The Resilience Divide Among Older Adults Under Uncertainty: A Positive Sociological Study of Life Satisfaction During the COVID-19 Crisis

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Abstract

While recent research has detected older adults' resilience during the global pandemic, its unequal distribution is inadequately examined. Using the panel survey data in Japan (*N* = 3,725), this positive sociological study investigated who were more/less resilient under COVID-19, with attention to the heterogeneity in life satisfaction (LS). It was first confirmed that older adults' LS had substantially improved during the pandemic, indicating their resilience on average. However, the multinomial logistic regression and the fixed effects model revealed that the shift in LS was associated with age, gender, income, family/social relationships, and heath in a nuanced way. This suggests, while older adults who have access to economic, social, and health-related resources can maintain/enhance their LS under the global crisis, those without such assets face the risk of being penalized. In these uncertain times, it is therefore imperative to shed light on the resilience divide among older adults alongside their average strength.

What this paper adds

- This study elucidates the unequal structure of resilience among older adults from the positive sociological perspective focused on their life satisfaction.
- Using the panel data collected by the Japanese Government during the COVID-19 pandemic, multinomial logistic regression and fixed effects analyses reveal that older adults' life satisfaction is significantly associated with their socio-economic attributes such as gender, income, and family/social relationships.

Applications of study findings

- The findings suggest that the resilience divide is at work during the global crisis, such that older adults with adequate resources retain/improve their positive feeling whereas the socio-economically disadvantaged are likely to encounter difficulties.
- It is essential for policy makers, practitioners, and scholars to pay close attention to the unequal distribution of resilience/life satisfaction among older adults, alongside their average toughness, in uncertain/transformative times.

Introduction

Social scientists have long studied the structure and mechanisms of people's quality of life (QOL). However, the COVID-19 pandemic has drastically changed various aspects of our life, ranging from health and economy to family, work, and social relationships (Institute of Global Health Innovation,

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2020; OECD, 2021). This means that the socio-economic conditions, based on which prior research about QOL has been conducted in pre-pandemic times, are not necessarily consistent in these times of uncertainty (King et al., 2021).

Indeed, during the pandemic, the death toll in line with the number of confirmed cases of COVID-19 has reached high through multiple epidemic waves and variants; mobility has been tightly restricted including lockdown of cities; and the global economy has faced a sharp downturn (International Labour Organization, 2020; WHO, 2022). Consequently, evidence suggests that people's subjective well-being (SWB) has also deteriorated especially in societies where the negative impact of the pandemic is relatively large (Fancourt et al., 2021; Institute of Global Health Innovation, 2020; Santomauro et al., 2021; Wright et al., 2021). Gerontological studies have revealed the similar trend among older adults, showing their exacerbated loneliness, stress, anger, helplessness, and exhaustion (Kim & Jung, 2021; Losada-Baltar et al., 2021; van Tilburg et al., 2021), although certain types of interventions have also proved to be effective in mitigating such negative impact (Bohn et al., 2021; Gorenko et al., 2021). This situation is critical given that low SWB may result in unpreferable consequences like suicide (John et al., 2020; Kawohl & Nordt, 2020).

Nonetheless, recent research has detected resilience, rather than vulnerability, among older adults. While resilience can be understood both physically and psychologically as the product of interactions between individuals, institutions, and socio-cultural environments (Hayslip & Smith, 2012; Igarashi & Aldwin, 2012; Moreno-Agostino et al., 2021), evidence particularly indicates older adults' cognitive and emotional strength even in uncertain and transformative times. For example, through the life story approach, Lind et al. (2021) found older adults had demonstrated psychosocial toughness based on their life experiences. Likewise, Kang et al. (2021) argued older adults were less likely to feel loneliness so long as possessing a certain level of sense of purpose in life. Jiang, 2022 also revealed a positive linkage between feeling gratitude and positive SWB even during the pandemic, while Sin et al. (2021) confirmed that older adults alongside middle-aged people provided more COVID-19 related support as compared with their younger counterparts and that such prosocial activities were associated with greater satisfaction and smaller negative affect. The similar structure (i.e., older adults' resilience under the global crisis) has been reported in multiple cases, underpinned by their altruistic behavior, coping strategies, and personal/social traits (Fuller & Huseth-Zosel, 2021; Klaiber et al., 2021; Knepple Carney et al., 2021; Lee et al., 2021; Losada-Baltar et al., 2022; Minahan et al., 2021).

While the resilient nature of older adults has thus been uncovered psychologically, one pivotal dimension remains empirically elusive: the (unequal) distribution of resilience. Given that the pandemic has exacerbated social inequality in well-being (Kawachi, 2020; Shen & Bartram, 2021), one may assume that the "resilience divide" (Cutter et al., 2016) also emerges among older adults in these uncertain times: some

maintain/improve positive feeling, whereas others encounter lowered sociopsychological conditions. Should this be the case, it is essential to pay attention to the heterogeneity in resilience across socio-demographic characteristics, alongside its overall trend, lest we leave vulnerable older adults left behind. Indeed, pioneering studies reported the heterogeneous experiences and behaviors under COVID-19 even among older adults (Cohn-Schwartz & Ayalon, 2021; Igarashi et al., 2022; Polenick et al., 2021; Yamashita et al., 2022)

Herein, another unique contribution of this study is its "positive sociological" approach (Thin, 2014). In most of the aforementioned literature, the primary focus has been on the negative dimension of psychological well-being (e.g., loneliness, exhaustion, and stress). However, scholars have long argued the importance of shedding light on the positive aspects, such as happiness, life satisfaction (LS), affect, and eudaimonia (Diener, 2000; Kahneman & Krueger, 2006; Steptoe, 2019). Among other things, prior studies have detected the nuanced structure of LS as a component, a predictor, and/or a consequence of comprehensive resilience (Abolghasemi & Taklavi Varaniyab, 2010; Azpiazu Izaguirre et al., 2021; Kong et al., 2015). In better understanding the resilience (and broader scopes of well-being) of older adults including its dispersion in these transformative times, it is therefore imperative to mobilize the perspective of positive sociology. Nevertheless, we know little about how the extent and structure of their positive feeling has shifted during the devastating crisis and how it has been socio-economically determined.

Against such a background, the current paper paid attention to LS and investigated (1) how older adults' LS, as compared with their younger counterparts, had changed during the COVID-19 pandemic and (2) how it was distributed across socio-demographic attributes. This way, one may detect not only personal factors but also the social structure that significantly affects older adults' LS apart from the overall tendency, thus leading to sounder social policy to promote human flourishing (Graham et al., 2018; Vanderweele, 2017). In what follows, data and methods are explained, followed by analysis results and discussions.

Data and Methods

In answering the said questions, this article shed light on the most aged society, Japan, using the large-scale nation-wide panel survey "Changes in Attitudes and Behaviors during the Covid-19 Pandemic" conducted by the Cabinet Office, Government of Japan (CAO). Japan is an ideal case for this line of research because its large number of older adults permits robust analysis of the heterogeneous distribution of their QOL including LS. This also means, by better understanding the resilience divide in the context of Japan from the viewpoint of applied gerontology and positive sociology, one may consider (1) what could happen as a consequence of population aging alongside the global shock and (2) how to address it even in other societies with the relatively smaller proportion of older adults for the moment.

The CAO survey has been administered four times thus far: May/June 2020, December 2020, April/May 2021, and September/October 2021. In each wave, 10,128 residents in Japan aged 15 and over were selected via multistage sampling according to age groups, gender, and residential areas (i.e., 47 prefectures) (Cabinet Office, 2020). Although CAO designed this initiative as a panel survey, not all the respondents participated in every wave. For example, in the second wave, 5,192 respondents out of 10,128 were identified as the ones who also took part in the first wave (i.e., the rest provided answers only for the second wave). It is important to note, despite this relatively smaller sample size for the "panel" than the entire target in each wave, CAO confirmed the representativeness of its participants (Cabinet Office, 2020). Given that the fourth wave did not secure a sufficient number of older adults for panel data analysis as detailed below, the current study used 3,725 respondents aged 25 and over who provided clean data for necessary variables in both the first and third waves (i.e., May/June 2020 and April/May 2021).

Among a range of measures, the main target was LS, which had been asked using the Cantril Ladder, with 0 being the worst (i.e., not satisfied at all) and 10 being the best (i.e., extremely satisfied). Although this LS scale, or evaluative happiness, is merely one dimension of broader concepts of SWB (Diener, 2000; Möwisch et al., 2021), it has been widely used in this line of research (Helliwell et al., 2021). In the CAO survey, respondents were asked their LS with this measure when the survey was conducted in each wave, which permits both cross-sectional and longitudinal analyses. Herein, one may argue LS scores in two waves during the pandemic might have been biased due to "response shift" (Schwartz et al., 2006; Sprangers & Schwartz, 1999), such that people's evaluation of their life has changed in accordance with the transformation of their values and conceptualization. Examining this potential impact is beyond the scope of the current paper, but future research must benefit from incorporating these perspectives.

Using this variable, as the first step, the shift in LS from the first wave to the third wave was descriptively summarized and compared across three age groups: 25 to 44; 45 to 64; and 65 and above. As detailed in the next section, this comparison showed greater resilience among older adults, corroborating prior research. After reviewing the overall trend, the heterogeneous distribution of LS among older adults ($N = 879$, aged 65 and over) was then focused on, and two statistical analyses were conducted: (1) multinomial logistic regression of the combination of LS in 2020 and 2021 (i.e., between analysis), and (2) fixed effects regression of the shift in LS from 2020 to 2021 (i.e., within analysis) with a supplementary nonlinear model (i.e., ordered logistic regression) for a robustness check.

For multinomial logistic regression, the original 0–10 scale for LS was recoded into three groups according to its distribution: Low (0–3), Mid (4–6), and High (7–10). Combining these three categories in two waves (i.e., May/June 2020 and April/May 2021), nine groups were generated (i.e., Low-Low, Low-Mid, Low-High, Mid-Low, Mid-Mid, Mid-High, High-

Table 1. Descriptive statistics.

Variables	Waves	
	May/June 2020	April/May 2021
Life satisfaction (0–10)	4.56 (2.11)	5.57 (2.08)
Women	51.0%	50.2%
Age group		
65–69 years old	48.5%	45.8%
70–74 years old	36.3%	37.7%
75–79 years old	12.7%	12.7%
80 years old and above	2.6%	3.8%
Occupation		
Unemployed (not looking for jobs)	68.9%	72.1%
Unemployed (looking for jobs)	2.5%	2.2%
Homeworker	2.0%	0.9%
Self-employed	6.4%	5.8%
Company manager	2.5%	2.0%
Part-time employee	13.2%	12.2%
Full-time employee	4.4%	4.8%
Income		
Below two million	15.2%	17.6%
Two to six million	63.0%	63.7%
Six million and above	21.8%	18.7%
Family		
Living alone	17.0%	17.0%
Married	2.2%	1.6%
Divorced	7.0%	6.7%
Widowed	9.5%	10.1%
Self-evaluation		
Health status (0–10)	5.46 (2.26)	6.00 (2.10)
Social ties (0–10)	4.21 (2.24)	5.32 (2.06)
Observations (N)	819	879

Note. The values for life satisfaction, health, and social ties are mean scores measured by the Cantril Ladder (0–10 scale points), with standard deviations in parentheses. For dummy variables, the percentages of correspondents are shown. "Income" was originally asked with more detailed scales, but the three categories were created/provided by CAO to ensure anonymity.

Low, High-Mid, and High-High). For example, a respondent who reported "3" in May/June 2020 and "5" in April/May 2021 was classified as Low-Mid, whereas those with "8" and "9" in each wave were taken as High-High. Using the Mid-Mid group as the reference, this study examined the association between respondents' socio-demographic attributes (i.e., age, gender, occupation, income, family, health, and social ties) and the probability of falling into other LS groups as follows.

$$\log\left(\frac{\pi_k}{\pi_{Mid-Mid}}\right) = b_0 + \sum b_n X_n + \varepsilon$$

where $\pi_{Mid-Mid}$ = the probability of being the Mid–Mid combination of LS, π_k = the probability of falling into response categories (i.e., from Low-Low to High-High, respectively), b_0 = the intercept, b_n = the coefficient of each predictor, ε = the residual, and X_n indicates predictor variables,
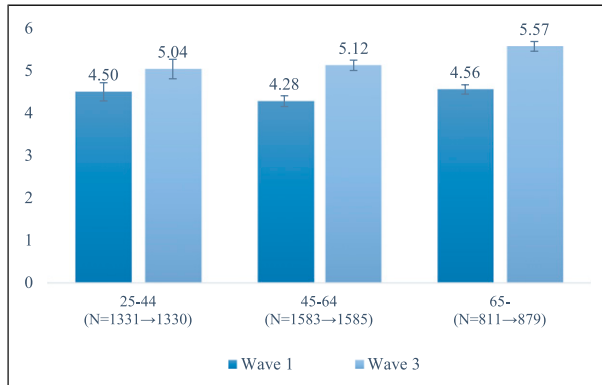
Figure 1. *Life satisfaction scores in 2020 and 2021 across age groups. Note: The figure summarizes the mean scores of life satisfaction across three age groups. Lines above/below the bars indicate the 95% confidence intervals.*

including age, gender, occupation, income, family, and self-evaluation on the status of health and social ties (see Table 1 for descriptive statistics and more details about variables).

Meanwhile, fixed effects regression is simply describable as follows.

$$y_{it} = \alpha_i + \sum \beta_n X_{it} + \mu_{it}$$

where y_{it} = LS for individual i at time t, α = the unobserved time-invariant individual effect, β = the coefficient of each predictor,

X = the time-variant vector (i.e., age, occupation, income, family, health, and social ties), and μ = the error term. In addition to this linear model, considering the ordinal nature of the LS measure (i.e., 0–10 Cantril Ladder), ordered logistic regression was supplementarily employed with the same predictors as above. These regression models permit a better understanding of older adults' LS during the pandemic from both the cross-sectional and longitudinal viewpoints.

Results

Figure 1 illustrates the heterogeneous shift in LS during the pandemic across three age groups, indicating that average LS had not declined but improved regardless of age. In particular, older adults aged 65 and above showed a substantial gain: the mean scores of LS had changed from 4.50 (95% CI: 4.37, 4.63) to 5.04 (95% CI: 4.92, 5.16) among the youngest group aged 25 to 44; from 4.28 (95% CI: 4.17, 4.39) to 5.12 (95% CI: 5.01, 5.24) for those aged 45 to 64; and from 4.56 (95% CI: 4.41, 4.70) to 5.57 (95% CI: 5.43, 5.71) among the oldest group. Consequently, while the explicit difference in LS across generations was not observed in the first wave (May/June 2020), a significant gap between those aged over 65 and their younger counterparts were confirmed in the third wave (April/May 2021) even when employing ANOVA to test these differences. This is consistent with
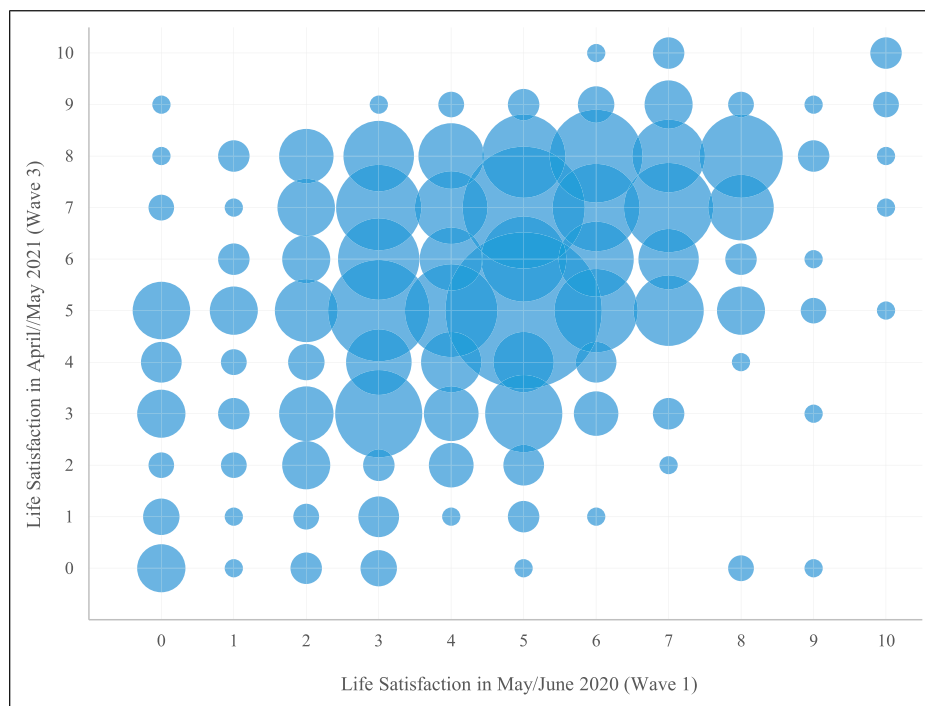

Figure 2. *Distribution of life satisfaction scores in 2020 and 2021 among older adults. Note: The figure illustrates the combination of life satisfaction in the early phase of the pandemic (May/June 2020) and 1 year after (April/May 2021) among older adults aged 65 and above, showing a moderate correlation between them (r = 0.398; ρ = 0.379), with an increase in the mean score over the year: 4.56 (95% CI: 4.41, 4.70) versus 5.57 (95% CI: 5.43, 5.71). The size of bubbles indicates the relative number of respondents for each combination of life satisfaction in 2020 and 2021.*

Table 2. Multinomial logistic regression and fixed effects regression of the shift in life satisfaction from 2020 to 2021.

| Predictors | Multinomial Logistic Regression: Ref = Mid (2020) to Mid (2021) | | | | | | | | | |
| | Low to Low | | Low to Mid | | Low to High | | Mid to Low | | Mid to High | |
	B	SE	B	SE	B	SE	B	SE	B	SE
Women	0.64*	0.30	0.12	0.24	0.22	0.30	0.47	0.34	−0.13	0.23
Age group										
70–74 years	−0.33	0.33	−0.01	0.26	0.24	0.33	0.16	0.35	0.13	0.24
75–79 years	−0.87	0.47	−0.40	0.37	0.57	0.44	−0.96	0.61	−0.21	0.37
80 and above	−0.79	0.87	0.22	0.65	1.29	0.74	−1.06	1.16	0.64	0.67
Occupation										
Unemployed (looking for jobs)	−0.21	0.91	−1.27	1.10	−0.17	0.87	−0.81	1.19	−0.72	0.76
Homeworker	−0.60	1.47	—	—	1.15	1.13	0.86	1.21	—	—
Self-employed	0.63	0.58	0.46	0.49	−0.03	0.66	−0.49	0.84	−0.44	0.55
Company officer	—	—	1.04	0.73	0.47	0.96	—	—	0.03	0.83
Part-time employee	−0.38	0.46	0.05	0.35	−0.52	0.50	−0.64	0.56	−0.12	0.34
Full-time employee	0.34	0.91	1.04	0.59	−0.62	1.12	0.26	0.90	0.78	0.57
Income										
Two to six million	−0.24	0.38	0.15	0.32	−0.31	0.40	−0.19	0.43	0.57	0.34
Six million and above	−0.92	0.57	−0.17	0.43	0.13	0.50	0.03	0.59	0.61	0.43
Family										
Living alone	0.60	0.54	−0.28	0.43	−0.42	0.56	0.19	0.61	−0.40	0.41
Married	0.73	0.94	−0.79	1.16	−0.93	1.23	0.43	1.20	−1.05	0.95
Divorced	−1.84*	0.74	−0.83	0.58	−1.56	0.86	−0.87	0.77	−0.73	0.53
Widowed	−1.11	0.63	0.06	0.42	−1.54*	0.70	−0.79	0.71	−0.32	0.43
Self-evaluation										
Health status	−0.23**	0.07	−0.10	0.06	0.33***	0.09	−0.31***	0.08	0.37***	0.07
Social ties	−0.69***	0.09	−0.07	0.07	0.20*	0.09	−0.37***	0.09	0.31***	0.07
Intercept	3.48***	0.62	0.30	0.56	−4.17***	0.80	2.04**	0.69	−4.64***	0.64

| Predictors | Multinomial Logistic Regression: Ref = Mid (2020) to Mid (2021) | | | | | | Fixed Effects | | Ordered Logit | |
| | High to Low | | High to Mid | | High to High | | (Linear) | | (Nonlinear) | |
	B	SE	B	SE	B	SE	B	SE	B	SE
Women	−0.65	0.77	−0.44	0.36	0.10	0.28	—	—	—	—
Age group										
70–74 years	−0.55	0.77	−0.55	0.41	0.04	0.29	0.12	0.27	0.09	0.11
75–79 years	—	—	0.28	0.46	−0.02	0.44	0.84	0.52	0.17	0.16
80 and above	—	—	−0.12	1.13	1.42*	0.69	1.64*	0.80	0.31	0.28
Occupation										
Unemployed (looking for jobs)	1.40	1.23	−0.41	1.12	−1.16	1.14	−0.24	0.39	−0.30	0.32
Homeworker	—	—	—	—	−0.53	1.43	0.33	0.58	−0.43	0.41
Self-employed	—	—	−0.45	0.82	−0.02	0.58	−0.29	0.45	−0.10	0.21
Company officer	—	—	0.65	0.96	−0.08	0.96	−0.29	0.70	−0.02	0.33
Part-time employee	0.55	0.91	−1.37	0.77	−0.39	0.43	0.21	0.41	0.22	0.15
Full-time employee	1.43	1.28	0.60	0.78	0.95	0.63	−0.33	0.57	0.10	0.24
Income										
Two to six million	−0.31	0.91	0.57	0.55	0.87	0.45	0.00	0.29	0.32*	0.14
Six million and above	−1.01	1.37	0.56	0.69	1.29*	0.53	−0.08	0.38	0.46*	0.18
Family										
Living alone	−0.69	1.18	0.08	0.64	0.19	0.47	−0.72	0.80	0.08	0.18
Married	2.10	1.41	−0.34	1.23	—	—	0.24	0.84	−0.58	0.37

(continued)

Table 2. (continued)

Predictors	Multinomial Logistic Regression: Ref = Mid (2020) to Mid (2021)						Fixed Effects (Linear)		Ordered Logit (Nonlinear)	
	High to Low		High to Mid		High to High					
Divorced	0.47	1.41	−0.51	0.81	−0.78	0.58	−0.06	1.16	−0.22	0.23
Widowed	0.85	1.31	−0.16	0.68	−0.86	0.54	1.62	0.99	−0.24	0.20
Self-evaluation										
Health status	0.15	0.21	0.25*	0.10	0.44***	0.09	0.37***	0.03	0.49***	0.03
Social ties	0.23	0.23	−0.01	0.10	0.47***	0.08	0.34***	0.03	0.56***	0.03
Intercept	−4.64**	1.76	−3.02**	0.94	−7.20***	0.83	1.15**	0.39	See Note below.	

N = 879, Pseudo R^2 = 0.16 for multinomial logistic regression, and Within R^2 = 0.36 for fixed effects regression. *** p < .001, ** p < .01, * p < .05 [two tailed] Note: "Low", "Mid", and "High" in multinomial logistic regression indicate that the life satisfaction level was 0–3, 4–6, and 7–10, respectively, and the reference category was the combination of mid-level in both 2020 and 2021 (i.e., Mid-Mid). "-" means that the variable was omitted because no cases (or too small cases for a valid estimation) were observed for the response category. In the fixed effects model, the coefficient of "Women" was not estimated because all the respondents chose the same gender in both waves (i.e., time-invariant). The cut points for ordered logistic regression are 0.63, 1.39, 2.49, 4.00, 4.73, 6.48, 7.38, 8.80, 10.98, and 12.43.

recent arguments that older adults are resilient even under the global crisis.

Nonetheless, Figure 2 also shows the dispersion of LS across two waves among older adults. While the majority indicated the mid-level (i.e., five) in both waves, 17% of respondents reported low LS (i.e., 0–3) even in the third wave. Moreover, the correlation between two LS scores (i.e., Waves 1 and 3) was modest (r = 0.398; ρ = 0.379), meaning that the relative levels of LS among older adults varied over the year from the first to the third wave. Indeed, Figure 2 indicates that 10% of respondents had been trapped in the "Low-Low" range (i.e., LS scores were 3 or below in both waves) whereas some achieved "Mid" or "High" in the latest wave despite their low LS in the first wave. Likewise, there were cases that fell into the low range in 2021 from mid to high levels in 2020. An important question here is, as discussed, not only whether the average LS level had improved during the pandemic but what made some older adults more satisfied and others dissatisfied.

Table 2 (except the final two columns) summarizes the result of multinomial logistic regression, revealing the significant linkage between the shift in LS and such attributes as income, health, and family/social relationships. In particular, health and social ties were largely associated with variation in LS, such that older adults with better health status and/or relationships were more likely to achieve preferable LS combinations (e.g., Low–High, Mid–High, and High–High) with the low possibility of facing unfavorable changes from the first wave in 2020 to the third wave in 2021 (e.g., Low–Low and Mid–Low). Meanwhile, two family related dummy variables (i.e., divorced and widowed) showed a negative sign for Low-Low and Low-High, respectively. Women (dummy) also indicated the high chance of falling into the Low-Low combination despite relatively large intervals (i.e., B = 0.64, 95% CI = 0.04 to 1.23, p = .035). In contrast, two predictors were positively linked to the probability of being in

the High-High range: the oldest group (i.e., 80 years and over: B = 1.42, 95% CI = 0.07 to 2.77, p = .039) and the highest annual income group (i.e., six million yen and over: B = 1.29, 95% CI = .25 to 2.33, p = .015). That is, in maintaining high LS throughout the pandemic including both its early phase and recent one, economic resources and age (and/or this specific cohort) played an important role.

These results suggest that, despite the overall resilience of those aged 65 and above as observed in Figure 1, it was distributed unequally depending on their gender, income, health status, and family/social relationships alongside age, at least cross-sectionally. Put differently, the resilience divide emerges even among older adults under the global pandemic. However, this approach does not necessarily provide evidence concerning how the longitudinal changes in such attributes within individuals affected their LS over time. A fixed effects model thus qualifies as an effective strategy as follows.

The final columns in Table 2 show the result of fixed effects regression with ordered logit as a supplement, indicating the notably positive effects of three variables on LS: age, health, and social ties. That is, in line with the aforementioned arguments about older adults' resilience, the preferable sign for the oldest group aged 80 and above was confirmed (i.e., β = 1.64, 95% CI = 0.08 to 3.21, p = .040). This means, even among those aged 65 and above, aging would underpin their LS in times of uncertainty. Likewise, an increase in self-evaluation on respondents' health status and social relationships contributed to higher levels of LS, net of other conditions (i.e., β = 0.37 and 0.34, 95% CI = 0.30 to 0.43 and 0.28 to 0.39, respectively, and p < .000 for both predictors).

Meanwhile, in the fixed effects model, income and family relationships did not indicate significant coefficients, albeit the former showing the positive sign in the ordered logistic model. Given their observed relationship with the shift in LS in multinomial logistic regression, one may argue that these socio-demographic attributes operated relatively when

comparing those who had such assets and those who did not, whereas longitudinal changes in age, health, and social ties within individuals had contributed more explicitly to improving LS from the first wave in 2020 to the third wave in 2021. In the next section, after summarizing the key findings, some implications are discussed.

Discussion and Conclusion

The present study examined how older adults' resilience was (unequally) distributed despite its overall strength as compared to their younger counterparts, with particular attention to the shift in LS in the midst of the COVID-19 pandemic, from May/June 2020 to April/May 2021. This serves as one prototype of the composite of gerontology and "positive sociology", which explores the association between socio-demographic attributes and a positive element of older adults' well-being. Using the nation-wide panel survey data in Japan, it was first revealed that those aged 65 and over had improved their LS more largely than younger adults, corroborating prior research. Drawing on the concepts like "response shift" as reviewed earlier, one may argue that older adults had leveraged their experiences and transformed their internal standard and conceptions/priorities more skillfully under the devastating crisis in a way that would enhance their positive feeling. Put differently, older adults are resilient in terms of positive components of SWB as with negative ones reported by the literature. Nevertheless, significant heterogeneities were also confirmed among them, such that some were more satisfied over the year whereas others rather lost LS, indicating the existence of resilience divide (see Figure 2).

Indeed, multinomial logistic regression detected a significant association between the variation in LS and a range of socio-demographic attributes, including gender, age, income, family/social relationships, and heath. It is particularly noteworthy that, while better health and social ties largely demonstrated positive signs for preferable LS shifts (e.g., Low–High and Mid–High) and negative ones for unfavorable combinations (e.g., Low–Low and Mid–Low), the top income group showed a high probability of obtaining high LS in both waves (i.e., High–High). This suggests, at least cross-sectionally, the possession of financial resources played an essential role in dividing older adults into those who could and who could not retain positive feelings during the pandemic. Meanwhile, it was also found that women were more likely to report the Low-Low combination, implying that older women had been penalized in terms of LS under COVID-19 despite the observed resilience on average in the same age group. Put differently, the resilience divide based on income and gender as well as health and social resources might be at work in these uncertain and transformative times.

Among these predictors, the fixed effects model confirmed the substantially positive effect of three variables: age, health, and social ties. That is, from the longitudinal perspective (i.e.,

changes within individuals, not as compared to others with different traits), both aging and an improvement in health status and relationships had contributed to enhancing resilience among older adults, at least measured by LS. In contrast, although income showed a link with the high chance of possessing high LS throughout the pandemic as compared to the economically disadvantaged counterparts in a multinomial model, an increase in income ranges had not longitudinally promoted LS within respondents despite its positive sign in the ordered logistic model. One may therefore assume that income operated as a relative good, making older adults with larger economic power feel satisfied in comparison to the have-nots. Should this be the case, the resilient nature of older adults must not be taken as a given to them; rather, it is the privilege of those with certain socio-economic resources. This means, from the perspective of social policy, it is imperative to carefully examine who are left behind even within relatively resilient groups during the unprecedented global shock and to support vulnerable individuals.

Thus, the nuanced mechanisms of resilience divide among older adults were revealed. To advance this line of argument, future research must scrutinize other societies alongside Japan and compare their structures. Although Japan can be considered as one ideal case for gerontological studies as discussed earlier, the generalizability of its implications to other countries should be carefully examined in consideration of sociocultural commonalities and differences that may affect life satisfaction of older adults and beyond. This includes, but is not limited to, social policy/security (i.e., the extent to which older adults are socio-economically supported), the degree of gender (in) equality (i.e., how older women and men are (un)equally treated in a society), the extent of social connectedness (Cornwell et al., 2008), the rewards allocation mechanisms linked to the aggregate skills level (Araki, 2022), and their interactions with individual-level attributes (i.e., compositional effects). In so doing, variables should also be extended to, for example, other types of SWB (e.g., hedonic and eudemonic happiness; negative dimensions of mental health), genetic factors, time use, objective measures for health and relationships, and attitude toward vaccination (Bhagianadh & Arora, 2022; Callow & Callow, 2021). To answer how and why the observed relationships between the predictors and LS (do not) exist, qualitative studies (and possibly mixed methods) should also be effective. Arguably, as demonstrated by previous research, comparison between older adults and their younger counterparts would bring new insights in this vein. With these future directions, the present paper significantly contributed to better understanding the social structure behind older adults' resilience in times of uncertainty.

Declaration of Conflicting Interests

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