. 41, which showed the highest factor weight, had a critical perception of the low social status and poor treatment of nurses, and showed a view that the autonomy and independence of nursing were limited.

Taking these data together, Type IV is interpreted as a type that emphasizes the improvement of nurse professionalism and social status, and strongly expects the expansion of participation in nursing policy and future-oriented nursing development. Therefore, it was named "Desired nursing development type in the future".

Conclusion

The purpose of this study was to identify the types of nurse images perceived by nursing students after a nursing history class using the

Q methodology, to understand the characteristics of each type, and to provide foundational data for improving future educational strategies and nursing workforce management to support students' transition into clinical practice as future nurses.

As a result, four types were identified: Type I, Nurse Identity Concern Type; Type II, Preparedness as a Prospective Nurse; Type III, A New Factual Cognitive Form of Nursing History; and Type IV, Desired Nursing Development Type in the Future. This study is meaningful in that it is the first in Korea to identify the typology of nurse images perceived by nursing students after a nursing history course. However, the generalizability of the findings is limited as the study was conducted with students from a single university. Despite this limitation, the findings may serve as basic data for developing educational programs and strategies to facilitate nursing students' adaptation to clinical settings and to support nursing workforce management.

Based on the findings, future research is recommended to examine differences in nurse image perception according to general characteristics, to conduct expanded studies including nursing students from diverse regions, and to develop and evaluate educational programs for newly graduated nurses.

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Table 1> Eigen values and percentages of variance by type

Variable	Type I	Type II	Type III	Type IV
Eigen value	17.31	6.47	2.63	1.80
Variance(%)	34.63	12.95	5.27	3.61
accumulated value	61.33	22.93	9.34	6.39

<Table 2> Demographic characteristics and factors weighted by type (N=47)

Type	No.	Factor weight	Age	gender	Experience in Nursing History class	Nightingale Theory Experience	major satisfaction
I	1	1.23	18	F	No	Yes	general

(n=11)	7	.95	24	F	No	No	good
	14	.88	18	F	No	Yes	good
	17	.48	42	F	No	Yes	very good
	22	.72	26	F	Yes	Yes	good
	28	.85	22	F	No	Yes	good
	30	1.20	21	F	No	Yes	very good
	33	1.31	31	F	No	No	good
	34	.67	19	F	No	Yes	good
	37	.64	19	F	No	Yes	good
	45	.88	18	F	No	Yes	general
II (n=11)	3	1.09	40	F	Yes	No	very good
	5	.75	18	F	No	Yes	very good
	10	.68	19	F	No	Yes	general
	11	.65	23	F	Yes	Yes	general
	15	1.00	18	F	Yes	Yes	good
	16	.14	26	F	Yes	Yes	good
	23	1.30	24	F	No	Yes	good
	25	1.95	20	F	Yes	Yes	general
	36	2.25	25	F	No	Yes	good
	47	.73	18	F	No	Yes	general
III (n=5)	13	.47	25	F	Yes	Yes	good
	29	.45	19	F	Yes	No	general
	31	1.03	20	F	Yes	Yes	very good
	42	.81	21	F	No	Yes	good
	44	.76	18	F	No	Yes	good
IV (n=21)	2	.57	20	F	No	Yes	general
	4	1.05	25	F	No	Yes	very good
	6	1.77	34	F	No	Yes	very good
	8	.85	18	F	No	Yes	good
	9	1.16	33	F	No	Yes	good
	12	1.03	17	F	No	Yes	good
	18	1.99	25	F	No	Yes	very good
	18	.89	27	F	No	Yes	good
	20	1.93	19	F	No	Yes	good
	21	.85	27	F	No	Yes	good
	24	1.38	19	F	No	Yes	general
	26	1.40	18	F	No	Yes	good
	27	.68	18	F	No	Yes	good
	32	.44	19	F	No	Yes	good
	35	.76	20	F	Yes	Yes	general

38	1.49	19	F	No	Yes	good
39	2.48	21	F	No	Yes	very good
40	.65	19	F	Yes	Yes	good
41	2.98	19	F	No	Yes	general
43	.90	19	F	No	Yes	general
46	.92	18	F	Yes	Yes	very good

<Table 3> Q Statement and Z Score by Type (N=47)

Q Statement		Z- Score			
		Type I (n=11)	Type II (n=10)	Type III (n=5)	Type IV (n=21)
Q1	Throughout the history of nursing, nurses have found a strong spirit of sacrifice and service.	-.00	-.07	-.07	.39
Q2	There is a regret that Korean nursing has not been able to inherit the Nightingale ideology.	1.16	1.30	1.22	-.02
Q3	Like Nightingale, I should constantly try to have a great personality as a nurse.	.43	-.69	-.25	1.14
Q4	I think it is fortunate to study nursing in the present age, which has established itself as a professional nursing.	.75	-.07	-.19	.06
Q5	Nurses think that it is necessary to see a policyholder participating in hospital policy.	.31	.61	.78	.27
Q6	Through the history of nursing, nurses have learned the responsibilities and ethics required as professionals.	.35	.43	.25	.35
Q7	Still, the social status of nurses does not seem to be high.	1.67	1.85	1.64	-.14
Q8	Nurses were found to be an independent and autonomous job in performing their duties.	-.48	-.40	1.05	-.75
Q9	Socially, nurses do not seem to receive appropriate emotional compensation and treatment.	1.78	1.75	1.87	.54
Q10	Nurses deserve to be respected as professionals by people in other fields.	1.06	.94	.44	1.57
Q11	Throughout the history of nursing, nurses have found that they need the ability to cooperate with various professionals.	.18	.69	-.46	.69
Q12	Through the history of nursing, nurses knew that they needed to have expertise and skills.	.51	.84	.15	.71
Q13	In the future, I want to be a person who patients can rely on comfortably.	-.53	-.77	.09	1.35
Q14	It was beneficial to know what paradigm nursing has changed over time.	-.40	-.26	.35	-.11
Q15	Nursing history made nurses realize that it is a job completed through a lot of effort and time.	.14	.82	-.05	.88
Q16	Even in historically poor environments, nurses seem to have always been kind and smiling.	-1.46	-2.12	-1.28	-1.53
Q17	I think the biggest advantage of nurses at the present time is that they get a good job.	1.97	.89	-1.64	-.56
Q18	Unfortunately, not many nurses seem to practice the Nightingale theory.	-.54	1.09	-1.57	-1.22
Q19	I knew the reason for taking the Nightingale oath.	-.01	-.49	.17	-.41
Q20	I felt that it would be difficult to be a nurse for me in the future, but it would be a proud job.	.71	-1.46	1.17	1.61
Q21	In the future, I think a nurse will be a difficult job that I feel at a loss and afraid of.	-1.01	1.34	-.03	-1.58
Q22	Nurses, past and present, are still people who help doctors.	-2.22	-.23	-2.24	-2.13

Q23	Several people who contributed to the process of nurses growing into professional nursing were respectful and grateful.	-.13	.44	1.20	.52
Q24	Throughout history, nurses have learned that it is a profession that demonstrates maternal love based on love and commitment.	-.86	-.66	.49	-.09
Q25	In the history of nursing, it was surprising that the occurrence of diseases by period had a great influence.	-.15	-.99	-.67	-.74
Q26	Like Nightingale, nurses should be leaders with their own ability to express opinions in the performance of their duties.	.47	-.79	.16	.32
Q27	I was shocked that the nurse in the past was so different from the image of the nurse now.	-1.12	-1.55	-1.29	-1.67
Q28	I think nursing history is an essential subject for nurses.	-.53	.19	1.01	-.30
Q29	I want to grow as a nurse with a professional aspect.	.47	.36	.26	1.51
Q30	Through the history of nursing, I have a sense of mission and pride in nursing.	.20	-.91	.09	.81
Q31	Throughout the history of nursing, I thought I should constantly develop and study as a nurse.	.37	.09	-.42	1.06
Q32	A nurse is a job that you want to recommend to your family or relatives.	-1.78	-2.09	-2.09	-1.52
Q33	Nurses seem to have a strong bond between colleagues and have the characteristics of actively participating in nursing group activities.	-2.04	-.56	-1.18	-1.12
Q34	In order to raise the status of nurses in the future, I hope that everyone in the nursing field will work in one mind.	.76	.48	.83	.76