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# Role Identity, Loneliness, and Bereavement During the Pandemic in Japan: A Cross-Sectional Study

Aya Toyoshima 

Faculty of Human Sciences, Shimane University, Matsue, Shimane, Japan

**Correspondence:** Aya Toyoshima ([toyoshima@hmn.shimane-u.ac.jp](mailto:toyoshima@hmn.shimane-u.ac.jp))**Received:** 15 May 2024 | **Revised:** 17 October 2024 | **Accepted:** 22 October 2024**Funding:** This research was supported by Research Institute of Science and Technology for Society (JST RISTEX Japan) (Grant JPMJRS22K3).**Keywords:** identification | loneliness | middle-aged | older adults | social support

## ABSTRACT

**Background and Aims:** The COVID-19 pandemic significantly restricted social activities, prompting a re-examination of community dynamics. In Japan, where families are central, the absence of a spouse increases susceptibility to loneliness and isolation. The loss of a spouse, especially during the pandemic, has heightened these issues among middle-aged and older individuals. Limited quantitative studies on pandemic-related bereavement in Japan underscore the need to understand the associated risks of loneliness and social isolation. This study aimed to examine the relationships between role identity as a member of the local community, loneliness, and social support among middle-aged and older adults. This study also examined whether there were differences in the relationships between those who had experienced bereavement and those who had not.

**Methods:** An Internet survey was conducted with Japanese adults (aged 50–74 years), including those who experienced bereavement during the pandemic. The final sample included 322 participants (154 in the bereavement group and 168 in the cohabiting group). The variables, measured using psychological scales, included role identity as a local resident, social capital (trust, reciprocity, and membership), loneliness, and social support (family and friendship).

**Results:** The higher trust and role identity were related to lower loneliness. Membership in the cohabiting group was related to lower level of loneliness and higher level of social supports. However, membership in the bereavement group was not related to either. Furthermore, trust and reciprocity were related to loneliness and social support.

**Conclusion:** These results indicated that the role identity and perception of social capital related to preventing isolation and loneliness for bereaved people.

The COVID-19 pandemic significantly restricted social activities in local communities. Hence, their signature is being re-examined in the post-coronavirus era. Particularly in Japan, where families form a central network. [1] a spouse plays a crucial role, and their absence renders individuals highly susceptible to loneliness and isolation. [2] Loss of a spouse is a life event related to loneliness and social isolation in middle-aged and older individuals [3, 4]. Furthermore, the pandemic has exacerbated this impact. Quantitative studies of individuals bereaved during the pandemic are limited within Japan,

emphasizing the pressing necessity to comprehend the risks associated with loneliness and social isolation.

## 1 | Impact of Bereavement During the Pandemic in Japan

Bereavement during the pandemic, a significant and complex issue, impacted many middle-aged and older adults. Loss of a spouse can be particularly challenging, as it involves the emotional and

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## Summary

- The current study illustrated the level of loneliness and social support among individuals who experienced spousal bereavement during the pandemic period.
- Role identity as a member of the local community related to the lower level of loneliness for bereaved people.
- The effect of whether or not they participated in community groups was weak in the bereavement group, which suggested that group membership may not reduce loneliness or promote social support.

psychological burden of grief and practical and social changes of losing the spouse's local social network. During the pandemic, where social distancing measures and restrictions on gatherings left limited opportunities for face-to-face interaction and support, challenges in coping with bereavement were reported [5, 6].

Loneliness was the subjective perception of social isolation or negative emotional experience, which was distinguished from objective social isolation. [7] Loneliness also had negative impact on older adults' mental and physical health [8, 9]. Conversely, social support referred to the resources provided by others in times of need or during stressful situations. Social support was an important resource that explained adaptation to stress. [10] Furthermore, it was a significant factor that affected subjective well-being and mental health in older adults [11].

## 2 | Role Identity (RI) as a Member of the Local Community

This study focused on perceiving social capital (SC) and role identity as a local resident (RI) as important factors that relate to loneliness and social isolation. Relationships with others in the same community are a source of subjective well-being [12] and have been conceptualized as SC. SC plays a significant role in mental health and well-being as strong social ties can provide a sense of belonging and reduce loneliness [13, 14].

This study interpreted the process of cognitive SC formation via RI from the activity theory [15, 16]. The activity theory [15] explains that subjective well-being improves with an increase in social activity. Social activities foster interactions between individuals and groups and lead to the acquisition of RI. As RI accumulates, individuals develop a more positive self-concept that enhances their subjective well-being. [16] Individuals occupy multiple social roles and can engage in self-evaluation related to specific roles, such as membership in a specific group (e.g., family and workplace). RI arises from interactions among individuals connected by specific social roles, with a positive affect that influences their behavior and subjective well-being [17].

## 3 | Purpose

This study aimed to examine the relationships between RI, SC, loneliness, and social support among middle-aged and older

adults who experienced bereavement during the pandemic. Furthermore, the study also examined whether there were differences in the relationships between those who had experienced bereavement and those who had not.

## 4 | Methods

### 4.1 | Participants and Procedure

An Internet survey was conducted with Japanese middle-aged and older adults (aged 40–74 years) via iBRIDGE Corporation Inc., an online research company. The survey was conducted in January 2024 and comprised a pre-survey and two main surveys (bereavement group and cohabiting group). The pre-survey targeted 40,000 men and women aged 50–74 years who resided in Japan. Participants of the pre-survey were fully informed of the study's purpose, procedures, risks, and benefits on the website. It was explained that the survey was conducted anonymously and that consent cannot be withdrawn after submission. After informed consent was obtained, the participants answered questions regarding marital status and family who lived together. This study also asked questions regarding the timing of spousal bereavement. The 238 individuals (59 men and 179 women) experienced spousal bereavement during the pandemic period (2019–2022) and they were asked to participate first main survey. The 154 participants (38 men and 116 women; mean age = 62.82 years) whose responses were not incomplete were included in the bereavement group.

For comparison, 240 individuals (60 men and 180 women) for the second main survey were randomly selected from a pool of 40,000 participants in the pre-survey who had not experienced spousal bereavement and lived with their spouse. To ensure a matching number of participants based on sex and age groups (50–60 and 61–74 years), their cooperation in the main survey was requested. A total of 168 individuals (40 men and 128 women; mean age = 62.06 years) with complete responses were included in the cohabiting group. The final sample included 322 (bereavement group = 154; cohabiting group = 168) Japanese adults.

Participants were financially compensated by the web system once they completed the survey. This study was approved by the Research Committee of the Faculty of Human Sciences, Shimanu University (No. 231001). Since this study conducted an analysis via structural equation modeling, a total sample size of 300 or more was necessary for stable results.

### 4.2 | Measures

#### 4.2.1 | RI as a Local Resident

This study used the measurement of identity meanings developed, by Reitzes and Mutran. [18] to assess satisfaction with particular social roles that reflected RI. A Japanese translation with high internal consistency and validity [19] was used. To measure RI as a local resident, participants completed a phrase that began “As a local resident, I am...” and chose responses to 10 adjective pairs organized in a semantic differential 5-point format.

The items were “A. active–B. inactive,” “A. successful–B. unsuccessful,” “A. competent–B. not competent,” “A. relaxed–B. tense,” “A. happy–B. sad,” “A. confident–B. not confident,” “A. warm–B. cold,” “A. open–B. closed,” “A. interested in others–B. interested in self,” and “A. sociable–B. solitary.” Response options were “1. A,” “2. Almost A,” “3. Neither,” “4. Almost B,” and “5. B.” The scores were processed to indicate higher values that corresponded to higher levels of RI for analysis. In this study, Cronbach’s  $\alpha$  ( $=0.90$ ) indicated an appropriate level of internal consistency.

#### 4.2.2 | Social Capital

Perceived SC was assessed via Ota’s (2014) [20] items that comprise cognitive SC (trust in neighbors and reciprocity) and structural SC (group membership in local associations). These indicators were developed based on the Adapted Social Capital Assessment Tool [21] and Subramanian et al.’s [22] item. Trust in neighbors was assessed via the question “In general, can people in this area be trusted? Please consider the area where you usually live when answering.” Response options were “1. Reliable,” “2. Somewhat reliable,” “3. Neither,” “4. Somewhat unreliable,” and “5. Unreliable.” Reciprocity was assessed via the question “If someone in the neighborhood needs help, people in the neighborhood are willing to lend a hand without hesitation.” Response options were “1. Agree,” “2. Slightly agree,” “3. Neither,” “4. Slightly disagree,” and “5. Disagree.” In this study, both indicators were treated as ordinal variables. Furthermore, they were processed to indicate higher values that corresponded to higher levels of SC for analysis. To assess group membership in local associations (membership), participants responded to whether they were involved in community organizations, such as (a) local affinity groups (e.g., senior citizens’ associations, women’s groups), (b) neighborhood council, (c) sports clubs, (d) volunteer or civic groups, (e) hobbies or lifelong learning associations, (f) religious organizations, or (g) political or industry associations. Those who had joined at least one organization and had not joined any organizations were categorized as the “participation” and “non-participation” groups, respectively.

#### 4.2.3 | Loneliness

Loneliness and social support were assessed as the final outcome in this study. Loneliness assessed via the short form of the Japanese Version of the UCLA Loneliness Scale [23, 24]. This scale comprised six items in total (e.g., “How often do you feel you have a lot in common with the people around you” and “How often do you feel alone”). Participants rated the responses on a 4-point Likert scale (1 = often, 2 = sometimes, 3 = rarely, and 4 = never). Scores were reversed and higher scores indicated greater loneliness. Toyoshima and Sato. [24] reported the scale’s internal consistency and validity in multiple age groups. In this study, the Cronbach’s  $\alpha$  (0.83) indicated an appropriate level of internal consistency.

#### 4.2.4 | Social Support

Social support was assessed via the Japanese version of the abbreviated Lubben Social Network Scale [25, 26], which comprised six

items across two subscales: family and friendships. Each subscale comprised three items and enquired the number of people who were resources of social support (e.g., “How many relatives do you see or hear from at least once a month?” and “How many friends do you feel close to such that you could call on them for help?”). Participants responded on a 6-point Likert scale (1 = none, 2 = one, 3 = two, 4 = three or four, 5 = five–eight, and 6 = nine or more). In this study, Cronbach’s  $\alpha$  (family = 0.86 and friendships = 0.90) indicated an appropriate level of internal consistency.

#### 4.2.5 | Control Variables

Age and sex (1 = male; 2 = female) were used as control variables.

### 4.3 | Data Analysis

All analyses were performed using R 4.3.1 for Window. [27] Statistical significance was set at  $p < 0.05$  for two-sided tests. The  $t$ -tests were used to compare group differences, and correlation analyses were conducted to examine relationships between variables. All analyses were pre-specified, and the sample size was designed to ensure sufficient precision for path analysis using Structural Equation Modeling. When the effect size was moderate, a total sample size of 300 or more was necessary for stable results. [28] Path analysis, performed using the Lavaan package in R, aimed to examine the relationships between RI, SC and control variables as independent variables, and loneliness, family support, and friendship support as dependent variables.

## 5 | Results

### 5.1 | Comparison Between the Bereaved and the Cohabiting Groups

Table 1 presents the frequency distribution of SC in the two groups. Results of the Mann–Whitney  $U$  and Chi-squared tests indicated no significant differences in SC (trust, reciprocity, and membership) between the bereaved and cohabiting groups.

Table 2 presents descriptive statistics of the variables and results of the  $t$ -test. Results showed that the bereaved group rated significantly higher levels of friendship support compared to the cohabiting group, with a small effect size.

Table 3 presents the correlation coefficients between the variables. All the correlations between variables were confirmed, and the coefficients were significant, except for the correlation between RI and friendship support in the cohabiting group.

### 5.2 | Impact on Loneliness and Social Support

A path analysis was conducted with RI, SC, and control variables as the independent variables and loneliness, family support, and friendship support as dependent variables. Additionally, the analysis included the group (bereaved or

cohabiting) as an independent variable and examined its association with each dependent variable. Figure 1 shows the results of multiple-group analysis was used to separately analyze the bereaved and cohabiting groups ( $\chi^2(42) = 368.35$ , root mean square error or approximation (RMSEA) = 0.00, comparative fit index (CFI) = 1.00, standardized root mean squared residual (SRMR) = 0.00).

Regarding loneliness, higher levels of trust and RI were associated with lower levels of loneliness in both the groups. Only membership had a negative association with loneliness in the

cohabiting group. Family support was associated with higher levels of trust and reciprocity in the bereaved group. However, only membership was associated with family support in the cohabiting group. Regarding friendship support, higher reciprocity was associated with the friendship support in the bereaved group, whereas only membership was related in the cohabiting group.

## 6 | Discussion

Comparison of the scores for each variable between the bereaved group and the cohabiting group revealed no differences, except for friendship support. This study conducted a web-based survey among middle-aged and older adults who had experienced the death of their spouse for over a year, which indicated that many had successfully coped with grief and adapted to the changes in their lives. Furthermore, the bereaved group exhibited more support from friends and neighbors, rather than family centered support, than the cohabiting group. This suggested that participants in the bereaved group tended to supplement their lost spousal relationship through connections formed with friends and neighbors. [29]

Second, the path analysis indicated that RI and trust were associated with lower levels of loneliness in both the bereavement and cohabitation groups. Although the cohabitation group showed an association with group membership, the bereavement group showed no such relationship. This suggested that RI was an important factor to reduce loneliness among middle-aged and older adults who had lost their spouse.

The effects of SC differed between the bereavement and cohabitation groups. Quality of the relationship, such as trust and reciprocity, were associated with loneliness and social

**TABLE 1** | Frequency distribution of social capital.

	Bereavement	Cohabiting
Trust		
1	0 (0.00%)	3 (1.79%)
2	4 (2.60%)	8 (4.76%)
3	57 (37.01%)	44 (26.19%)
4	73 (47.40%)	84 (50.00%)
5	20 (12.99%)	29 (17.26%)
Reciprocity		
1	2 (1.30%)	3 (1.79%)
2	12 (7.79%)	10 (5.95%)
3	53 (34.42%)	54 (32.14%)
4	71 (46.10%)	81 (48.21%)
5	16 (10.39%)	20 (11.90%)
Membership		
0	77 (50.00%)	80 (47.62%)
1	77 (50.00%)	88 (52.38%)

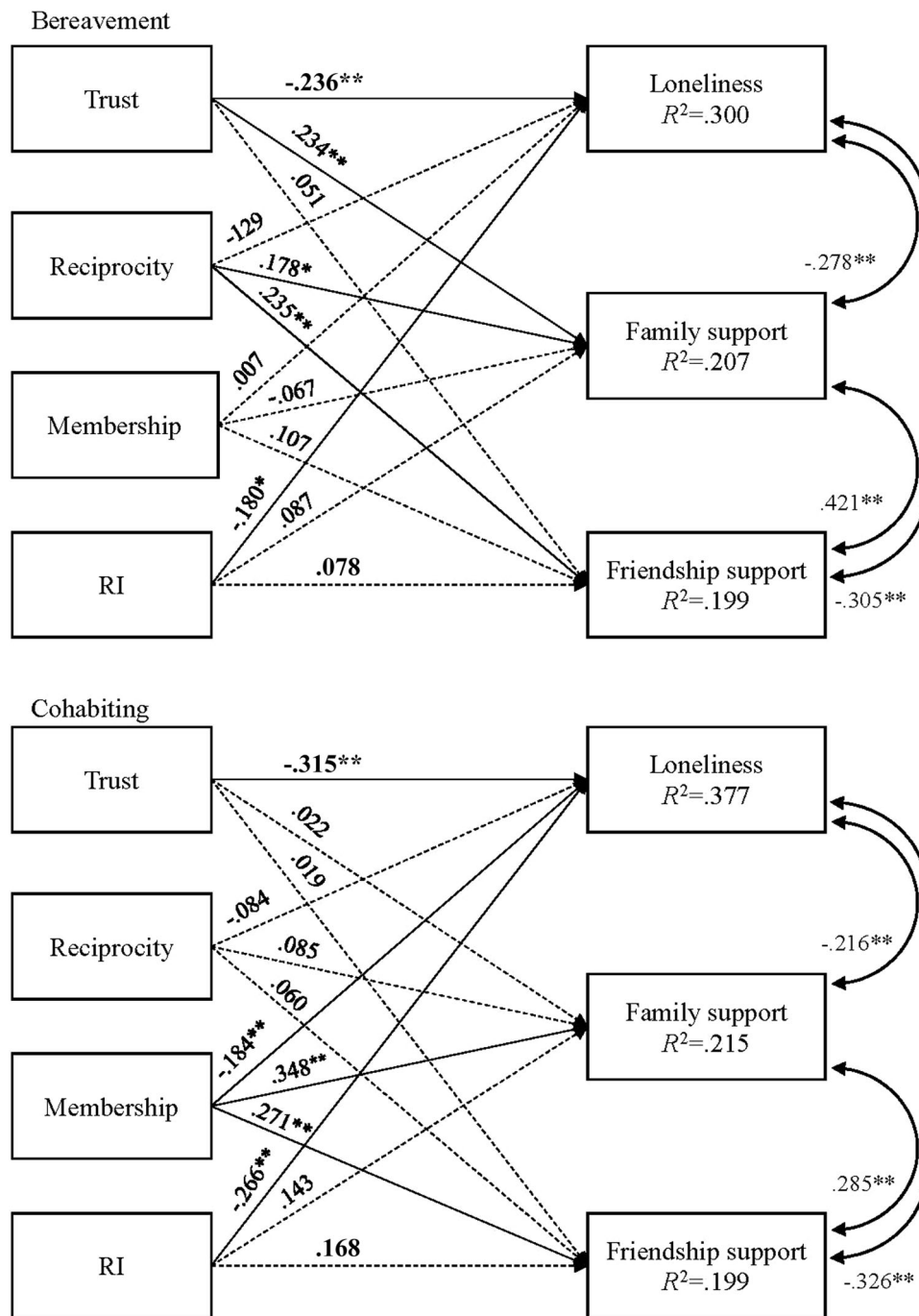
**TABLE 2** | Descriptive statistics of the variables.

	All (N = 322)		Bereavement (n = 154)		Cohabiting (n = 168)		t-test p	Cohen's d	95% CI
	M	(SD)	M	(SD)	M	(SD)			
RI	31.30	(5.80)	31.45	(5.56)	31.15	(6.02)	0.64	0.05	−0.96—1.58
Loneliness	14.28	(3.42)	14.50	(3.28)	14.08	(3.55)	0.27	0.12	−0.33—1.17
Family support	9.66	(3.27)	9.66	(3.49)	9.67	(3.06)	0.96	0.01	−0.74—0.71
Friendship support	7.89	(3.87)	8.47	(3.92)	7.37	(3.76)	0.01	0.29	0.25—1.94

**TABLE 3** | Correlations between the variables.

		Cohabiting	1	2	3	4	5	6
Bereavement	1	Trust	—	0.56	0.33	−0.50	0.20	0.15
	2	Reciprocity	0.53	—	0.19	−0.36	0.18	0.14
	3	RI	0.34	0.40	—	−0.43	0.19	0.21
	4	Loneliness	−0.39	−0.38	−0.33	—	−0.37	−0.45
	5	Family support	0.34	0.34	0.23	−0.45	—	0.42
	6	Friendship support	0.25	0.38	0.24	−0.45	0.51	—

Note: Correlations between ordinal variables (trust and reciprocity) are Spearman's rank correlation coefficient. Vertical and horizontal values represent the bereaved and cohabiting groups, respectively.



**FIGURE 1** | Results of path analysis for the two groups. Dashed paths are not significant. Values are standardized. Correlations between the exogenous variables and errors are abbreviated.

support in the bereavement group. However, participation in the community group was associated with loneliness in the cohabitation group. Effect of whether or not they participated in community groups was weak in the bereavement group, which suggested that group membership may not reduce loneliness or promote social support.

A reason could be the fact that even if middle-aged and older adults who had lost their spouses participated in community groups, many participants had spouses. Subsequently, they were likely to feel alienated and unable to build trusting relationships, which led to SC perceptions. Therefore, the

acquisition of trusting relationships and ability to perceive reciprocity could promote social support, rather than direct group membership. This result suggested a limited impact of community participation in mitigating loneliness and isolation among individuals who had experienced spousal loss.

## 7 | Practical Implications

This study reports significant findings concerning the prevention of isolation and loneliness following bereavement. Research focusing on middle-aged and older adults who lost

their spouses during the pandemic period indicates that the key to avoiding isolation was not whether they participated in community activities, but whether they had established a trusting relationship with the community. Therefore, it is crucial not only to encourage participation in community activities but also to build a sense of role and trust as a community member after experiencing loss.

## 8 | Limitations

This study had several limitations. First, this was a cross-sectional study, and it was difficult to identify a causal relationship between the variables. Since the bereavement group was a special sample, those who agreed to participate in the web-based survey could have been active in community groups. Second, regarding the relationship between RI and SC, this study examined only the correlation between RI and SC perception. There were limitations in estimating a causal relationship between the two via an examination of the correlation through a questionnaire survey. Despite the above limitations, this study was significant as it conducted a quantitative survey with middle-aged and older adults who had experienced bereavement during the pandemic period and compared the results with those of those who had not experienced bereavement.

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### Author Contributions

**Aya Toyoshima:** conceptualization; data curation; formal analysis; investigation; project administration; writing—original draft; writing—review & editing.

### Conflicts of Interest

The author declares no conflicts of interest.

### Data Availability Statement

The data used in this study and R script have been made publicly available at <https://osf.io/ykbtx/>. Summary data and analyses were performed using R, Version 4.4.1 (R Core Team, 2021). The pre-registration information for the analysis plan has been made publicly available at <https://osf.io/2xpsd>.

### Transparency Statement

The author affirms that this manuscript is an honest, accurate, and transparent account of the study being reported; that no important aspects of the study have been omitted; and that any discrepancies from the study as planned (and, if relevant, registered) have been explained.

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