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Effects of subjective health perception and health literacy on Health-Related quality of life among older adults: Data from the 9th Korea national health and nutrition examination survey (2nd year)

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Abstract

This study aimed to examine the effects of older adults' subjective health perception and health literacy on Health-Related Quality of Life (HRQoL) among older adults, and to provide foundational evidence for the development of health promotion programs targeting this population. A secondary data analysis was conducted using raw data from the 2023 second year of the 9th Korea National Health and Nutrition Examination Survey (KNHANES). The final sample consisted of 1,570 individuals aged 65 years and older. Considering the complex sampling design, weighted analyses were performed, including complex-sample descriptive statistics, t-tests, Analysis of Variance (ANOVA), and multiple regression analysis. The findings indicated significant differences in HRQoL according to gender, age, educational attainment, economic activity, stress level, subjective health perception, health literacy, and physical activity. Multiple regression analysis revealed that subjective health perception ($\beta = .146$, $p < .001$) was the most influential factor affecting HRQoL. Furthermore, higher levels of education, home ownership (one or more houses), greater frequency of strength exercise, and higher health literacy were all associated with better HRQoL. These results highlight the need to develop tailored health education programs that align with the educational levels of older adults to foster more positive health perceptions. In addition, comprehensive interventions aimed at reducing stress should be implemented. Such initiatives may enhance the health competence of older adults and contribute to extending healthy life expectancy and improving overall health-related quality of life.

Keywords: Subjective health perception, Health literacy, Health-Related quality of life, Older adults, Korea national health and nutrition examination survey

1. Introduction

1. Need for the Study

The aging index, defined as the ratio of the population aged 65 years and older to that aged 14 years and younger, is a representative indicator of population aging. In Korea, the aging index remained below 10 until the mid-1970s but has since shown a steady increase—rising to 20.0 in 1990, 34.3 in 2000, 67.2 in 2010, and reaching 199.9 in 2025 [1]. As of 2025, older adults aged 65 years and over account for more than 20% of the total population, marking Korea's official transition into a super-aged society [2]. According to Statistics Korea, the population aged 65 and older was approximately 10.3 million in 2024, representing 20.1% of the total population, and is projected to reach 30% by 2035 [2]. This transition is occurring nearly a decade faster than the OECD average, making Korea one of the most rapidly aging countries in the world [3]. Such demographic shifts extend beyond the mere increase in the proportion of older adults, bringing with them a series of societal challenges—including a greater burden of chronic diseases, rising medical expenditures, a surge in demand for caregiving services, and declining quality of life among the elderly [4]. Although life expectancy continues to increase, the growth in healthy life expectancy remains comparatively modest, resulting in widening disparities in health-related quality of life during later years [5,20].

In 2023, the average life expectancy of Koreans was 83.5 years, while the healthy life expectancy was 66.5 years, indicating approximately 17 years lived with disease or disability [3]. These trends underscore the urgent need for multidimensional strategies aimed at improving health-related quality of life in old age.

Health-Related Quality of Life (HRQoL) among older adults is a multidimensional construct encompassing

physical, psychological, and social domains. It extends beyond mere physiological health status to include autonomy, social participation, and subjective well-being [6-8]. Previous studies have identified subjective health perception, health literacy, stress level, physical activity, and sleep patterns as key determinants directly influencing HRQoL among older adults [9, 10].

However, many of these studies have relied on general or simple random samples, limiting the representativeness of their findings and neglecting the complex sampling errors inherent in large-scale survey designs. The Korea National Health and Nutrition Examination Survey (KNHANES), which employs a complex sample design incorporating stratification, clustering, and weighting, provides nationally representative and statistically reliable data [11,19].

Furthermore, in the aftermath of the COVID-19 pandemic, declines in physical activity, increased stress, and heightened social isolation among older adults have emerged as critical risk factors affecting HRQoL [12,21]. Therefore, analyzing the most recent data from the ninth KNHANES (Year 2, 2023) to identify factors influencing HRQoL among older adults is both timely and of significant academic and practical value.

Accordingly, this study aims to examine the effects of subjective health perception and health literacy on the health-related quality of life of older adults using multiple regression analysis that accounts for the complex sample structure. The findings are expected to provide empirical evidence to enhance HRQoL among Korean older adults and offer foundational data for future policy development and the design of health promotion programs targeting this population.

1. Purpose of the study

The purpose of this study is to analyze the effects of subjective health perception and health literacy on the Health-Related Quality of Life (HRQoL) of older adults in Korea. By doing so, the study seeks to provide empirical evidence to support strategies for improving HRQoL among older adults and to offer foundational data for the development of future public health policies and health promotion programs targeting this population.

Ⅱ. Research Methods

1. Research designs

This study is a secondary data analysis that utilized raw data from the 2023 second year of the ninth Korea National Health and Nutrition Examination Survey (KNHANES IX-2). The purpose was to investigate the effects of subjective health perception and health literacy on the Health-Related Quality of Life (HRQoL) among older adults.

2. Study participants

Data for this study were drawn from the 2023 KNHANES IX-2 dataset. The KNHANES employs a two-stage stratified cluster sampling method, in which survey districts and households serve as the first- and second-stage sampling units, respectively.

Stratification is based on administrative region (metropolitan city, urban, or rural area) and housing type (general house or apartment), with implicit stratification variables including the proportion of residential area, age of household head, and proportion of single-person households.

Within each selected sampling district, 25 households were chosen as sample households, excluding special facilities such as nursing homes, military bases, and prisons, as well as households of foreign nationals. All household members aged one year or older in the selected households were eligible to participate. Of the 6,929 total respondents in the 2023 KNHANES dataset, 1,836 were aged 65 years or older.

After excluding 266 cases with incomplete or unreliable responses, a total of 1,570 older adults were included in the final analysis.

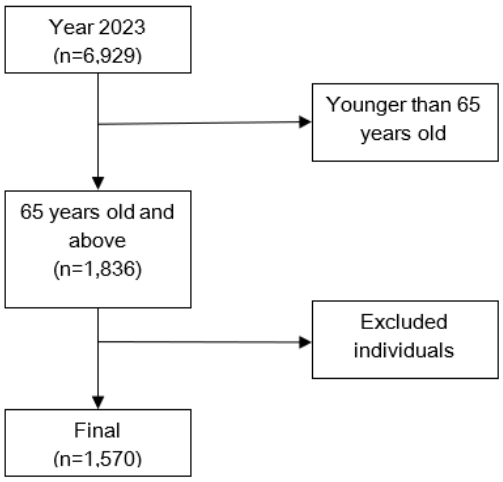

Figure 1. Selection of study participants

1.Research instruments

This study utilized raw data from the 2023 second year of the ninth Korea National Health and Nutrition Examination Survey (KNHANES IX-2). The main variables were defined and measured according to the objectives of this study, as follows.

- **General characteristics**

General characteristics included gender, age, housing ownership, marital status, private health insurance enrollment, physician-diagnosed chronic diseases (hypertension, dyslipidemia, diabetes mellitus, and kidney disease), hospitalization experience within the past year, educational level, economic activity, self-perceived body image, perceived stress level, frequency of muscle-strengthening exercise, and sleep status.

All variables were measured based on the items from the 2023 KNHANES questionnaire. Gender was categorized as male or female. Housing ownership was classified as "none," "one house," or "two or more houses." Marital status was divided into "married" and "unmarried." Educational attainment was categorized as "no formal education," "elementary school or lower," "middle school," "high school," "2–3-year college," "4-year university," and "graduate school or higher." Self-perceived body image was assessed on a five-point scale ranging from "very thin" to "very obese." Perceived stress was measured on a four-point scale from "very much" to "almost none." Sleep status was classified as "normal sleep" or "problematic sleep." The frequency of muscle-strengthening exercise was measured by the number of days per week participants engaged in such activity. Private health insurance enrollment, physician-diagnosed chronic diseases (hypertension, dyslipidemia, diabetes mellitus, and kidney disease), hospitalization experience within the past year, and economic activity were coded as binary variables ("yes" or "no").

- **Subjective health perception**

Subjective health perception was assessed using the KNHANES survey item, "How would you rate your overall health?" Responses were recorded on a five-point Likert scale ranging from "very good" to "very poor." This single-item measure of subjective health perception from the KNHANES questionnaire has been widely validated in previous studies as a key cognitive determinant of Health-Related Quality of Life (HRQoL) among older adults [9, 10].

- **Health literacy**

Health literacy was measured using the Korean Health Literacy Scale for KNHANES, originally developed by [13]. The instrument consists of 10 items rated on a four-point Likert scale, with response options ranging from 1 ("strongly disagree") to 4 ("strongly agree"). It comprises four subdomains: disease prevention (3 items), health promotion (1 item), health management (4 items), and resource utilization (2 items). Total scores range from 10 to 40, with higher scores indicating a greater ability to understand and use health-related information. The reliability of the instrument was supported by a Cronbach's α of .87 in the original study [14], and the current study demonstrated

similar internal consistency (Cronbach's α = .89).

- **Health-Related Quality of Life (HRQoL)**

Health-related quality of life was measured using the Health-related Quality of Life Instrument with 8 Items (HINT-8), developed by the Korea Disease Control and Prevention Agency (KDCA). The HINT-8 is a validated, Korea-specific measure designed to assess physical, mental, and social functioning. It consists of eight items evaluating the following domains: climbing stairs, pain, vitality, work performance, depression, memory, sleep, and happiness. Each item is rated on a four-point Likert scale, with higher scores indicating a higher level of health-related quality of life. In this study, HRQoL index scores were calculated using the weighted conversion values provided by the KDCA. The HINT-8 has been validated for use among older Korean populations, demonstrating strong reliability and construct validity, and has been applied in previous empirical studies [15].

2.Data analysis

All data analyses were performed using SPSS Statistics version 23.0, with the level of statistical significance set at $p < .05$. Descriptive statistics and frequency analyses were conducted to examine the general characteristics of the participants using data from the ninth Korea National Health and Nutrition Examination Survey (KNHANES IX-2, 2023). Differences in Health-Related Quality of Life (HRQoL) according to demographic characteristics were analyzed using complex-sample t-tests and analysis of variance (ANOVA). To identify factors influencing HRQoL, multiple regression analysis based on the complex-sample design was performed.

Ethical considerations

This study was reviewed and exempted from ethical approval by the Institutional Review Board (IRB) of W University (Approval No. ABN01-202510-HR-058).

Data were obtained from the 2023 second year of the ninth Korea National Health and Nutrition Examination Survey (KNHANES IX-2) after agreeing to the data-use regulations on the Korea Disease Control and Prevention Agency (KDCA) website. KNHANES 제9기 2차년도(2023).

The KNHANES data were downloaded in accordance with official procedures, including submission of researcher information, statement of research purpose, and agreement to comply with the KDCA's data-management policy.

The KNHANES dataset contains only anonymized identification numbers and does not include any personally identifiable information, ensuring participant confidentiality and data security.

All raw data, questionnaires, and codebooks were accessed through the KDCA website(www.kdca.go.kr) after completing the required registration and approval process for research use.

Ⅲ. Results

1.General characteristics of participants: A total of 1,570 older adults were included in the study. Among them, 44.4% were men and 55.6% were women. Regarding housing ownership, 63.3% owned one house, 12.5% owned two or more houses, and 24.2% did not own a home. In terms of marital status, the majority were married (99.0%), while 1.0% were unmarried. A total of 62.0% were enrolled in private health insurance, whereas 38.0% were not.

With respect to health-related characteristics, 43.6% had been diagnosed with hypertension, 53.8% with dyslipidemia, 77.8% with diabetes mellitus, and 96.0% with kidney disease. In the previous year, 12.8% had experienced hospitalization, while 87.2% had not. Regarding educational attainment, 31.2% had completed elementary school or less, followed by high school graduates (23.8%) and middle school graduates (23.4%). In terms of economic activity, 39.3% of participants were engaged in income-generating work, while 60.7% were not economically active.

Self-perceived body image was reported as "average" by 43.1% of participants, followed by "slightly overweight" (30.7%) and "slightly underweight" (15.1%). Regarding perceived stress, more than half of the respondents (57.4%) reported "feeling a little stressed," while 28.0% reported "rarely feeling stressed." For muscle-strengthening activity, exercising once per week was the most common

pattern (73.9%). Sleep status was almost evenly distributed, with 49.8% reporting normal sleep and 50.2% reporting sleep problems. In terms of subjective health perception, "average" was the most frequent response (47.3%), followed by "good" (19.8%) and "poor" (19.0%). The proportions of respondents reporting "very good" and "very poor" health were both approximately 7%. (Table 1).

Table 1. Frequency of general characteristics (n=1570)

		n	(%)
Gender	Male	702	44.4
	Female	868	55.6
Home ownership	No	382	24.2
	One house	996	63.3
	Two or more houses	192	12.5
Marital status	Married	1553	99
	Unmarried	17	1
Private health insurance	Yes	971	62
	No	599	38
Physician-diagnosed hypertension	Yes	694	43.6
	No	876	56.4
Physician-diagnosed dyslipidemia	Yes	846	53.8
	No	724	46.2
Physician-diagnosed diabetes mellitus	Yes	1221	77.8
	No	349	22.2
Physician-diagnosed kidney disease	Yes	1512	96
	No	58	4
Hospitalization within the past year	Yes	198	12.8
	No	1372	87.2
Education level	No formal education	106	7.4
	Elementary school or less	506	31.2
	Middle school	368	23.4
	High school	380	23.8
	2–3-year college	56	3.6
	4-year university	108	7.7
	Graduate school or higher	46	2.9
Economic activity	Yes	625	39.3
	No	945	60.7
Self-perceived body image	Very thin	79	5.1
	Slightly thin	239	15.1
	Average	661	43.1
	Slightly obese	496	30.7
	Very obese	95	5.9
Perceived stress level	Very high	42	2.6

	High	192	12.1
	Moderate	911	57.4
	Low	425	28
Days of muscle-strengthening exercise per week	1 day	1157	73.9
	2 days	22	1.2
	3 days	54	3.5
	4 days	74	4.9
	5 days	37	2.4
	6 days	226	14
Sleep status	Normal sleep	782	49.8
	Problematic sleep	788	50.2
Subjective health perception	Very good	104	7
	Good	305	19.8
	Average	760	47.3
	Poor	296	19
	Very poor	105	6.9

Unweighted frequency (weighted %)

2.Descriptive statistics of key variables by general characteristics

Table 2. Descriptive statistics of general characteristics (n=1570)

	M±SE
Age (years)	72.40±0.16
Health-Related Quality of Life (HRQoL)	0.77±0.01
Health Literacy	27.56±0.21
Average Sleep Duration (hours)	6.53±0.04
Days of Muscle-Strengthening Exercise per Week	2.03±0.05

Estimated mean standardized error

The mean age of participants was 72.40 years

(±0.16). The average Health-Related Quality of Life (HRQoL) score was 0.77 (±0.01). The mean health literacy score was 27.56 (±0.21), indicating a moderate level of health information comprehension. The average daily sleep duration was 6.53 hours (±0.04), and participants engaged in muscle-strengthening exercises an average of 2.03 days (±0.05) per week (Table 2).

3.Differences in health-related quality of life according to general characteristics

Analysis using complex-sample t-tests and ANOVA revealed significant differences in Health-Related Quality of Life (HRQoL) according to gender, housing ownership, private health insurance enrollment, hospitalization within the past year, education level, economic activity, self-perceived body image, perceived stress level, sleep status, and subjective health perception (p<.05). The mean HRQoL score for men (0.79 ± 0.01) was significantly higher than that for women (0.75 ± 0.01, p < .001). Participants who owned one house (0.78 ± 0.01) or two or more houses (0.79 ± 0.01) had higher HRQoL than those without housing (0.74 ± 0.01, p < .001). Similarly, those enrolled in private health insurance (0.78 ± 0.01) showed higher HRQoL than non-enrollees (0.75 ± 0.01, p < .001).

Participants who had been hospitalized within the past year (0.73 ± 0.01) reported lower HRQoL compared to those without hospitalization (0.78 ± 0.01, p < .001). HRQoL increased significantly with education level, with the highest scores observed among participants with graduate-level education (0.83 ± 0.01, p < .001). Economically active older adults (0.79 ± 0.01) demonstrated higher HRQoL than those not engaged in economic activity (0.76 ± 0.01, p < .001). Participants who perceived their body

type as “average” (0.78 ± 0.01) had higher HRQoL than those who perceived themselves as “very thin” (0.72 ± 0.01) or “very obese” (0.74 ± 0.01). HRQoL was also significantly associated with perceived stress: participants reporting “very high stress” had the lowest HRQoL (0.66 ± 0.03), whereas those reporting “almost no stress” had the highest (0.81 ± 0.01, p < .001).

Participants with sleep problems (0.76 ± 0.01) reported lower HRQoL than those with normal sleep (0.78 ± 0.01, p < .001). Finally, HRQoL varied markedly by subjective health perception. Those who rated their health as “very good” had the highest HRQoL (0.85 ± 0.01), whereas those reporting “very poor” health had the lowest (0.64 ± 0.01, p < .001) (Table 3).

These findings, based on weighted estimates from complex-sample analyses, highlight the substantial impact of perceptual and behavioral health factors on differences in HRQoL among older adults.

Table 3. Frequency of general characteristics (n=1570)

		M	SD	t or F	*p*	Post-hoc Comparison
Gender	Male	0.79	0.01	6.492	<.001	
	Female	0.75	0.01			
Home ownership	None[a]	0.74	0.01	9.197	<.001	b,c>a
	One house[b]	0.78	0.01			
	Two or more houses[c]	0.79	0.01			
Marital status	Married	0.77	0.01	-1.065	0.288	
	Unmarried	0.78	0.03			
Private health insurance	Yes	0.78	0.01	5.704	<.001	
	No	0.75	0.01			
Physician-diagnosed hypertension	Yes	0.78	0.01	1.531	0.127	
	No	0.77	0.01			
Physician-diagnosed dyslipidemia	Yes	0.78	0.01	1.748	0.081	
	No	0.77	0.01			
Physician-diagnosed diabetes mellitus	Yes	0.77	0.01	1.837	0.067	
	No	0.76	0.01			
Physician-diagnosed kidney disease	Yes	0.77	0.01	-0.159	0.873	
	No	0.77	0.01			
Hospitalization within past year	Yes	0.73	0.01	-4.237	<.001	
	No	0.78	0.01			
Education level	No formal education	0.7	0.02	19.459	<.001	e,f,g>b,c,d>a
	Elementary or less[b]	0.75	0.01			
	Middle school	0.76	0.01			
	High school[d]	0.8	0.01			

	2–3-year college	0.81	0.01			
	4-year university	0.81	0.01			
	Graduate or higher	0.83	0.01			
Economic activity	Yes	0.79	0.01	4.627	<.001	
	No	0.76	0.01			
Self-perceived body image	Very thin[a]	0.72	0.01	8.451	<.001	c>a,e
	Slightly thin[b]	0.76	0.01			
	Average[c]	0.78	0.01			
	Slightly obese[d]	0.77	0.01			
	Very obese[e]	0.74	0.01			
Perceived stress level	Very high[a]	0.66	0.03	39.211	<.001	c,d>a,b
	High[b]	0.71	0.01			
	Moderate[c]	0.77	0.01			
	Low[d]	0.81	0.01			
Sleep status	Normal sleep	0.78	0.01	4.876	<.001	
	Problematic sleep	0.76	0.01			
Subjective health perception	Very good[a]	0.85	0.01	94.13	<.001	a,b>c,d,e
	Good[b]	0.83	0.01			
	Average[c]	0.78	0.01			
	Poor[d]	0.71	0.01			
	Very poor[e]	0.64	0.01			

4.Factors influencing health-related quality of life

Results of the complex-sample multiple regression analysis revealed that gender, housing ownership, private health insurance enrollment, hospitalization within the past year, education level, economic activity, perceived stress level, subjective health perception, frequency of muscle-strengthening exercise, and health literacy were significant predictors of Health-Related Quality of Life (HRQoL) (p<.05). Male participants reported significantly higher HRQoL than females (β=0.013, p=.017). Participants who owned one house (β=0.016, p=.011) or two or more houses (β=0.021, p=.013) had higher HRQoL than those without housing. Similarly, those enrolled in private health insurance demonstrated higher HRQoL compared to non-enrollees (β=0.011, p=.019). In contrast, individuals who had been hospitalized within the past year reported lower HRQoL (β=−0.020, p=.039).

Education level was positively associated with HRQoL, with the highest effect observed among participants with graduate-level education (β=0.065, p<.001). Economically active older adults also exhibited higher HRQoL compared to their non-working counterparts (β=0.016, p=.003). Perceived stress was inversely related to HRQoL (β=−0.036 to −0.114, p<.001), indicating that greater stress perception corresponded to lower HRQoL. Subjective health perception showed a strong positive relationship with HRQoL, with all categories except “very poor” demonstrating significant effects (β=0.053–0.146, p<.001). Participants who rated their health as “very good” exhibited the greatest impact on HRQoL (β=0.146). In addition, the frequency of muscle-strengthening exercise (β=0.004, p<.001) and health literacy (β=0.002,

p<.001) were found to have significant positive effects on HRQoL.

These findings, derived from regression models accounting for the complex sampling design, suggest that both objective health resources (e.g., education, economic activity) and subjective cognitive factors (e.g., perceived stress, subjective health perception) play critical roles in explaining variations in HRQoL among older adults (Table 4).

Table 4. Factors influencing health-related quality of life

Factor	Variable	Category	B	SE	t	*p*
Gender	Male		0.013	0.005	2.395	0.017
	Female	reference				
Home ownership	None	reference	0	0	0	0
	One house		0.016	0.006	2.546	0.011
	Two or more houses		0.021	0.008	2.486	0.013
Private health insurance	Yes		0.011	0.005	2.357	0.019
	No	reference	0	0	0	0
Hospitalization within the past year	Yes		-0.02	0.01	-2.073	0.039
	No	reference	0	0	0	0
Education level	No formal education	reference	0	0	0	0
	Elementary school or less		0.039	0.014	2.826	0.005
	Middle school		0.04	0.014	2.966	0.003
	High school		0.056	0.013	4.343	<.001
	2–3-year college		0.054	0.015	3.73	<.001
	4-year university		0.051	0.015	3.349	0.001
	Graduate school or higher		0.065	0.017	3.78	<.001
Economic activity	Yes		0.016	0.005	2.991	0.003
	No	reference	0	0	0	0
Self-perceived body image	Very thin		-0.027	0.017	-1.583	0.114
	Slightly thin		0.004	0.013	0.322	0.748
	Average		0.006	0.012	0.533	0.594
	Slightly obese		0.001	0.012	0.061	0.951
	Very obese	reference	0	0	0	0
level	Very high		-0.114	0.028	-4.037	<.001
	High		-0.072	0.011	-6.843	<.0001
	Moderate		-0.036	0.006	-6.458	<.001
	Low	reference	0	0	0	0
Sleep status	Normal sleep	reference	0	0	0	0
	Problematic sleep		-0.008	0.005	-1.683	0.093
Subjective health perception	Very good		0.146	0.015	9.53	<.001
	Good		0.135	0.012	10.831	<.001
	Average		0.1	0.012	8.417	<.001
	Poor		0.053	0.014	3.865	<.001

	Very poor	reference	0	0	0	0
Days of muscle-strengthening exercise per week			0.004	0.001	4.202	<.001
Health literacy			0.002	0.001	3.565	<.001

Ⅳ. Discussion

Although the life expectancy of older adults has increased, this rise has not been accompanied by a proportional extension in healthy life expectancy. Consequently, a decline in Health-Related Quality of Life (HRQoL) during old age has become more pronounced. This trend underscores the need for an integrated approach that goes beyond disease prevention to address the physical, psychological, and social dimensions of health. The present study utilized data from the 2023 second year of the ninth Korea National Health and Nutrition Examination Survey (KNHANES IX-2) to examine the effects of subjective health perception and health literacy on HRQoL among older adults. Through this analysis, the study aimed to provide empirical evidence to inform geriatric health policy and nursing interventions designed to enhance the quality of life in later years.

In this study, higher levels of subjective health perception were significantly associated with Higher Health-Related Quality of Life (HRQoL) (β=0.053–0.146, p<.001). This finding indicates that individuals who perceive their health more positively experience greater quality of life, regardless of their actual physical condition. This result aligns with Hwang et al. [9], who reported that subjective health perception was a strong determinant of physical, psychological, and social aspects of HRQoL among older adults. Similarly, Bidkhori et al. [7] found that perceived physical functioning explained HRQoL more effectively than objective measures of physical health. These findings suggest that subjective health perception reflects not merely a self-assessment of health but also a measure of self-efficacy and psychological resilience in later life. Therefore, strategies that enhance older adults' positive perceptions of their own health may serve as a key component in improving HRQoL.

Health literacy showed a significant positive effect on Health-Related Quality of Life (HRQoL) (β=0.002, p<.001). This finding is consistent with Kim et al. [10], who reported that even among older adults with cognitive decline, higher levels of health literacy were associated with better HRQoL. Similarly, Yoon [13] found that individuals with higher health literacy demonstrated greater engagement in preventive health behaviors, disease management, and utilization of healthcare resources. Health literacy extends beyond the cognitive ability to interpret information; it encompasses the practical capacity to understand one's health status and to translate that understanding into appropriate health behaviors. Therefore, it is essential to develop tailored health education and self-management programs that account for older adults' linguistic and cognitive levels. Moreover, the effectiveness of such programs will be maximized when they emphasize not only short-term knowledge acquisition but also the long-term maintenance of healthy behaviors, ultimately enhancing HRQoL.

Higher levels of perceived stress were associated with lower Health-Related Quality of Life (HRQoL) (β=−0.036 to −0.114, p<.001). This finding is consistent with Lopez et al. [8], who reported that emotional distress significantly reduces quality of life among older adults. Similarly, Lestari et al. [6] emphasized that social support and social participation play vital roles in alleviating stress in later life. These findings suggest that emotional stability in old age is not merely a psychological factor, but a critical determinant directly linked to the maintenance of healthy behaviors and physical functioning. Therefore, stress management interventions, emotional support systems, and programs that promote active social engagement should be implemented to foster psychological well-being and enhance overall HRQoL among older adults.

Higher levels of education and participation in economic activity were both associated with greater Health-Related Quality of Life (HRQoL) (p<.001). This finding is consistent with previous domestic studies, including subgroup analyses of older women and low-income populations, which also demonstrated positive associations between education, employment, income, and HRQoL [16]. In addition,

results from the Korean Longitudinal Study of Aging (KLoSA) indicated that employed older adults exhibited superior quality-of-life trajectories compared to their unemployed counterparts, further supporting the present findings [17].

The number of days per week spent performing muscle-strengthening exercises was significantly and positively associated with Health-Related Quality of Life (HRQoL) (β=0.004, p<.001). This result supports the findings of Son et al. [18], who also reported a positive association between the frequency of resistance exercise and HRQoL among older adults. Muscle-strengthening activities provide multiple benefits—including enhanced functional independence, pain reduction, and emotional stability—and therefore represent an effective strategy for improving HRQoL in the elderly population.

Ⅴ. Conclusion and Recommendations

This study examined the effects of subjective health perception and health literacy on Health-Related Quality of Life (HRQoL) among older adults using data from the 2023 second year of the ninth Korea National Health and Nutrition Examination Survey (KNHANES IX-2). Results from the complex-sample multiple regression analysis identified subjective health perception, health literacy, perceived stress, education level, economic activity, and frequency of muscle-strengthening exercise as significant predictors of HRQoL. Specifically, older adults with more positive subjective health perceptions exhibited higher HRQoL, while higher education levels were associated with better HRQoL outcomes. Conversely, greater stress levels were related to lower HRQoL. Furthermore, individuals with higher health literacy demonstrated superior HRQoL, suggesting that quality of life in old age depends less on the mere presence or absence of disease and more on how individuals perceive their health, understand and apply health information, and manage stress. These findings highlight that cognitive factors (e.g., health literacy) and emotional factors (e.g., subjective health perception) operate complementarily as key determinants of HRQoL among older adults.

Based on these results, future research should model the interaction (moderation or mediation) between health literacy and subjective health perception to clarify how these two variables jointly influence Health-Related Quality of Life (HRQoL). Additionally, employing longitudinal data would allow for an examination of temporal trends in HRQoL and provide stronger causal evidence regarding the relationships identified in this study.

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Conflict of interest:

None

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