

Associations of type and intensity of social participation with depression, self-rated health, and life satisfaction among community-dwelling older adults in the Republic of Korea: a nationwide cross-sectional study

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ABSTRACT

Objectives: Social activities are important and influential factors for healthy aging. However, limited information is available regarding the associations of the type and intensity of social participation with health and well-being. This study aimed to investigate how various types of social activities are associated with several dimensions of health outcomes.

Methods: This cross-sectional study utilized data from the Seventh Korean Longitudinal Study of Aging, which included 5,526 adults aged 60 years and older. Multivariate linear regression analysis was employed to analyze the associations of social activities with depression, self-rated health, and life satisfaction. Additionally, subgroup analyses by sex and age were performed.

Results: Among the participants, 73.5% reported involvement in at least 1 of the 4 types of social engagement. After adjustment for all covariates, individuals who participated in any social activity reported better self-rated health and higher life satisfaction compared to those who did not participate. However, the intensity of engagement in different social activities had varying impacts on subjective health outcomes. An increased level of participation was associated with a lower rate of depression and improved self-rated health. However, no significant differences were observed in the relationship between the intensity of participation in activities (with the exception of alumni societies or family councils) and life satisfaction.

Conclusion: This study suggests that to improve their health, older adults in the Republic of Korea should not only engage in social activities but also do so actively and regularly.

Keywords: Depression; Health status; Older adults; Personal satisfaction; Social participation

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Introduction

In 2022, the Republic of Korea became an aged society, with individuals aged 65 years and

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older comprising 17.5% of its total population. The nation is expected to transition to a super-aged society by 2025, when this proportion is projected to exceed 20% [1]. The life expectancy in the Republic of Korea has risen to 82.7 years, placing it 10th among Organization for Economic Cooperation and Development countries [2]. However, 89.5% of those aged 65 years or older are physically ill and receive treatment in hospitals [3].

Social participation is considered one of the most important and influential factors in promoting healthy aging [4]. Among older people, social participation is associated with increased life expectancy, as it extends the duration of good health and promotes appropriate social integration [5]. Thus, the World Health Organization has recommended the implementation of active aging policies to improve the health, participation, and security of older adults [6].

According to the activity theory of aging, engaging in physical and mental activities is crucial for the psychological well-being of older adults [7]. Involvement in a variety of social practices, such as sports and cultural pastimes, has been linked to greater life satisfaction and mental health among this demographic. Active involvement in social activities not only has a beneficial impact on mental health by reducing depression and increasing happiness, but also improves subjective physical health and is associated with lower mortality [2,8–13]. However, any potential detrimental effects of older adults' participation in various social activities are unclear. Furthermore, research has not yet definitively indicated whether a directly proportional relationship exists between the intensity of participation in social activities and the health of older adults.

Studies of the relationship between social activities and the health of older people in the Republic of Korea have focused on their involvement in religious and leisure activities [14–17]. However, few studies have explored the relationships between health and social activities by type, such as religious, volunteer, and leisure activities [18–20]. Consequently, it is necessary to examine the specific aspects of health influenced by each type of activity and to understand the differences in their effects, considering the type and nature of social participation, before the Republic of Korea becomes an aging society.

Several studies of East Asian elderly populations have explored the relationship between instrumental activities of daily living (IADLs), depression, and life satisfaction. The findings suggest that several factors positively influence IADLs; furthermore, depression and life satisfaction are associated with political and religious activities but are not significantly linked to civil activities, arts, sports, or

HIGHLIGHTS

- Social participation is considered one of the most important and influential factors in the healthy aging of older adults.
- Engagement in specific social activities, such as sports and cultural pursuits, has also been associated with life satisfaction and mental health within this demographic.
- Increased intensity of participation in a variety of social activities was significantly related to depression and self-rated health, but not life satisfaction.

leisure pursuits [21–23]. While research on the effects of social activities on the physical health, mental health, and cognitive function of older adults has generally not been differentiated by sex or age group, the role and impact of social participation may vary based on these factors. Therefore, multiple explanations and interpretations could be necessary. Addressing this gap in knowledge, the present study investigates how different types and levels of social activity participation relate to 3 key health and well-being indicators in older adults: self-rated health, depressive symptoms, and life satisfaction.

Materials and Methods

Data and Participants

The present study utilized data from the Korean Longitudinal Study of Aging (KLoSA), which is administered by the Korea Employment Information Service (KEIS). The KLoSA is a nationally representative panel survey of the household-dwelling population of the Republic of Korea aged 45 years and older, employing a multistage, stratified probability sampling method [24]. The baseline survey, conducted in 2006, included interviews with 10,254 individuals across 6,171 households. Subsequent interviews were carried out biennially through 2018, encompassing a total of 7 survey waves. Of the 6,940 participants in the seventh KLoSA in 2018, our analysis incorporated data from 5,526 respondents.

Variables and Measurements

Depression was assessed using the 10-item short form of the Center for Epidemiological Studies Depression Scale, a tool commonly employed to identify depression in non-psychiatric community settings [25,26]. Participants responded to the 10 items using a 4-point Likert scale. The

scoring for each item ranged from 0 to 3, with the following designations: 0 for “very rarely or less than once a day”; 1 for “sometimes (1–2 days in the past week)”; 2 for “often (3–4 days in the past week)”; and 3 for “almost always (5–7 days in the past week)”. The total score varied from 0 to 30, with higher scores reflecting greater severity of depression.

Self-rated health was assessed with the question, “Would you say your health is very good, good, fair, poor, or very poor?” For analytical purposes, continuous variables were generated by assigning point values to the responses, with 1 representing “very poor” and 5 indicating “very good”.

Life satisfaction was evaluated using 5 questions. These items covered overall quality of life, economic status, health, and relationships with one’s children and spouse, selected to offer a thorough assessment of quality of life. The measurement instrument employed was an 11-point scale with 10-unit intervals, ranging from 0 to 100 units, with higher scores signifying greater well-being.

Social participation was defined as involvement in social groups beyond one’s home. For the purposes of this study, social participation was divided into 4 categories: religious activities, activities at senior centers, leisure/cultural/sports activities, and participation in alumni societies or family councils. Participants were asked to rate the frequency of their involvement in each type of activity using a 10-point scale, where 0 indicated “never,” 1 “almost never,” 2 “less than once a year,” 3 “1–2 times a year,” 4 “3–4 times a year,” 5 “5–6 times a year,” 6 “once a month,” 7 “twice a month,” 8 “once a week,” 9 “2–3 times a week,” and 10 “every day or almost every day.”

In this study, 2 types of social activity variables were utilized. As the frequency of participation in formal social activities did not follow a normal distribution, the first variable was categorized dichotomously as either participation or non-participation. We then aggregated the total number of formal social activities for each respondent to quantify the extent of social participation.

Sociodemographic covariates included sex (male or female), age, educational status (middle school or less, high school or more), marital status (married, widowed/divorced/never married), and residential area (urban or rural). Health-related behavior covariates encompassed regular exercise (yes or no). The number of chronic diseases was determined based on self-reported clinical diagnoses of 9 health conditions: hypertension, diabetes, cancer, chronic lung disease, chronic hepatitis, cardiovascular disease, cerebrovascular disease, mental illness, and arthritis. The number of these conditions was categorized as 0, 1, or 2 or more. Living arrangements were classified into 2 groups: living alone or living with family, which could include a

spouse. Household income was calculated by dividing the total household income by the square root of the number of household members, with the resulting values segmented into quartiles. Economic activity was ascertained using the question, “Are you currently employed?” In this context, employment referred to working for an employer, being self-employed, or working for a family or relative’s business, with potential responses of “yes” or “no”.

Statistical Analysis

The general characteristics of the samples were summarized using frequencies, percentages, and means (with standard deviations) for demographic factors, socioeconomic status, health indicators, and types of social participation, categorized by sex and age group. F-tests and t-tests were employed to compare mean differences in depression, self-rated health, and life satisfaction across these variables. Multivariate linear regression modeling was employed to examine the relationship between social participation and the outcome variables, adjusting for all covariates. Additionally, multivariate linear regression analysis was conducted separately for subgroups defined by age and sex. Statistical analyses were performed using SAS ver. 9.4 (SAS Institute Inc.). All tests were 2-tailed, with an alpha threshold of 0.05.

Ethical Consideration

This study was exempt from Institutional Review Board of Chung-Ang University (IRB No. 1044396-202203-HR-073-01) as all data are publicly available. Informed consent to participate in the survey was obtained from all respondents during the data collection by the KEIS. Formal consent was not required for this study because it was retrospective and utilized secondary data that were analyzed anonymously.

Results

The characteristics of the study population are summarized in Table 1. Among the participants, 58.1% were between 60 and 74 years old, 57.4% were female, 47.0% had received a primary school education or less, and 30.7% belonged to the lowest quartile in terms of annual household income.

More than three-quarters of the participants engaged in at least 1 social activity. The most common form of participation occurred at senior centers, with 60.6% of participants reporting engagement. The 60 to 74 age group displayed a higher rate of involvement in senior center activities (69.4%) and alumni society or family council activities (17.8%) than those 75 years old or above, who participated at rates of 48.4% and 5.6%, respectively. Women’s participation in religious

Table 1. Descriptive statistics of sample

Variable	Sample distribution (n = 5,527)	60–74 y (n = 3,211)	≥75 y (n = 2,316)	Male (n = 2,353)	Female (n = 3,174)
Age (y)					
60–74	3,211 (58.1)			1,447 (61.5)	1,764 (55.6)
≥75	2,316 (41.9)			906 (38.5)	1,410 (44.4)
Sex					
Male	2,353 (42.6)	1,447 (45.1)	906 (39.1)		
Female	3,174 (57.4)	1,764 (54.9)	1,410 (60.9)		
Educational level					
Elementary school or under	2,596 (47.0)	1,007 (31.4)	1,589 (68.6)	668 (28.4)	1,928 (60.7)
Middle school graduate	973 (17.6)	697 (21.7)	276 (11.9)	441 (18.7)	532 (16.8)
High school graduate	1,452 (26.3)	1,139 (35.5)	313 (13.5)	851 (36.2)	601 (18.9)
College and above	506 (9.2)	368 (11.5)	138 (6.0)	393 (16.7)	113 (3.6)
Marital status					
Married	3,972 (71.9)	2,674 (83.3)	1,298 (56.0)	2,124 (90.3)	1,848 (58.2)
Widowed/unmarried/divorced	1,555 (28.1)	537 (16.7)	1,018 (44.0)	229 (9.7)	1,326 (41.8)
Household income					
Q1 (lowest)	1,699 (30.7)	553 (17.2)	1,146 (49.5)	565 (24.0)	1,134 (35.7)
Q2	1,652 (29.9)	1,001 (31.2)	651 (28.1)	722 (30.7)	930 (29.3)
Q3	1,275 (23.1)	967 (30.1)	308 (13.3)	604 (25.7)	671 (21.1)
Q4 (highest)	901 (16.3)	690 (21.5)	211 (9.1)	462 (19.6)	439 (13.8)
Living arrangement					
Alone	1,011 (18.3)	366 (11.4)	645 (27.8)	179 (7.6)	832 (26.2)
With someone	4,516 (81.7)	2,845 (88.6)	1,671 (72.2)	2,174 (92.4)	2,342 (73.8)
Economic activity (paid labor)					
Yes	1,620 (29.3)	1,333 (41.5)	287 (12.4)	986 (41.9)	634 (20.0)
No	3,907 (70.7)	1,878 (58.5)	2,029 (87.6)	1,367 (58.1)	2,540 (80.0)
Residential area					
Urban	4,020 (72.7)	2,452 (76.4)	1,568 (67.7)	1,729 (73.5)	2,291 (72.2)
Rural	1,507 (27.3)	759 (23.6)	748 (32.3)	624 (26.5)	883 (27.8)
Regular exercise					
Yes	1,800 (32.6)	1,178 (36.7)	622 (26.9)	888 (37.7)	912 (28.7)
No	3,727 (67.4)	2,033 (63.3)	1,694 (73.1)	1,465 (62.3)	2,262 (71.3)
No. of chronic diseases					
2 or more	2,610 (47.2)	1,172 (36.5)	1,438 (62.1)	1,034 (43.9)	1,576 (49.7)
0 or 1	2,917 (52.8)	2,039 (63.5)	878 (37.9)	1,319 (56.1)	1,598 (50.3)
Participation in any social activity					
No	1,464 (26.5)	533 (16.6)	931 (40.2)	550 (23.4)	914 (28.8)
Yes	4,063 (73.5)	2,678 (83.4)	1,385 (59.8)	1,803 (76.6)	2,260 (71.2)
Participation in religious activity	1.04 ± 2.68	1.11 ± 2.78	0.94 ± 2.59	0.75 ± 2.32	1.25 ± 2.90
No	4,770 (86.3)	2,736 (85.2)	2,034 (87.8)	2,119 (90.1)	2,651 (83.5)
Yes	757 (13.7)	475 (14.8)	282 (12.2)	234 (9.9)	523 (16.5)
Participation in senior center activity	4.17 ± 3.63	4.48 ± 3.22	3.75 ± 4.08	4.28 ± 3.44	4.09 ± 3.75
No	2,176 (39.4)	982 (30.6)	1,194 (51.6)	840 (35.7)	1,336 (42.1)
Yes	3,351 (60.6)	2,229 (69.4)	1,122 (48.4)	1,513 (64.3)	1,838 (57.9)
Participation in in leisure/cultural/sports activity	0.43 ± 1.84	0.49 ± 1.93	0.35 ± 1.70	0.43 ± 1.78	0.43 ± 1.88
No	5,215 (94.4)	3,001 (93.5)	2,214 (95.6)	2,214 (94.1)	3,001 (94.5)
Yes	312 (5.6)	210 (6.5)	102 (4.4)	139 (5.9)	173 (5.5)
Participation in alumni societies or family councils	0.63 ± 1.76	0.89 ± 2.03	0.27 ± 1.21	1.00 ± 2.12	0.36 ± 1.38
No	4,828 (87.4)	2,641 (82.2)	2,187 (94.4)	1,878 (79.8)	2,950 (92.9)
Yes	699 (12.6)	570 (17.8)	129 (5.6)	475 (20.2)	224 (7.1)
Depression (0–30)	6.26 ± 5.29	5.40 ± 4.87	7.45 ± 5.60	5.77 ± 5.16	6.62 ± 5.35
Self-rated health (1–5)	2.85 ± 0.87	3.08 ± 0.81	2.53 ± 0.86	2.97 ± 0.87	2.76 ± 0.87
Satisfaction (0–100)	59.99 ± 14.8	63.23 ± 13.44	55.49 ± 15.49	61.86 ± 14.35	58.59 ± 15.03

Data are presented as n (%) or mean ± standard deviation.
Q, quartile.

activities (16.5%) was more prevalent higher than men's (9.9%). Conversely, men were more active in social pastimes such as senior center activities (64.3%) and alumni society activities (20.2%), compared to women's participation rates of 57.9% and 7.1%, respectively.

Mental health (as indicated by depressive symptoms), self-rated health, and life satisfaction were relatively poor among respondents who were widowed, unmarried, or divorced; had lower levels of education; fell within the lower income quartiles; had a greater number of comorbidities; and exercised infrequently. Regarding employment status, employed participants reported higher levels of depression and significantly lower self-rated health and life satisfaction compared to those who were not employed (Table 2).

A multivariate linear regression model was used to explore the relationship between social participation and health and well-being. In contrast to the results for self-rated health and life satisfaction, as the intensity of participation in any type of social activity increased, the risk of depression significantly decreased. Self-rated health appeared to improve with greater involvement in social activities, with the exception of religious activities. However, a positive association with the intensity of involvement in alumni societies and family councils was observed only for life satisfaction. When examining the association between social participation and each health outcome, life satisfaction and self-rated health were significantly higher in participants compared to nonparticipants, a trend that was not significant in the cases of depression (Table 3).

In the age group analysis, the intensity of social engagement was a highly significant predictor of depression. Furthermore, engaging in at least 1 social activity had a positive impact on self-rated health and satisfaction in both age groups, unlike increasing the level of participation in certain types of activities. This pattern aligned with the findings from the sex group analysis (Table 4). Specifically, greater involvement in an alumni society significantly impacted the health indicators, while participation in senior center activities positively influenced depression and self-rated health. In contrast, neither involvement nor heightened participation in religious activities significantly affected health outcomes.

Discussion

This cross-sectional study examined the associations between the types and intensities of participation in social activities and self-rated health, depression, and life satisfaction among community-dwelling older adults in the Republic of Korea.

For all types of activities studied, a dose-response relationship was observed with levels of depressive symptoms and self-rated health, although this pattern did not extend to life satisfaction. Specifically, an increase in the frequency of social activities was associated with a decrease in negative depressive symptoms and an improvement in self-rated health. These results align with prior studies that have identified a strong association between engaging in a variety of social activities in later life and better self-rated health, greater life satisfaction, and fewer depressive symptoms [2,4,9,11]. However, the significance and strength of these associations varied depending on the type of social activity, suggesting that the mechanisms by which social participation influences subjective well-being and mental health in older adults may differ across activities [27].

In terms of social engagement, depression decreased with increasing intensity of participation in all types of activities. This finding aligns with previous research indicating that, in older adults with chronic diseases, active engagement in social activities and higher levels of social support are associated with reduced depression. In other words, diminished social support and loneliness are risk factors for depression among older adults [22,28,29].

Regarding depression, the study revealed no significant sex differences. A higher intensity of social engagement was associated with a decrease in depressive feelings, which partially supports previous findings that the intensity of social engagement is inversely (albeit non-significantly) related to the frequency of negative affect, including depression [11]. Consequently, when addressing the high rates of depression and suicide among older adults, it is important to recognize that participation in social activities during old age can increase the likelihood of receiving social support through interactions with others, which reduces depression.

Unlike the results for depression, the findings for self-rated health and life satisfaction differed according to the type of social participation. Furthermore, the study revealed differences in sex and age groups regarding the associations of social activities with these outcomes.

First, participation in community-based leisure, culture, and sports group activities was associated with a lower rate of depression [4,9]. However, the positive impacts of these activities on life satisfaction and self-rated health appear to be limited [8].

Second, activities at senior centers were positively associated with self-rated health and inversely related to depressive symptoms in both older men and women, regardless of age group. However, with respect to life satisfaction, these activities demonstrated a positive association only for men and those

Table 2. Bivariate analysis of dependent variables

Variable	Depression			Self-rated health			Satisfaction		
	Mean±SD	t or F	p	Mean±SD	t or F	p	Mean±SD	t or F	p
Age (y)									
60–74	5.41±4.88	14.49	<0.001	3.09±0.81	24.26	<0.001	63.23±13.44	19.33	<0.001
≥75	7.46±5.61			2.53±0.87			55.50±15.50		
Sex									
Male	5.78±5.16	5.93	<0.001	2.97±0.87	8.7	<0.001	61.87±14.35	8.21	<0.001
Female	6.63±5.36			2.77±0.88			58.60±15.04		
Educational level									
Elementary school or under	7.16±5.46	49.73	<0.001	2.61±0.86	157.03	<0.001	55.73±15.18	163.42	<0.001
Middle school graduate	5.77±5.09			2.95±0.84			61.72±13.81		
High school graduate	5.34±4.94			3.10±0.82			63.89±13.20		
College and above	5.28±5.03			3.25±0.84			67.32±12.67		
Marital status									
Married	5.77±5.10	10.88	<0.001	2.96±0.85	14.36	<0.001	62.10±13.98	16.51	<0.001
Widowed/unmarried/divorced	7.54±5.55			2.59±0.89			54.61±15.60		
Household income									
Q1 (lowest)	7.52±5.67	55.88	<0.001	2.56±0.89	121.92	<0.001	54.20±15.73	168.96	<0.001
Q2	6.15±5.00			2.86±0.84			60.08±13.94		
Q3	5.61±5.17			3.05±0.82			63.62±13.18		
Q4 (highest)	5.05±4.76			3.13±0.83			65.62±13.01		
Living arrangement									
Alone	7.56±5.49	8.68	<0.001	2.64±0.90	8.86	<0.001	54.94±15.87	11.38	<0.001
With someone	5.98±5.20			2.90±0.87			61.12±14.36		
Economic activity (paid labor)									
Yes	4.56±4.31	17.41	<0.001	3.19±0.72	20.82	<0.001	64.96±12.23	18.0	<0.001
No	6.97±5.50			2.71±0.90			57.93±15.33		
Residential area									
Urban	6.31±5.41	1.04	0.299	2.88±0.89	4.11	<0.001	60.11±14.91	0.93	0.350
Rural	6.15±4.96			2.78±0.86			59.69±14.63		
Regular exercise									
Yes	5.17±4.67	11.43	<0.001	3.08±0.79	13.88	<0.001	63.46±13.14	12.9	<0.001
No	6.80±5.49			2.75±0.90			58.32±15.32		
No. of chronic diseases									
2 or more	7.32±5.71	14.04	<0.001	2.51±0.87	29.08	<0.001	56.45±15.34	17.1	<0.001
0 or 1	5.33±4.69			3.16±0.77			63.16±13.62		
Participation in any social activity									
No	8.66±6.05	18.63	<0.001	2.35±0.93	25.2	<0.001	52.55±16.32	21.31	<0.001
Yes	5.41±4.70			3.04±0.79			62.67±13.28		
Participation in religious activity									
No	6.42±5.32	5.55	<0.001	2.84±0.88	2.71	0.006	59.89±14.95	1.32	0.187
Yes	5.28±5.01			2.94±0.85			60.65±14.13		
Participation in senior center activity									
No	7.91±5.88	18.17	<0.001	2.53±0.94	22.13	<0.001	55.04±15.99	19.89	<0.001
Yes	5.20±4.57			3.07±0.76			63.21±13.07		
Participation in leisure/cultural/sports activity									
No	6.42±5.31	10.95	<0.001	2.84±0.88	6.87	<0.001	59.67±14.88	7.39	<0.001
Yes	3.65±4.28			3.19±0.80			65.32±12.99		
Participation in alumni societies or family councils									
No	6.57±5.31	12.46	<0.001	2.79±0.88	18.04	<0.001	58.92±14.91	16.92	<0.001
Yes	4.17±4.66			3.33±0.73			67.39±11.96		

SD, standard deviation; Q, quartile.

Table 3. Multivariate regression analysis (*n* = 5,526)

Variable	Depression				Self-rated health				Satisfaction			
	Estimate	SE	<i>t</i>	<i>p</i>	Estimate	SE	<i>t</i>	<i>p</i>	Estimate	SE	<i>t</i>	<i>p</i>
Age (y)												
60–74	Ref.				Ref.				Ref.			
≥75	0.49	0.161	3.04	0.002	−0.17	0.025	−6.9	<0.001	−1.06	0.436	−2.44	0.015
Sex												
Female	Ref.				Ref.				Ref.			
Male	0.01	0.155	0.06	0.953	0.00	0.024	−0.04	0.968	−1.19	0.418	−2.85	0.004
Educational level												
College and above	Ref.				Ref.				Ref.			
Elementary school or under	−0.21	0.275	−0.78	0.436	−0.17	0.042	−4.11	<0.001	−5.02	0.744	−6.74	<0.001
Middle school graduate	−0.45	0.282	−1.58	0.114	−0.12	0.043	−2.76	0.006	−2.76	0.764	−3.62	<0.001
High school graduate	−0.36	0.258	−1.38	0.168	−0.08	0.039	−1.96	0.050	−2.21	0.697	−3.17	0.002
Marital status (ref: married)												
Widowed/unmarried/divorced	0.38	0.225	1.69	0.091	−0.09	0.034	−2.74	0.006	−3.59	0.608	−5.9	<0.001
Household income												
Q4	Ref.				Ref.				Ref.			
Q1(lowest)	0.55	0.235	2.35	0.019	−0.12	0.036	−3.27	0.001	−5.39	0.635	−8.49	<0.001
Q2	0.23	0.214	1.06	0.288	−0.04	0.033	−1.35	0.178	−2.62	0.579	−4.52	<0.001
Q3	0.27	0.215	1.27	0.204	−0.01	0.033	−0.22	0.829	−1.03	0.582	−1.76	0.078
Living arrangement												
With someone	Ref.				Ref.				Ref.			
Alone	0.27	0.255	1.04	0.297	0.10	0.039	2.6	0.010	1.59	0.689	2.3	0.021
Economic activity												
Yes	Ref.				Ref.				Ref.			
No	1.61	0.163	9.85	<0.001	−0.23	0.025	−9.14	<0.001	−3.12	0.442	−7.05	<0.001
Residential area												
Urban	Ref.				Ref.				Ref.			
Rural	−0.32	0.156	−2.04	0.042	−0.05	0.024	−2.03	0.042	1.17	0.421	2.78	0.005
Regular exercise												
Yes												
No	0.92	0.151	6.1	<0.001	−0.16	0.023	−7.08	<0.001	−2.66	0.407	−6.53	<0.001
No. of chronic diseases												
0 or 1	Ref.				Ref.				Ref.			
2 or more	1.07	0.139	7.73	<0.001	−0.44	0.021	−20.95	<0.001	−3.08	0.375	−8.2	<0.001
Participation in any social activity												
No	Ref.				Ref.				Ref.			
Yes	−0.26	0.255	1.04	0.298	0.27	0.039	−6.89	<0.001	4.90	0.689	−7.11	<0.001
Level of participation in religious activity	−0.17	0.028	−6	<0.001	0.00	0.004	0.06	0.951	−0.18	0.077	−2.32	0.021
Level of participation in senior center activity	−0.25	0.029	−8.85	<0.001	0.02	0.004	4.52	<0.001	0.13	0.078	1.69	0.091
Level of participation in leisure/cultural/sports activity	−0.25	0.037	−6.73	<0.001	0.01	0.006	2.03	0.042	0.12	0.100	1.19	0.233
Level of participation in alumni societies or family councils	−0.22	0.041	−5.37	<0.001	0.04	0.006	6.13	<0.001	0.53	0.110	4.86	<0.001
Intercept	5.11	0.376	13.61	<0.001	3.56	0.057	62.05	<0.001	73.44	1.016	72.27	<0.001

SE, standard error; ref., reference; Q, quartile.

Table 4. Result of subgroup analysis

	Depression				Self-rated health				Satisfaction			
	Estimate	SE	t	p	Estimate	SE	t	p	Estimate	SE	t	p
60–74 y (n = 3,211)												
Participation in any social activity												
No	Ref.				Ref.				Ref.			
Yes	0.16	0.318	-0.51	0.608	0.22	0.050	-4.35	<0.001	3.83	0.847	-4.52	<0.001
Level of participation in religious activity	-0.19	0.033	-5.88	<0.001	0.00	0.005	0.7	0.484	-0.09	0.088	-1.08	0.282
Level of participation in senior center activity	-0.29	0.036	-8.19	<0.001	0.02	0.006	3.42	0.001	0.25	0.095	2.66	0.008
Level of participation in leisure/cultural/sports activity	-0.23	0.043	-5.3	<0.001	0.01	0.007	0.88	0.377	0.00	0.115	0.03	0.978
Level of participation in alumni societies or family councils	-0.22	0.043	-5.07	<0.001	0.04	0.007	5.6	<0.001	0.44	0.115	3.84	<0.001
≥ 75 y (n = 2,316)												
Participation in any social activity												
No	Ref.				Ref.				Ref.			
Yes	-0.82	0.435	1.89	0.059	0.32	0.065	-4.9	<0.001	5.98	1.196	-5	<0.001
Level of participation in religious activity	-0.12	0.052	-2.39	0.017	0.00	0.008	-0.64	0.520	-0.31	0.143	-2.17	0.030
Level of participation in senior center activity	-0.19	0.049	-3.95	<0.001	0.02	0.007	2.42	0.016	-0.02	0.133	-0.15	0.883
Level of participation in leisure/cultural/sports activity	-0.26	0.067	-3.85	<0.001	0.02	0.010	1.92	0.055	0.28	0.184	1.52	0.130
Level of participation in alumni societies or family councils	-0.27	0.097	-2.79	0.005	0.05	0.014	3.33	0.001	1.14	0.266	4.29	<0.001
Male (n = 2,353)												
Participation in any social activity												
No	Ref.				Ref.				Ref.			
Yes	-0.13	0.387	0.34	0.737	0.35	0.059	-5.87	<0.001	5.24	1.030	-5.09	<0.001
Level of participation in religious activity	-0.18	0.046	-3.82	<0.001	0.00	0.007	0.25	0.802	-0.27	0.122	-2.22	0.026
Level of participation in senior center activity	-0.29	0.044	-6.6	<0.001	0.02	0.007	2.93	0.003	0.29	0.116	2.48	0.013
Level of participation in leisure/cultural/sports activity	-0.23	0.057	-3.96	<0.001	0.00	0.009	0.34	0.736	0.12	0.153	0.76	0.446
Level of participation in alumni societies or family councils	-0.21	0.052	-4.12	<0.001	0.03	0.008	4.1	<0.001	0.45	0.137	3.28	0.001
Female (n = 3,174)												
Participation in any social activity												
No	Ref.				Ref.				Ref.			
Yes	-0.38	0.343	1.11	0.269	0.22	0.052	-4.26	<0.001	4.84	0.935	-5.18	<0.001
Level of participation in religious activity	-0.16	0.037	-4.41	<0.001	0.00	0.006	-0.02	0.987	-0.15	0.100	-1.48	0.139
Level of participation in senior center activity	-0.23	0.038	-6.02	<0.001	0.02	0.006	3.45	0.001	0.03	0.105	0.26	0.798
Level of participation in leisure/cultural/sports activity	-0.26	0.049	-5.35	<0.001	0.02	0.007	2.25	0.025	0.12	0.133	0.88	0.381
Level of participation in alumni societies or family councils	-0.24	0.067	-3.66	<0.001	0.05	0.010	4.48	<0.001	0.67	0.182	3.66	<0.001

SE, standard error; ref., reference.

under 75 years of age. The accessibility of senior center activities enables older adults to engage with others, supporting their physical and mental health [30]. Our findings indicated that increased participation by adults over 75 years of age and older women did not correspond to higher life satisfaction, despite their frequent attendance at senior centers [3,30]. Therefore, the role of senior centers should be expanded beyond simply serving as a gathering place for older adults, instead offering programs tailored to the specific needs of these demographics [30,31]. With adequate government support, older adults, especially those with physical limitations, could better benefit from the programs offered at senior centers.

Third, increased participation in religious activities was associated with a lower rate of depression [27,32]. Engaging in religious activities, such as attending church, can offer health-promoting benefits through psychosocial pathways. These include providing opportunities for socialization beyond the family circle and fostering a sense of motivation, inner direction, and purpose [32,33]. Moreover, involvement in religious organizations may protect mental health through various mechanisms, such as influencing lifestyle factors, bolstering social support networks, and offering strategies for coping with stress [33].

Finally, this study indicated that the sole social activity positively influencing mental and self-rated physical health, as well as life satisfaction, was involvement in alumni societies or family councils. No significant age or sex differences were observed in this regard. The results indicate that engaging with individuals who share common memories from specific life stages—such as growing up in the same hometown or attending school together—can beneficially impact health and overall well-being. These interactions, characterized by their informal and voluntary nature and distinct from participation in religious activities, appear to improve physical and mental health and life satisfaction in association with the level of participation.

This study demonstrates that it is not simply engagement in social activities that should be considered to improve the mental and physical health and life satisfaction of older adults, but rather active and regular participation. Furthermore, sex and age group differences should be considered when determining which types of activities are most beneficial to health. For older adults who are unable to directly engage in social activities due to poor health or limited mobility, government strategies that support the community, such as programs offering visiting services for older adults, are essential. These strategies help maintain a network of connections within the community and encourage activity participation.

This study is meaningful for several reasons. First, it explored the relationship between social activities and a number of health outcomes in community-dwelling older adults, utilizing nationally representative panel data. Second, it examined the impacts of the intensity and type of social activity on self-rated health, depression, and life satisfaction. Third, it analyzed the effects of social activity type and intensity by sex. However, the study is not without its limitations. One issue is that the independent variables, namely social participation, and the various dimensions of health were measured using self-reported information, which could introduce a reporting bias. Additionally, while empirical evidence indicates that the quality of social interactions may be more important for predicting health outcomes than the quantity, this study only assessed social activity based on frequency. Lastly, due to the cross-sectional research design, reverse causality is possible.

Conclusion

Three-quarters of seniors aged 60 and older in this sample participated in at least one social activity. Participation in social activities was significantly associated with self-rated health and life satisfaction. However, the intensity of participation in each social activity had a proportional effect on reducing depression, and there was a linear relationship between subjective health and the intensity of participation in some social activities (i.e., senior centers, alumni societies, or family councils).

Thus, this study confirms that not all forms of participation in social activities are associated with improved mental, physical, and quality of life in older adults, but that the intensity of participation in social activities is significantly associated with reduced depression in older adults.

Notes

Ethics Approval

This study was approved by the Institutional Review Board of Chung-Ang University (IRB No. 1044396-202203-HR-073-01) and performed in accordance with the principles of the Declaration of Helsinki. The requirement for informed consent was waived because of the retrospective nature of this study.

Conflicts of Interest

The authors have no conflicts of interest to declare.

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None.

Availability of Data

The datasets generated and/or analyzed during the current study are available in the KEIS repository (<http://survey.keis.or.kr/klosa/klosa04.jsp>).

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