

A Study on Subjectivity about Obesity among Nursing Students

Sunyoung Jang ^{1*}

¹ Dept. of Nursing, Hanseo University, 46 Hanseo1 Ro, Haemi-myun, Seosan-si, Chungcheongnam-do, 369-709, KOREA; sjang@hanseo.ac.kr

*Correspondence sjang@hanseo.ac.kr; Tel.: +82-010-3451-2250

Abstract: (1) Background: This research aims to examine subjectivity on obesity perceived by nursing students, figure out and describe characteristics of different factors of subjectivity. (2) Methods: The method to deal with data was Q methodology. This research asked 21 students in Nursing Department of H University to sort 38 statements. Collected data were analyzed using QUANL PC Program. (3) Results: The analysis found out 2 factors of subjectivity perception of obesity among those survey participants: obesity cause finding factor and obesity result perception factor. (4) Conclusions: The findings of this research will serve as basic data to understand perceptions on obesity among nursing students and to develop educational program to teach them.

Keywords: *obesity, nursing students, subjectivity, Q methodology, Nurse*

1. Introduction

1.1. Necessity of Study

Excessive consciousness of obesity triggers unreasonable diet, which then causes low body weight, another problem. Rapid change of social standards on beauty lead people to favor lookism, and tall and slim body, and young people pay excessive attention to their body shapes. Even those with standard weights try to have slim bodies, putting more emphasis on body shape than on health [1,2]. Obesity stress is stress one feels from one's obesity. Depending on how much acute one feels about one's body weight, obesity stress varies. Obesity stress can lead to weight regulating behavior like irregular eating, overeating, and taking improper drugs [3-5]. Obesity stress comes from two kinds of sources: internal stimulus from one's awareness of his or her own obesity, and external stimuli such as opinions of his or her neighbors and mass media. Obesity is a disease in itself, and can cause various kinds of chronic degenerative diseases. So, prevention and management of obesity is very important to maintain health. In contrast, distorted consciousness of one's body shape due to favor of thin body shape becomes common among youngsters.

Nursing science is the scholastic field based on sensitive understanding of oneself and other people [6], and, so, it is important for nursing students who are future nurses to be equipped with ability to understand emotions of others and, to regulate the situations with their own sensitivities [7]. Nurses are core human power in public health and medical places, taking the biggest portion in such places and having the longest contacts with patients. And, they should provide patients with safe and high-quality nursing service to patients within given time periods in rapidly changing public health and medical scenes [8]. In nursing places, subjectivity of perception of nurses have great effects on patients. Thus, it is important to figure out perceptions of nurses and nursing students.

But, there are not sufficient researches on obesity using nursing students as respondents. This research will deal with it using Q methodology. Q methodology allows us to understand characteristics of different subjectivities. Such subjectivities are not determined by researcher, but by the respondents themselves [9]. As perception on obesity is unique experience of each person, Q methodology is proper to identify types of perception on it among nursing students.

Therefore, this research will examine subjectivity structure on obesity among nursing students to provide basic data to develop educational programs treating them differently depending on

characteristics of subjectivity types before they begin to work in nursing places.

1.2. Purpose of Study

The purposes of this research are to analyze subjectivity types of nursing students, and examine characteristics of different types, and to provide basic data in developing educational program to teach nursing students before they begin to work in hospitals. Specific research purposes are as follows.

- 1) Categorize subjective perceptions on obesity among nursing students.
- 2) Analyze and describe characteristics of different types of subjectivity on obesity among nursing students.

2. Materials and Methods

2.1. Design of Study

To achieve research purposes, this research intended to examine literature on obesity, and media sources, and discover types of subjectivity on obesity among nursing students.

2.2. Q Population and Q Sample Selection

To extract statements on the effects of obesity, this research did a review of domestic and foreign literature on obesity, open-ended questionnaire, and individual in-depth interview. In the process, this research created the Q population consisting of over 200 statements. In addition, this research created another Q population composed of over 100 statements from domestic and foreign literature. From this Q population, it selected Q sample consisting of 38 statements.

2.3. Method of Selecting P-Sample

Q method is qualitative survey method focusing on subjectivity within individual, and emphasizing consistency of individual, rather than differences between people. It is based on small sample doctrine which assumes that if p-sample becomes large, many people can crowd around a specific component, and its characteristics are not clearly revealed [10]. P-sample in this study is 21 nursing school students who fully understood the purposes of the survey and voluntarily participated in the survey.

To ensure the autonomy of participants, the purpose of the research, the method of research, and the recording of the interview contents were explained first before the meeting. Then, the ethical aspects of the box were considered by obtaining verbal consent, receiving consent, and making compensation commensurate with participation in the research. As a measure not to violate the privacy of participants according to the principle of bad behavior, It was informed that the interview would be used only for research purposes, and personal situations were kept secret while ensuring anonymity. Also, It was informed that the research results would be published and the participants could stop participating in the research anytime they want. In order to avoid revealing the identity of research participant, the computer file was assigned a unique password for the researcher and all information that could identify the participant was deleted.

2.4. Q Sorting and Method of Data Analysis

Q sorting is the process where each of participants belonging to p-sample makes voluntary definition of induced abortion by sorting statements in Q-sample with forced normal distribution method [10]. The data were collected from 21 students in Nursing Department of H University with cards containing statements. The time spent by one participant in Q sorting was 30-45 minutes on average. Participant responded to each statement of Q sample by pointing his or her preference on the 12 point scale ranging from strong negative to strong positive. Afterwards, on statements participants chose extremely positive or negative points, they were interviewed again. The data were under principle component factor analysis (varimax). Categorization into factors was done by considering

the output from inputting factors with eigen value 1.0 or over and total explained variate. Collected data were coded with converted points from 1 to 12 in the forced distributed cards. By coding converted points in the order of Q sample number, and put under principle component factor analysis using the QUANL PC Program.

2.5. Ethical Consideration of Research Participants

Research participants voluntarily cooperated with the survey, and were informed that they could terminate the interview any time they wanted. To respect their rights and to protect their privacy and personal information, all the information collected was anonymously coded and Q sorted [11-13].

3. Results

3.1. Subjectivity Types on Obesity and Characteristics per Type

3.1.1. Q Factor Structure

Q-factor analysis of subjectivities on obesity of nursing students using QUANL pc program revealed 2 factors.

3.1.2. Characteristics of Each Type of Obesity

To analyze subjectivities on obesity among nursing students, this research described characteristics of each factor focusing on statements belonging to the factor. Q responses of P sample (participants) were divided into upper questions and lower questions, and 2 factors were extracted. In Q method, someone who has high factor weight is considered as typical or ideal person.

To analyze characteristics of each factor, this research gave meanings to statements whose z-scores are ± 1.00 or over and explained them among all the classified statements. The number of participants whose factor weights are 1.0 or over and who belonged to factor 1 was 14, and 7 in factor 2.

The analysis of subjectivities on obesity of participants using QUANL pc program revealed 3 factors, which explained 46.25% of total variance. factor 1 explained 38.26% of total variance; factor 2 did 7.99%. As the explanatory power of factor 1 is 38.26%, the factor can be said to be able to explain subjectivity on obesity the best. Participants belonging to a specific factor responded similarly to the statement on obesity.

3.2. Analysis of Subjectivity per Factor

3.2.1. Obesity Cause Finding Factor

7 participants belonged to factor 1. The statements to which those belonging to factor 1 expressed strong positive attitude were 'Obesity can cause diseases like high blood pressure, and diabetes, etc.' ($Z=2.14$); 'Overeating by stress can cause obesity' ($Z=2.01$); 'Obesity occurs by wrong eating habits and intake of too much nutrition' ($Z=1.27$) [Table 1]. The participant whose factor weight was the highest (0.8512) in factor 1 was participant No. 1, and the statements to which the participant agreed the most were No. 10, No. 33, and No. 6. The statements to which participants of factor 1 expressed the most negative responses were 'I think that my friends despise me because I am fat' ($Z=-1.70$); 'Obesity makes me difficult to have smooth relationship with colleagues, seniors and juniors' ($Z=-1.61$). 'Obesity makes it difficult to form self-identity' ($Z=-1.48$) [Table 1]. The participant in factor 1 whose factor weight was the lowest (0.1214) was participant No. 13. The statements to which the participant agreed the most were No. 5, No. 1 and No. 7.

The characteristics of factor 1 is concern about the causes of obesity. Those who belonged to factor 1 focused on causes of obesity such as stress, wrong eating habits, and frequency of eating out, and viewed that improvement of such things could reduce obesity. They viewed that obesity did not bring about social discrimination or other negative effects. Plus, they did not think that low

self-esteem or self-management could generate obesity. Consequently, this research named factor 1 as 'obesity cause-finding factor'.

3.2.2. Obesity Result Perception Factor

7 participants belonged to factor 2. The statements to which those belonging to factor 2 expressed strong positive attitudes were 'Obesity can cause diseases like high blood pressure, and diabetes, etc.' ($Z=2.46$); 'Obesity occurs by wrong eating habits and intake of too much nutrition' ($Z=1.78$); 'Obesity makes it impossible to wear clothes I want to' ($Z=1.52$). The participant whose factor weight was the highest (1.2882) in factor 2 was participant No. 15, and the statements to which the participant agreed the most were No. 10, No. 6, and No. 9. The statements to which participants of factor 2 expressed the most negative responses were 'Obese person is considered as having weak will and being low in scholastic scores' ($Z=-1.94$); 'Obesity makes me difficult to have smooth relationship with colleagues, seniors and juniors' ($Z=-1.91$) [Table 2]. The participant in factor 2 whose factor weight was the lowest (0.2374) was participant No. 17. The statements to which the participant agreed the most were No. 21, No. 1, and No. 27.

The characteristics of factor 2 is concern about the results of obesity. Those belonged to factor 2 assumed that obesity was the results of wrong eating habits and life attitudes, and would cause chronic diseases like high blood pressure and diabetes, etc. Plus, they assumed that obesity would cause the person to have inferiority complex on one's appearance, prevent him or her from wearing clothes as he or she wanted. They thought that perception on obesity would differ depending on social cultures. But, they denied that obese people were weak in their wills, low in school grades, or would have difficulty in socializing with people around them. They also did not agree the assumption that fat people tended to depend on other people around them or they could not receive love from their parents. They focused on the results of obesity, and they thought that if fat people recognized such results, and changed their habits, obesity rates would decline. Accordingly, this research named factor 2 as 'obesity result perception factor'.

Table 1. Q-Statements on Obesity per Factor and Z-Scores (N=21)

Factor	No	Description	Mean (SD)	Z-score
Factor 1 (N=14)	10	Obesity can cause diseases like high blood pressure, and diabetes, etc.	8.79(0.975)	2.14
	33	Overeating by stress can cause obesity.	8.43(1.342)	2.01
	6	Obesity occurs by wrong eating habits and intake of too much nutrition,	7.29(2.234)	1.27
	35	Increasing frequency of eating out and dining together raises the probability to become obese.	7.21(1.718)	1.18
	14	Obesity stress can lead to overeating.	7.07(1.542)	1.10
	5	I think that my friends despise me because I am fat.	3.29(1.437)	-1.70
	1	Obesity makes me difficult to have smooth relationship with colleagues, seniors and juniors.	3.50(1.557)	-1.61
	7	Obesity makes it difficult to form self-identity.	3.71(1.437)	-1.48
Factor 2	15	Obesity negatively affects sociality.	3.43(1.604)	-1.42
	3	Obese person is regarded as unattractive and ugly glutton.	3.86(2.316)	-1.27
	10	Obesity causes various diseases like high blood	9.43(0.787)	2.46

(N=7)	pressure and diabetes, etc.		
6	Obesity occurs by wrong eating habits and intake of too much nutrition,	8.29(0.488)	1.78
9	Obesity makes it impossible to wear clothes I want to.	8.00(2.236)	1.52
4	Obesity makes one have inferiority complex about one's appearance.	7.43(0.976)	1.29
24	Views on obesity care different in different cultures.	7.29(0.756)	1.13
21	Obese person is considered as having weak will and being low in scholastic scores.	2.43(0.787)	-1.94
1	Obesity makes me difficult to have smooth relationship with colleagues, seniors and juniors.	2.57(1.134)	-1.91
27	I feel that my parents do not love me because I am fat.	2.71(1.113)	-1.63
3	Obese person is regarded as unattractive and ugly glutton.	3.29(2.138)	-1.48
18	Obesity makes me depend more on my friends.	3.16(1.773)	-1.45

4. Discussion

The analysis found that there are two factors in subjectivity perceived by nursing students: factor 1 is 'obesity cause finding factor'; factor 2 is 'obesity result perception factor'. The characteristics of each factor are as follows.

Those belonging to factor 1 focus on the causes of obesity. They assume that if one knows what causes obesity, one can prevent it. As obesity occurs by long-time living habits and eating life, it is not easy to escape from it. Thus, it is important to have education to teach people how to prevent obesity.

Nursing students experience a lot of stress from heavier study burden than other majors, insufficient knowledge and experience they recognize in clinical training, insufficient autonomy, difficulty in adjusting themselves in the requirements of observing ethical norms as professional nurses [19]. Also, physically and socially, they placed in the transition to adulthood, should play the role of health model to their nursing objects. Thus, it is very important for them to keep ideal eating life.

Factor 2 is 'obesity result perception factor'. Those who belong to factor 1 are concerned about the results of obesity. They assume that as obesity results in health problems that can cause chronic diseases and appearance problems, it should be overcome. But, they view that such results of obesity are viewed differently in different cultures, and that obese men do not have socio-psychological problems.

This study examined subjective perception on obesity of nursing students, and classified it into 2 factors. Such a research on subjectivity can be used as basic data for developing educational program on obese people. Also, it is expected that this study offering subjectivity structure of perception on obesity among nursing students and characteristics of each factor of the structure will be used for basic sources for developing educational program on it.

But, it has limits in generalizing the findings in the sense that the analysis is based on students in a specific college, and that participants were not selected considering factors affecting perceptions on obesity. It is necessary to explore Q sample based on various backgrounds.

5. Conclusions

This study was performed to examine subjective perceptions on obesity of nursing students, and provide basic data needed to explore ways to activate researches on obesity using Q methodology. The analysis extracted 2 factors: obesity cause finding factor and obesity result perception factor.

This study, by categorizing subjectivities on obesity of nursing students, provides basic sources needed in adopting and applying policies to activate obesity reduction support system. It is expected that this analysis can help policy makers to develop educational programs considering characteristics of each factor of subjectivities. Plus, this study suggests further qualitative researches on obesity to identify various factors which affect nursing of obese patients by developing Q samples considering various factors.

References

- [1] Wadden, T. A.; Butryn, M. L.; Sarwer, D. B.; Fabricatore, A. N.; Crerand, C. E.; Lipschutz, P. E.; Faulconbridge, L.; Raper, S. E.; Williams, N. N. Comparison of psychological status in treatment-seeking women with class III vs. class-I-II obesity. *Obesity*, Vol. 14, 90S-98S, (2006) DOI: <http://dx.doi.org/10.1038/oby.2006.288>
- [2] Bray, G. A. Medical Consequences of Obesity. *The Journal of clinical endocrinology & metabolism*, Vol. 89, pp. 2583-2589, (2004) DOI: <http://dx.doi.org/10.1210/jc.2004-0535>
- [3] Kim, E. J.; Cha, B. K. Weight control behaviors in female college students. *Journal of Korean Academy of Womens Health Nursing*, Vol. 13, pp. 320-326, (2007)
- [4] Choi, Y. R. Obesity stress and depression in elementary school students. Master's Thesis, Yunsei University, Seoul, South Korea, 1997.
- [5] Jeon, Y. S.; Ahn, H. S. Influence of subjective perception of body image and weight management on obesity stress in college women. *Journal of the Korean Society of Esthetic & Cosmeceutics*, Vol. 1, pp.13-26, (2006)
- [6] Shin, H. J. Emotional Intelligence, Ego Resilience, Stress in Clinical Practice of Nursing Students. Master's Thesis, Keimyung University, Deagu, South Korea, 2012.
- [7] Wong, C. S.; Law, K. S. The Effects of Leader and Follower Emotional Intelligence on Performance and Attitude: An Exploratory Study. *Leadership Quarterly*, Vol. 13, pp. 43-274, (2002)
- [8] Dyess, S.; Parker, C. Transition support for the newly licensed nurse: a programme that made a difference. *Journal of Nursing Management*, Vol. 20, pp. 615-623, (2012) DOI: <https://doi.org/10.1111/j.1365-2834.2012.01330.x>
- [9] Park, H. Y.; Jang, M. Y. The Effect of Nursing Students. Smartphone Addiction and Emotional Intelligence Level on Quality of Life, Vol. 11, pp. 217-227, (2017)
- [10] Whang, S. M.; You, S. W.; Kim, J. Y.; Kim, R. G. Consumer Types and Cultural Consumption Characteristics of Korean Society: Who Spends for What Reasons? *Journal of Human Subjectivity*, Vol. 13, pp. 25-39, (2006)
- [11] Jang, S. The Subjectivity for Open Adoption of Nursing Students. *International Journal of Advanced Nursing Education and Research*, Vol. 3, pp. 59-64, (2018) DOI: <http://dx.doi.org/10.21742/IJANER.2018.3.1.10>
- [12] Wang, M.; Kim, S.; Jang, S. Study of Subjectivity on Death in Korean Elderly. *International Journal of Elderly Welfare Promotion and Management*, Vol. 2, pp. 37-42, (2018) DOI: <http://dx.doi.org/10.21742/IJEWPM.2018.2.2.07>
- [13] Jang S. Subjectivity for infertility of nursing students. *International Journal of Advanced Nursing Education and Research*, GVPpress, May, Vol. 2, No. 1, pp:91-96, (2017). <http://dx.doi.org/10.21742/IJANER.2017.2.1.16>.