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Research Article

Gender Gaps in Strategies for Maintaining the Social Participation and Interaction of Older Adults with People in a Local Community

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Purpose. This study aims to elucidate the gender gaps in the strategies for maintaining the social participation and interaction of older adults with people in a local community. *Methods.* The subjects were 130 older adults aged 65 years or older and independently living in their homes in Saitama, Saitama Prefecture, Japan. The authors conducted an anonymous questionnaire survey on paper and performed multiple regression analysis for men and women separately using the Lubben Social Network Scale-6 (LSNS-6) as the dependent variable. *Results.* Among the independent variables used for the analysis, those that significantly influenced LSNS-6 in men were social activities related to the daily life satisfaction of the elderly (SARDS). The independent variables that significantly influenced LSNS-6 in women were SARDS, sense of coherence-13 (SOC-13), and the number of family members living with the subjects. *Discussion.* Health promotion is not associated with interaction with people in men compared with women.

1. Introduction

Social isolation is defined as a state in which a person lacks social contact and interaction with family members, friends, or larger communities objectively [1]. Social participation is the opposite of social isolation and is defined as an activity that provides interaction with other people in society or in a community, that is, individual involvement in social activities [2]. Previous studies provide evidence that promoting social participation is effective in preventing social isolation [3, 4]. Methods include the development of leisure activities or skills, psychotherapy by trained therapists, and intervention involving health, medical, and social service professionals who assist older adults [4]. Socially isolated individuals have low levels of interaction with others, and they can escape social isolation by increasing their interactions with others. To increase interaction with others, one must engage in social activities, i.e., social participation. Social participation is an inclusive concept that encompasses human interaction. Other studies also reported that the effect of social isolation on mortality is approximately the same as smoking [5], which is becoming a social problem commonly observed in developed countries. According to the Organization for Economic Cooperation and Development [6], interaction with people is poor in Japan among common OECD member countries. Japan has the highest aging rate in the world, over the past 40 years or so; becoming socially isolated has become easy. The reasons for this occurrence include the increase in the number of older adults living alone, the lack of communication due to the widespread use of the Internet, and the weakening of community ties. Furthermore, more than two out of ten people complain of solitude and social isolation in the United Kingdom and the United States, while this rate is double in Japan [7]. Importantly, the issue of social isolation in Japan has become an urgent task, such that the cabinet established the foundation investigation about the interaction among people [8] in 2022. The associated administrative measures in each institution and ministry are going to be planned based on this foundation. Thus, research on social isolation in Japan may serve as a global benchmark.

Supporting a person who has fallen into a state of social isolation will be difficult; the study infers that preventing social isolation is important. However, effective measures to prevent social isolation have not yet been identified. Weak older adults tend to lose social support, which gradually strengthens their isolation, and, therefore, various strategies, such as contacting rehabilitation specialists and establishing new contact addresses, are used [9]. For example, Farias (2018) elucidated that, the higher the frequency of using reward strategies in daily life, the higher the degree of autonomy in instrumental activities of daily living (IADL) such as shopping and telephone use. IADL may activate the interaction with people subsidiarily. Thus, the study focuses on the use of strategies in daily life. The strategy is planning thoughts necessary for community residents to take action. The current study was based on the idea that strategies in daily life could prevent people from falling into social isolation. Older female adults employed the strategy "I judge myself for being able or unable to devise" in maintaining interaction with people [10]. Alternatively, the author revealed that older male adults postpone changing or rearranging their way of living when the community in which they are involved becomes small, which indicates that their strategy is poorer than those of women. In fact, previous studies in Japan reported that older male adults tend to be easily isolated than older female adults [11, 12]. Based on this notion, gender gaps may exist in the strategies for maintaining interaction with other people. The study hypothesizes that differences exist between older male and female adults in the manner that they maintain interaction with others. Neurophysiological studies can explain the basis of this hypothesis. Female elderly people are more likely to engage in conversation with others when stressed, whereas male elderly people are more likely to remain silent [13]. To the best of our knowledge, no studies were conducted on social isolation that present findings about gender differences in strategies for maintaining interaction with people. Thus, this study intends to elucidate the gender gaps in the strategies for maintaining the interaction of older adults with people in a local community and their social participation. This research is expected to provide entirely new insights for developing preventive programs against social isolation.

2. Methods

2.1. Study Design. The study employed a cross-sectional design, a method that simultaneously examines the health status of a population at a given point in time and factors to identify associations.

2.2. Subjects. This study focused on the elderly residents of a local community who maintained interaction with people even during the COVID-19 pandemic to prevent social isolation. The subjects were older adults aged ≥65 years and independently living in their homes in Saitama, which is the prefectural seat of Saitama Prefecture and is adjacent to Tokyo. The community under the study is autonomous with

a population of approximately 1,330,000. The population of older adults aged 65 years or older is 307,725 with an aging rate of 23.12% [14]. The exclusion criteria were persons given a diagnosis of dementia or a highly advanced brain function disorder, those who resided in facilities and those whose degree of need for nursing care was more than 1 as per their nursing care insurance. We assumed that the number of variables to be used for the multiple regression analysis was approximately six and determined the sample size as more than 60, which was 10 times as large as the number of variables for each gender, for a total of 120 subjects [15].

2.3. Survey Method. The authors responded to an anonymous questionnaire survey on paper. We explained and distributed the questionnaire sheets in seven places for older adults to gather: public lectures for citizens, gymnastics clubs A, B, and C in the community association, men's social activities course, caregivers' group, and exchange meeting. These seven places were introduced by local support coordinators of the autonomous community. The number of male participants was low in the majority of these places; therefore, the study selected only older male adults in one of the seven places to ensure that the responses do not deviate from those of women. Responses were collected via mail. The survey period was June–October 2021. The daily mean numbers of persons with COVID-19 in Saitama during the study period was 17.1, 65.7, 262.3, 67.1, and 3.3 in June, July, August, September, and October, respectively [16]. The emergency declaration was announced for the period from August 2 to September 30, 2021, due to the fifth wave of COVID-19. Therefore, we discontinued the survey during the declaration period. As such, the actual survey period was approximately three months (i.e., June, July, and October). The survey item included the following basic attributes and strategies for maintaining the society participation in and interaction of the elderly with people.

2.4. Basic Attribute. The subjects answered the following items in the fact sheet: gender, age, present disease and disorder, degrees of need of nursing care, number of persons living together (except the subjects), final academic background, presence of paid job, economic conditions, driving status, presence of hobby, and degrees of self-restraint for outings.

2.5. Orientation to Life Questionnaire Short Version SOC-13 [17]. As an index for measuring strategies for maintaining interaction with people, the study used the sense of coherence (SOC-13) scale. SOC-13 consists of 13 items in which 4 items refer to the feeling of being able to understand, 5 items for the feeling of being able to treat, and 4 items for the feeling of meaningfulness. In accordance with the method of Yamazaki [18], missing values occurred when the answer obtained from more than 80% of the subjects were replaced with average scores to calculate the total score. The minimum subjects and minimum scores were 13 and 91 points, respectively, in which high scores indicate high levels

of SOC. In other words, although they are facing stressful events and situations, a subject possesses a high level of ability for maintaining health using internal and external resources. Aaron Antonovsky, a medical community researcher, proposed SOC, which is translated as the ability to cope with stress or maintain health. It is a characteristic of a person who stays fit and takes good care of their health even with heavy stress. The level of SOC is determined by the quality of the past life and stress-coping experiences. This study used the concept of SOC to assess the stressful situation during the COVID-19 epidemic, in which interaction with people is restricted as a strategy for maintaining interaction with people.

2.6. Japanese Lubben Social Network Scale-Short Version (LSNS-6) [19]. This study used LSNS-6 as an index for measuring the degrees of interaction with people. LSNS-6 is a short version of the LSNS [20], which is a social network scale for older adults. It consists of 3 items each about family and nonfamily networks, respectively, for which the subjects answer the number of people in the network by six levels. The LSNS-6 is often used as a measure of the degree of social isolation, i.e., the degree of interaction with others. The score range is 0–30 points, in which high scores indicate large social networks, whereas scores less than 12 points indicate social isolation.

Cronbach's α coefficient is 0.82; the correlation coefficient of reproducibility is $r = 0.92$ ($p \leq 0.001$), and the interclass correlation coefficient for inter-rater reliability is 0.96 (95% confidence interval: 0.90–0.99). The correlation coefficient of the scores for the Japanese edition of the LSNS-6 and the Japanese edition of the Self-Rated Depression Scale scores is $r = -0.29$ ($p \leq 0.001$). This finding indicates a significant negative correlation, which confirms its coexistence validity.

2.7. Social Activities Related to Daily Life Satisfaction for the Elderly [21]. This study used SARDS as an index for measuring the degrees of social participation. SARDS consists of four factors, namely, satisfaction levels for learning, those for contribution to others and society, those for health and physical strength, and those for friends, for a total of 14 items. The minimum and maximum points are 14 and 70, respectively, in which high scores indicate high levels of satisfaction. Cronbach's α coefficient is 0.919; the correlation coefficient with satisfaction levels relation to the everyday activity is $r = 0.749$. Therefore, the study confirmed internal consistency, and criterion-related validity have been confirmed.

2.8. Self-Completed Occupational Performance Index [22]. This study used SOPI as an index for measuring the degrees of social participation. SOPI is a scale for measuring the daily participation situation of activities valuable for individuals (task execution). The concept of task execution reflects the originality (specialty) of occupational therapy and is to select, constitute, and execute important activities in human life in the way that a person can understand (CAOT, 2002). It consists of nine items that ask subjects about three aspects of task execution (i.e., task control, task balance, and execution satisfaction level) based on three task regions (i.e., leisure activity, productive activity, and self-care). The minimum and maximum points are 0 and 100 points, respectively, in which high scores indicate high levels of satisfaction in the execution of tasks valuable for an individual. The reliability of SOPI is $\alpha = 0.93$. The correlation coefficient with SF −36 is calculated for construct validity, which is relatively weak ($r = 0.19$ to 0.17) with scales that depend on body functions, such as PF ($r = 0.19$) and BP ($r = 0.17$), while it is relatively strong with scales that depend on psychosocial functions such as VT ($r = 0.42$) and SF ($r = 0.35$).

2.9. Analytical Method. This study adopted descriptive statistics and histograms as screening methods for checking for errors in the input data. Moreover, this study checked the data for missing values; if any were found, then these data were omitted. The method used for statistical analysis was Shapiro–Wilk's test for normality followed by a *t*-test or Wilcoxon's rank sum test, a chi-squared test, and Fisher's exact test for gender differences in all variables. This study then conducted multiple regression analysis with LSNS-6 as the dependent variable for men and women. This test examined the effects of basic attributes, strategies for interacting with people (SOC-13), and social participation (SARDS and SOPI) on the status of interpersonal relationships (LSNS-6). The statistical hypothesis was that older female adults chose the strategy of interacting with people (SOC-13) as opposed to the status of interacting with people (LSNS-6), whereas older male adults chose the strategy of interacting with people (SOC-13). Therefore, the research hypothesis predicted that older male and female adults differ in how they maintain interpersonal relationships. For the independent variables, those that are significantly correlated to LSNS-6, or those whose relationship with it was clarified in previous studies were used after confirming normality. An analysis was performed using the forced entry method. Furthermore, the presence of diseases and disorders, degrees of need of nursing care, final academic background, paid work, driving, and hobbies, which are nominal scales for correlation analysis, were excluded from the targets. The degrees of impact were based on Cohen's standard (small impact: $0.1 \leqq r < 0.3$; moderate impact: $0.3 \leqq r < 0.5$; great impact: $0.5 \leqq r$) [23]. This study employed IBM SPSS ver. 27 for statistical analysis, in which statistical significance was set to < 0.05.

3. Results

3.1. Characteristics of the Participants. The authors distributed 251 questionnaires, and 155 of them were returned. The collection ratio was 61.8%. Three of the responses were from persons requiring nursing care and 25 had missing values, which were omitted. The study obtained a total of 127 valid responses (Figure 1).
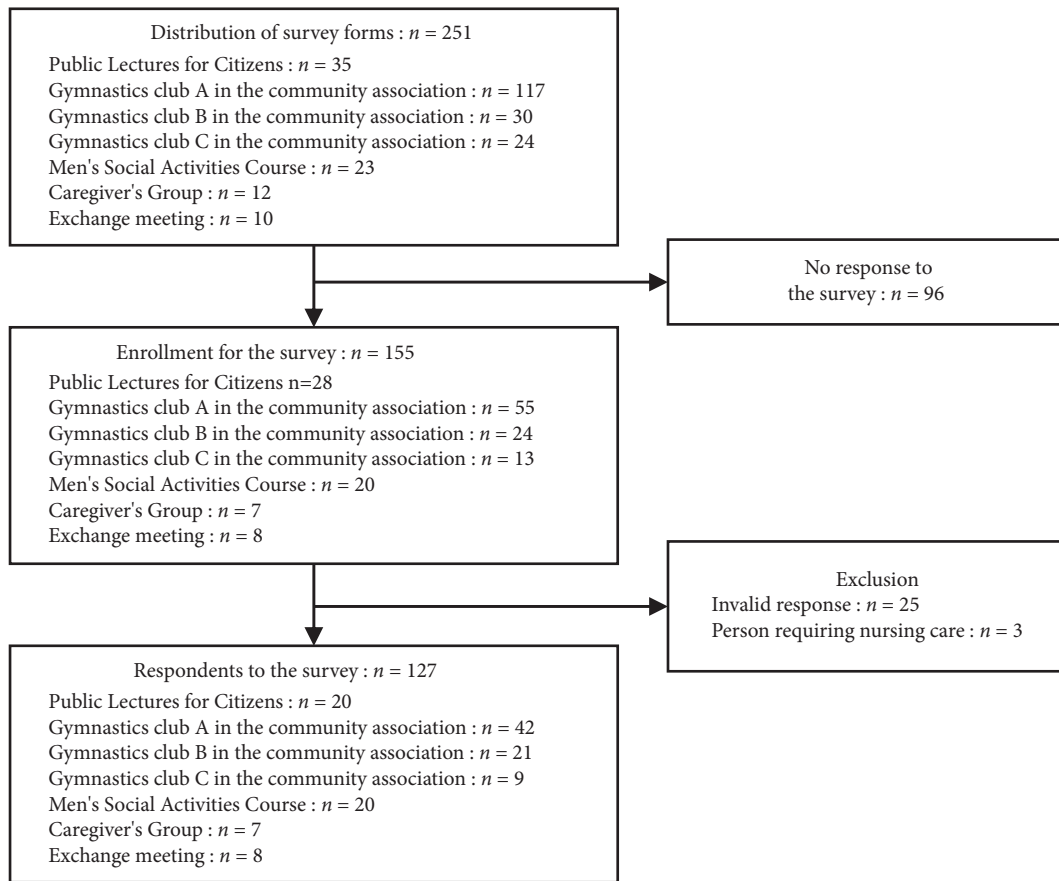
FIGURE 1: Flowchart of participants. 251 questionnaires were distributed and 115 were returned. After exclusion according to the criteria, 127 were included in the final analysis.

The sample was composed of 62 men and 65 women. Table 1 presents the basic attributes of the subjects. The number of subjects with high academic background ($p = 0.02$) and those who drove ($p = 0.00$) were greater than those of women. Thus, the study observed no gender gaps in the other variables. Average age (SD) was 75.6 years (5.7). Although 81 subjects (63.8%) had certain diseases and disorders, 119 (93.7%) were not certified for long-term care. For the number of family members living with the subjects, one was the most common answer obtained from 61 subjects (48.0%) followed by 2 for 22 subjects (17.3%). For the final academic background, the most common answer was graduation from high school for 82 subjects (64.6%) followed by graduation from university for 33 subjects (26.0%). Twenty-five subjects (19.7%) had paid jobs, and 90 subjects (70.9%) answered "have slightly enough money" for living followed by "don't have much money" for 28 respondents (22.0%). Seventy-eight subjects (61.4%) drove a car. For the degrees of self-restraint for outings due to COVID-19, the most common answer was "slightly restrain from going out" for 66 subjects (52.0%) followed by "restrain for outings very much" for 48 subjects (37.8%). The averages of LSNS-6 (SD): 16.1 (5.8), SARDS: 51.2 (10.8), SOC-13: 63.7 (10.8), and SOPI: 69.6 (20.5).

3.2. Results of Multiple Regression Analysis. The variables that exhibited a significant positive correlation with LSNS-6 in men were SARDS ($r = 0.429$, $p = 0.001$), SOC-13 ($r = 0.282$, $p = 0.027$), and SOPI ($r = 0.348$, $p = 0.006$; Table 2).

The variables that displayed a significant positive correlation with LSNS-6 for women were SARDS ($r = 0.501$, $p \leq 0.001$), SOC-13 ($r = 0.337$, $p = 0.006$), SOPI ($r = 0.364$, $p = 0.003$), and the number of family members living with the subjects ($r = 0.281$, $p = 0.023$). SARDS, SOPI, and SOC-13, which presented correlation relationships for men and women, were used as the dependent variables. Although no correlation relationship was observed with the number of family members living with the subjects, it was added to the independent variables to compare between the men and women. Moreover, a previous study revealed the relationship between social isolation and age [24, 25] and economic conditions [26, 27]; thus, the study added age and economic conditions to the independent variables. No variables considerably deviated from the normal distribution as per the Shapiro–Wilk test or histogram. Among the independent variables that were added, the independent variable that significantly influenced LSNS-6 in men was SARDS ($\beta = 0.475$, $p = 0.001$; Table 3). The independent variables that significantly influenced LSNS-6 in women

TABLE 1: Subjects' attributes.

Characteristics	Category	All data (N = 127)		Male (N = 62)		Female (N = 65)		p
Age, mean (SD)		75.6	(5.7)	73.4	(6.4)	75.9	(5.0)	n.s.
Disease and disorder, n (%)	Yes	81	(63.8)	44	(68.8)	40	(60.6)	n.s.
Degree of need for nursing care, n (%)	N/A	119	(93.7)	58	(90.6)	61	(92.4)	n.s.
	Support needed 1	6	(4.7)	3	(4.7)	3	(4.5)	
	Support needed 2	2	(1.6)	1	(1.6)	1	(1.5)	
Number of family members who live with the subjects, n (%)	0.00	17	(13.4)	4	(6.3)	14	(21.2)	n.s.
	1.00	61	(48.0)	37	(57.8)	24	(36.4)	
	2.00	22	(17.3)	11	(17.2)	11	(16.7)	
	3.00	15	(11.8)	6	(9.4)	10	(15.2)	
	4.00	7	(5.5)	4	(6.3)	3	(4.5)	
	5.00	4	(3.1)	2	(3.1)	3	(4.5)	
	6.00	1	(0.8)	0	(0.0)	1	(1.5)	
Final academic background, n (%)	Junior high school graduate	12	(9.4)	3	(4.7)	9	(13.6)	$p = 0.02^*$
	High school graduate	82	(64.6)	38	(59.4)	41	(62.1)	
	University graduate	33	(26.0)	23	(35.9)	11	(16.7)	
Paid job, n (%)	Yes	25	(19.7)	13	(20.3)	12	(18.2)	n.s.
Economic condition, n (%)	Have enough money	5	(3.9)	2	(3.1)	3	(4.5)	n.s.
	Have slightly enough money	90	(70.9)	42	(65.6)	49	(74.2)	
	Do not have much money	28	(22.0)	19	(29.7)	10	(15.2)	
	Do not have enough money	4	(3.1)	1	(1.6)	4	(6.1)	
Driving, n (%)	Yes	78	(61.4)	55	(85.9)	25	(37.9)	$p \leq 0.001^*$
Hobby, n (%)	Yes	119	(93.7)	60	(93.8)	62	(93.9)	n.s.
Self-restraint for outings, n (%)	Restraint for outings is strong	48	(37.8)	22	(34.4)	28	(42.4)	n.s.
	Restraint for outings is minimal.	66	(52.0)	36	(56.3)	31	(47.0)	
	Do not restrain for outings much	10	(7.9)	5	(7.8)	5	(7.6)	
	Do not restrain for outings at all	3	(2.4)	1	(1.6)	2	(3.0)	
LSNS-6, mean (SD)		16.1	(5.8)	15.2	(5.9)	17.0	(5.6)	n.s.
SARDS, mean (SD)		51.2	(10.8)	49.7	(11.3)	52.3	(10.1)	n.s.
SOC-13, mean (SD)		63.7	(10.8)	63.1	(9.8)	64.3	(11.8)	n.s.
SOPI, mean (SD)		69.6	(20.5)	66.9	(21.7)	72.2	(19.1)	n.s.

SARDS: social activities related to daily life satisfaction for the elderly; SOC-13: sense of coherence-13; LSNS-6: Japanese version Lubben Social Network Scale short version; SOPI: self-completed occupational performance index. $^*p < 0.05$.

TABLE 2: Correlation coefficient of LSNS-6 and each variable.

| | Male | | Female | |
	Correlation coefficient with LSNS-6	p	Correlation coefficient with LSNS-6	p
Age	0.128	0.322	0.071[a]	0.572
Number of family members who live with the subjects	0.164	0.202	0.281	0.023*
Economic conditions	0.130	0.314	0.092	0.468
Outing frequency	0.056	0.668	−0.068	0.591
SARDS	0.429	0.001*	0.501[a]	≤0.001*
SOC-13	0.282[a]	0.027*	0.337	0.006*
SOPI	0.348	0.006*	0.364	0.003*

SARDS: social activities related to daily life satisfaction for the elderly; SOC-13: sense of coherence-13; LSNS-6: Japanese version Lubben Social Network Scale short version; SOPI: self-completed occupational performance index; a: Person's correlation coefficient and others are Spearman's correlation coefficient.

were SARDS ($\beta = 0.425$, $p = 0.001$), SOC-13 ($\beta = 0.257$, $p = 0.032$), and the number of family members living with the subjects ($\beta = 0.230$, $p = 0.035$).

4. Discussion

4.1. The Characteristics of the Subjects. The average of LSNS-6 (SD) was 16.1 (5.8). Although the standard value of LSNS-6 has not been determined, the average (SD) of LSNS-13 out of 112 older adults aged 65 years or above and younger than 75 years was 15.9 (4.65), according to Kurimoto et al. [19]. The subjects in the current study were older than those of the previous study, and we infer that their interaction with people tended to be active. The average for SARDS (SD) was 63.7 (10.9). Although the standard value of the level of satisfaction with social activity has not been determined, the average (SD) of SOC-13 for 671 subjects (average age: 71.5 years old; male: 48.3% and female: 51.7%) was 45.48 (11.25), according to Okamoto [21]. The subjects in this study were older than those of the previous study and their levels of satisfaction for social activities tended to be high. For self-restraint for outings due to COVID-19, approximately 90% of the subjects answered "slightly restrain from outings" or "restrain for outings very much" for the gender. However, the results of the LSNS-6 and SARDS suggest that they maintain their levels of satisfaction for social activities and interaction with people. In Japan, eating and drinking were likely avoided due to restrictions on eating in large groups enacted to prevent the spread of disease. Because none of the distribution sites in this study involved eating or drinking, several older adults gathered and responded to the survey. However, some older adults may have stayed away from the distribution sites out of fear of contracting an infection. Therefore, the target population of this study may be skewed toward a group that is relatively unconcerned about contracting an infection. The average (SD) for SOC-13 was 63.2 (10.2) for men and 64.1 (11.7) for women. The standard values of SOC-13 for Japanese older adults are 63.3 (12.1) for men and 64.4 (12.3) for women [28]. Therefore, they nearly correspond with the standard values. Based on this result, we presume that the subjects possess SOC that is equal to that of elderly residents in general local communities in Japan. Furthermore, although the study observed no gender gaps in SOC, Tomooka et al. [29] state that gender

gaps exist in SOC in Japanese older adults, while Hougo [30] states that these gaps do not exist. Therefore, consensus on this aspect is lacking [31].

4.2. Gender Gaps in the Strategies for Maintaining the Social Participation and Interaction of Older Adults with People. Among the independent variables, SARDS exerted the greatest impact on LSNS-6 for men and women. In other words, the levels of satisfaction for social activities exerted a moderate impact on interaction with people. Ejiri et al. [32] revealed that social isolation has significantly increased in two years for older adults who participate in groups and associations for one to three times per month than for those who participate more than once per week. This result suggests the possibility that participation in social activities may influence interaction with people and prevent social isolation, which support our results. Although the independent variable that significantly influenced LSNS-6 in men was only SARDS, SOC-13 and the number of family members living with the subjects exerted a small influence on SARDS for women. In other words, the study elucidated that the strategy for maintaining interaction with people is not associated with interaction with people for men while it is in women. Tamres [13] conducted a meta-analysis on gender differences in general coping strategies and found that although the sex differences for 11 of the 17 coping strategies (all in favor of women) were significant, the effect sizes were quite small. Only three effect sizes were greater than −0.15: emotional social support seeking, rumination, and positive self-talk. The results of this study support the validity of the finding that men are not associated with strategies for maintaining human interaction relative to human interaction, whereas women are weakly associated.

Also, Pallant and Lae [33] targeted residents aged 18 to 82 years in Australia and revealed no gender gaps in SOC though active coping, planning, and emotional social support were significantly related to SOC for women than that for men. Although the age groups of their subjects are different, their study supports the current results in which the methods for maintaining interaction with people differ between men and women. One of the reasons for this difference may be because men tend to postpone coping [10]. Healthy actions related to "postponing" indicate that the

TABLE 3: Result of multiple regression analysis with LSNS-6 as dependent variable.

						95% CL	
Male	Outcomes	Factors	β standardization regression coefficient	p	Partial correlation coefficient	VIF	Lower limit	Upper limit
	LSNS-6	SARDS	0.481	0.001*	0.418	1.620	0.103	0.395
		Age	0.155	0.211	0.168	1.219	−0.083	0.367
		Number of family members who live with the subjects	0.152	0.188	0.177	1.062	−0.420	2.089
		SOC-13	0.138	0.307	0.138	1.465	−0.078	0.243
		SOPI	0.016	0.911	0.015	1.560	−0.071	0.079
		Economic conditions	−0.009	0.943	−0.010	1.128	−2.576	2.397
	$R^2 = 0.327$							

						95% CL	
Female	Outcomes	Factors	β standardization regression coefficient	p	Partial correlation coefficient	VIF	Lower limit	Upper limit
	LSNS-6	SARDS	0.422	≤0.001*	0.435	1.209	0.107	0.356
		SOC-13	0.256	0.031*	0.276	1.259	0.011	0.234
		Number of family members who live with the subjects	0.228	0.036*	0.269	1.049	0.060	1.697
		Economic conditions	−0.095	0.378	−0.115	1.073	−2.768	1.065
		Age	0.045	0.675	0.055	1.045	−0.184	0.283
		SOPI	0.018	0.886	0.019	1.400	−0.066	0.077
	$R^2 = 0.368$							

SARDS: social activities related to daily life satisfaction for the elderly; SOC-13: sense of coherence-13; LSNS-6: Japanese version Lubben Social Network Scale short version; SOPI: self-completed occupational performance index; VIF: variance inflation factor; CL: confidence interval. * $p < 0.05$.

person's capability to adjust a strategy by themselves is low [34]. Provencher et al. [35] stated that a person's ability to appropriately use a strategy needs to be adjusted by other persons according to their needs. Furthermore, Provencher et al. state that supporting a person who lacks strategies for preventing social isolation is necessary. The current study revealed that older male adults do not use strategies for maintaining interaction with people; therefore, women may be urged to optimize their strategies and men to use strategies as support and intervention studies to prevent social isolation. Further studies are required to elucidate how the strategies for maintaining interaction with people differ between men and women and the mechanisms in which they are related to social isolation.

4.3. Strengths and Limitations. The strength of this study is that data were derived from Japan, which has the highest rate of aging worldwide and where social isolation is a serious problem. This study is also novel because it focuses on strategies for preventing social isolation.

Three limitations to the interpretation of the results should be mentioned. First, this study is cross-sectional in nature; thus, the associations between strategies in interaction with people and social participation remain unclear. Second, the questionnaire is self-administered, and the accuracy of the responses is dependent on the cognitive function of the subjects. Moreover, no data indicate that the cognitive functions of the respondents have not declined; thus, the response data may be inaccurate. Third, the subjects were older adults living in one autonomous community in Japan and were active during COVID-19. Thus, the results cannot be generalized. Therefore, collecting data from other regions and countries in the future to ensure a large sample size will be necessary.

5. Conclusion

This study addressed the problem of identifying differences between men and women in terms of preventing social isolation among older adults. The objective of this study was to elucidate gender gaps in strategies for maintaining the social participation and interaction of older adults with other people in a local community. The result revealed that the strategies and satisfaction levels for social activities of older female adults are associated with interaction with people, whereas only satisfaction levels for social activities are associated with interaction for older male adults. In other words, the results support the hypothesis that the strategies for maintaining interaction with people differ between men and women. Furthermore, the study also clarified that gender-appropriate support is needed to prevent social isolation. In the future, the development of a specific support method for preventing social isolation will be crucial to examine this difference in detail.

Data Availability

The data used to support the findings of this study are restricted by the Medical Ethical Review Board of Mejiro University (No. 21 Medicine −001) in order to protect subjects' privacy.

Additional Points

What Is Known about This Topic? (i) Social isolation negatively impacts on the health of older adults, and Japan has one of the highest rates of social isolation. (ii) Gender differences are among the factors that affect the severity of social isolation. (iii) Findings on strategies for maintaining human interaction are unclear. *What Does This Paper Add?* (i) Methods for maintaining interpersonal relationships with people were not more effective for either gender. (ii) Among the independent variables, satisfaction with social activities had the greatest effect on interpersonal interactions. (iii) The strategy for maintaining interaction is not associated with interaction with people for men, whereas it is for women.

Ethical Approval

This study was approved by the Medical Ethical Review Board of Mejiro University (No. 21 Medicine −001).

Consent

The first author provided oral and written explanation and consent to the research subjects.

Conflicts of Interest

The authors declare that there are no conflicts of interest.

Acknowledgments

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