

# The relationship between perceived health status, self-efficacy, and quality of life among female cleaning workers in Korea

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## Abstract

**Background/Objectives:** This study investigated the relationship between perceived health status, self-efficacy, and quality of life of female cleaning workers to provide basic data for health promotion.

**Methods/Statistical analysis:** The subjects were 105 female cleaning workers in I city. We collected data using a self-report questionnaire comprising 19 general questions, three questions on perceived health status, 13 questions on self-efficacy, and 26 questions on the quality of life (QOL). Data were analyzed using frequency, percentage, *t*-test, ANOVA with Scheffé test, and Pearson's correlation.

**Findings:** The workers' average perceived health status was  $3.43 \pm 0.67$  points (range: 1–5 points), with a minimum value of 2.00 points and a maximum value of 5.00 points. Their average self-efficacy score was  $3.01 \pm 0.44$  points (range 1–4), with a minimum value of 1.00 points and a maximum value of 4.00 points. Their average QOL score was  $3.04 \pm 0.41$  points (range: 1–5), with a minimum value of 1.96 points and a maximum value of 3.96 points. Perceived health status and self-efficacy ( $r = .255$ ,  $p = .009$ ), perceived health status and QOL ( $r = .269$ ,  $p = .006$ ), and self-efficacy and QOL ( $r = .320$ ,  $p = .001$ ) were significantly positively correlated.

**Improvements/Applications:** We gathered basic data on health management, investigating the relationship between perceived health status, self-efficacy, and QOL among female cleaning workers.

**Keywords:** Female cleaning workers, Health promotion, Perceived health status, Quality of life, Self-efficacy

## 1. Introduction

According to the 2019 Labor Survey by Employment Type, the largest proportion of simple labor workers' jobs in Korea relate to cleaning [1]. Most cleaning laborers in Korea are older female workers whose health can be negatively affected by the jobs' activities and low wages [1,2]. Therefore, the Korean government is researching the actual work environments and health status of sanitation workers to develop guidelines for workers' health [3].

However, cleaning workers in non-regular employment are still treated with indifference and are often marginalized in workplace healthcare [4,5]. Cleaning workers' jobs often entail strenuous physical tasks, unprotected exposure to harmful substances, and repetitive physical work that can cause or exacerbate health problems [5]. In addition, demanding working conditions leave many cleaning workers unable to take adequate breaks, compounding their physical fatigue [6–8]. Cleaning workers have a high incidence of neurological and musculoskeletal disorders such as arthralgia, muscle pain, low back pain, and neuralgia [1]. Therefore, the perceived health status of female cleaning workers is the basic data necessary for health management.

Self-efficacy describes individuals' belief in their ability to positively address or escape from a problem behavior [9]. It is a well-known antecedent variable that can explain and predict health behaviors to maintain and promote human health [10]. Strong self-efficacy can enhance satisfaction and self-esteem [11]. Quality of life (QOL) is individuals' perception of their position in life in the context of their culture and value system in relation to their goals, expectations, and norms [12]. Since cleaning workers' working environments, job demands, and work culture vary, their self-efficacy and QOL inevitably vary, too. This

study's specific purpose was to identify, compare, and examine the relationships between the subjects' general characteristics, perceived health status, self-efficacy, and QOL.

## **2. Materials and Methods**

### **2.1. Study design**

This descriptive study aimed to determine the level of perceived health status, self-efficacy, and QOL among female cleaning workers in Korea and analyze the associations among these variables.

### **2.2. Subject**

The study subjects were a convenience sampling of female cleaning workers employed by two universities in I city. We calculated the sample size using G\*Power, Version 3.1.2. The minimum number of subjects needed for a statistical power of .80, a significance level of  $\alpha = .05$ , and an effect size of .3 was 82. Anticipating a less-than-perfect response rate and exclusions for incomplete responses, we distributed 120 questionnaires. The final sample used for the study was 105 completed questionnaires.

### **2.3. Instruments**

#### **2.3.1. Perceived health status**

We measured perceived health status using an instrument developed by Speake et al. [10] and translated by Kweon and Jeon [13]. The instrument used a 5-point scale for three questions: 5 points for "very good," 4 points for "relatively good," 3 points for "normal," 2 points for "relatively bad," and 1 point for "very bad." The possible score range for perceived health status was 3–15 points, with higher scores indicating higher perceived health status. In Kweon and Jeon's study [13], the reliability using Cronbach's  $\alpha$  was .88. In our study, Cronbach's  $\alpha$  was .90.

#### **2.3.2. Self-efficacy**

To measure self-efficacy, we used an instrument developed by Sherer et al. [14] and modified and supplemented by Kim [15]. This instrument comprised 13 questions on general self-efficacy and social self-efficacy, with each question answered according to a 4-point scale: 1 point for "strongly disagree," 2 points for "slightly disagree," 3 points for "slight agree," and 4 points for "strongly agree." The possible score range for self-efficacy was 13–52 points, with higher scores indicating higher self-efficacy. The reliability at the time of its development was Cronbach's  $\alpha$  was .98. In our study, Cronbach's  $\alpha$  was .96.

#### **2.3.3. Quality of life**

To measure QOL, we used a simple shortened version of the Quality of Life Measurement (WHOQOL-BREF) developed by the World Health Organization for all cultures [12]. This instrument comprised 26 questions covering four areas. Min et al. [16] developed the Korean version, and the reliability of Cronbach's  $\alpha$  at the time of its development was .898. In our study, Cronbach's  $\alpha$  was .89.

### **2.4. Data Collection**

The study was approved by the IRB of the institution with which the researchers were affiliated (IRB No. 1041478-2020-HR-037). Data were collected from September 26, 2020, to November 5, 2020. The study subjects were a convenience sampling of female cleaning workers working at two universities in I city. We fully explained the purpose and content of the research. To protect the research participants' privacy, we selected only those who wished to participate and gave their written consent, and we anonymized the questionnaires with codes.

### **2.5. Data Analysis**

We analyzed the collected data using SPSS for Windows, Version 18.0. The general characteristics of the subjects were presented as frequency, percentage, mean, and standard deviation. The participants' perceived health status, self-efficacy, and QOL were presented as mean, standard deviation, maximum, and minimum. We analyzed the differences in perceived health status, self-efficacy, and QOL according to the general characteristics of the subjects using an independent *t*-test and one-way ANOVA. We analyzed the correlations between the variables using Pearson's correlation coefficient.

### **2.6. Limitation of the study**

This study had the following limitation. The participants were a convenience sampling of female cleaning workers employed by two universities in I city. The results might have been different for male cleaning workers, cleaning workers working in non-university environments, and cleaning workers in other towns, cities, regions, or countries. Therefore, the results might not be generable. Future research should be

conducted with other subjects and in other locales and settings.

### 3. Results and Discussion

#### 3.1. General characteristics

The subjects' mean age was  $60.43 \pm 3.39$ . Of the 105 subjects, 78 had a spouse (74.3%), and 27 had no spouse (25.7%). Most (92 subjects; 87.6%) reported following religion, and 13 said they followed no religion (12.4%). The subjects' annual salary varied: 16 subjects (15.2%) earned less than KRW 10 million, 42 subjects (40.0%) earned KRW 10–15 million, and 47 subjects (44.8%) earned over KRW 15 million. Regarding education, 49 people (46.7%) were middle school graduates or lower, 51 (48.6%) were high school graduates or higher, and 5 (4.8%) were junior college or higher. Most of the subjects (101; 96.2%) were contract workers; four (3.8%) were regular workers. Concerning labor hours per day, 102 said 8 hours (97.1%), and three said over 8 hours (2.9%). Concerning workplace strife, ten people (9.5%) reported having experienced or witnessed fighting between colleagues; 95 people (90.5%) said they had not. Concerning job expectations, 18 subjects (9.5%) said they were hopeful, 26 subjects (24.8%) said they were not hopeful, 55 subjects (52.4%) were satisfied with the current state, and six subjects (5.7%) were unsure.

Nearly half (46; 43.8%) had musculoskeletal problems, although 59 (43.8%) reported no musculoskeletal problems. Most were non-drinkers and non-smokers: 23 (21.9%) said they drank alcoholic beverages, and 82 (78.1%) said they did not; only 4 (3.8 %) said they smoked, and 101 (96.2%) said they did not. Slightly less than half (46 subjects; 43.8%) said they had hobbies, and 59 subjects (56.2%) said they had no hobbies. Finally, 90 subjects (85.7%) said they exercised, and 15 subjects (14.3%) said they did not. One person reported not being healthy (1.0%).

#### 3.2. Differences in perceived health status, self-efficacy, and QOL by general characteristics

The mean for the subjects' perceived health score was  $3.43 \pm 0.67$  points (range: 1–5), with the minimum value being 2.00 points and the maximum value 5.00 points. The mean for their self-efficacy score was  $3.01 \pm 0.44$  points (range: 1–4), with the minimum value being 1.00 points and the maximum 4.00 points. Their mean QOL score was  $3.04 \pm 0.41$  points (range: 1–5), with the minimum value being 1.96 points and the maximum 3.96 points. Table 1 shows the differences in perceived health, self-efficacy, and QOL by general characteristics.

The results showed that the subjects' perceived health scores averaged 3.43 points on a 5-point scale. This was similar to Jung & Oh's (2015) results (3.41 points) for middle-aged women [17] but higher than Lee's (2011) results (2.87 points) for elderly women [18]. This makes sense because the mean age of the female cleaning workers in our study fell into the category of middle-aged women. However, the perceived health status in the results of this study was not statistically significant for those aged <60 or >60 years.

#### 3.3. Degree of perceived health status, self-efficacy, and QOL

Among the general characteristics, the subjects' perceived health status differed statistically significantly by hobbies ( $t = 2.5$ ,  $p = .013$ ); self-efficacy differed significantly according to smoking status ( $t = -2.25$ ,  $p = .026$ ); and QOL differed significantly by hobbies ( $t = 4.31$ ,  $p < .001$ ).

Kim (2017) found that the factors influencing health-related QOL among elderly women were perceived health status, loneliness, pain, residence type, and the number of diseases [19]. In other words, the higher the perceived health status, the lower the loneliness and pain; furthermore, the residence type played a more significant role than whether the elderly person lived alone [19]. However, the present study yielded different results, probably because of demographic differences.

#### 3.4. Correlation among differences in perceived health status, self-efficacy, and QOL

The correlation between perceived health status, self-efficacy, and QOL was as follows. The subjects' perceived health status and self-efficacy ( $r = .255$ ,  $p = .009$ ) showed a positive correlation. Perceived health status and QOL ( $r = .269$ ,  $p = .006$ ) showed a significant positive correlation. Self-efficacy and QOL ( $r = .320$ ,  $p = .001$ ) showed statistically significant positive correlations. Thus, our findings suggested that the higher the perceived health status, the higher the self-efficacy; the higher the perceived health status, the higher the QOL; and the higher the self-efficacy, the higher the QOL (Table 2).

In a study of the elderly in Korea, Suh and Kim (2014) found that subjective health status influenced

health-related QOL, and perceived health status influenced QOL [20]. Our results showed that perceived health status was an important variable in the health-related QOL of female cleaning workers.

Studies by Kim [21] and Hwang et al. [22] showed that workers' QOL was significantly and positively correlated with self-efficacy; that is, the higher the self-efficacy, the higher the quality of life. Our results were similar. Self-efficacy refers to people's confidence that they can deal effectively with various stressful situations. It is reasonable to expect that people with a strong sense of self-efficacy will enjoy a higher QOL because they are able to control their stress levels in various situations efficiently. This suggests that to improve female cleaning workers' QOL, we should strive to improve their self-efficacy. Their perceived health status can affect their physical aging and health status, so a differentiated intervention strategy through health education to improve health is needed. Female cleaning workers are socially vulnerable and require a government policy support system. This study's results provide some basic data to help policymakers develop health management programs and policies that improve their perceived health status, self-efficacy, and QOL.

**Table 1: Degree of perceived health status, self-efficacy, and quality of life (N = 105)**

Variables	M ± SD	Minimum	Maximum	Range
Perceived health status	3.43 ± 0.67	2.00	5.00	1–5
Self-efficacy	3.01 ± 0.44	1.00	4.00	1–4
Quality of life	3.04 ± 0.41	1.96	3.96	1–5

**Table 2: Correlation among perceived health status, self-efficacy, and quality of life (N = 105)**

	Perceived health status	Self-efficacy	Quality of life
	<i>r</i> ( <i>p</i> )		
Perceived health status	1	.255 (.009)	.269 (.006)
Self-efficacy		1	.320 (.001)
Quality of life			1

#### 4. Conclusion

This study investigated the relationship between perceived health status, self-efficacy, and QOL of female cleaning workers to provide basic data to help policymakers develop health management programs. Perceived health status and self-efficacy ( $r = .255$ ,  $p = .009$ ), perceived health status and QOL ( $r = .269$ ,  $p = .006$ ), and self-efficacy and QOL ( $r = .320$ ,  $p = .001$ ) were significantly positively correlated. The study's results provide basic data that can be used to develop health management programs and policies that improve female cleaning workers' perceived health status, self-efficacy, and QOL.

Future research should repeat this study with additional subjects (including men) and different settings to identify the factors that influence female cleaning workers' QOL. In addition, we propose a future study on the differences in the QOL of female workers by occupation to identify which factors might be specific to female cleaning workers is proposed in future studies.

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