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**The relationship between intergenerational financial support and well-being
before and after the COVID-19 pandemic**

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The relationship between intergenerational financial support and well-being before and after the COVID-19 pandemic

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Abstract

This study investigated the effects of providing and receiving intergenerational financial support on the well-being of Japanese adults before and during the COVID-19 pandemic. Data were obtained from the Japan Household Panel Survey (JHPS 2019–2022). We analyzed participants aged 30 years and older whose parents were still alive. We compared two aspects such as: (1) associated factors of providing and receiving intergenerational financial support; and (2) association between intergenerational financial support on mental health and well-being, before and during the pandemic. The analysis showed that factors associated with receiving intergenerational financial support differ between before and during the pandemic. A mixed-effects regression showed that receiving intergenerational financial support was significantly associated with better well-being. In addition, the effect of receiving intergenerational financial support on well-being was particularly among age 40s participants. Although nationwide financial assistance from the government during the pandemic, family support may improve well-being during health crisis period.

Keywords COVID-19; intergenerational financial support; well-being

Statements and Declarations The authors declare no conflicts of interest.

1 Introduction

Family support is a fundamental social support and commonly occurs in the form of bidirectional intergenerational support, especially between parents and their children (Ruan & Zhu, 2021). Intergenerational support has two aspects including “downward”, where parents provide assistance to their offsprings, and “upward”, where adults children provide assistance to their parents. Social exchange theory posits that people form, maintain, and develop relationships through the exchange of various things (Homans, 1958). Not only material objects but also intangible things, including information and emotional responses such as gratitude and respect, can be given or received. This support system transcends mere resource transfer, embodying emotional bonds and shared responsibilities that profoundly shape intergenerational dynamics and individual well-being (Zhao et al., 2023). Due to increasing nuclear family and aged society, increase studies explored effect of intergenerational support on mental health and well-being particularly among older adults. Research findings indicate that receiving emotional support from adult children; such as care, listening, and companionship, stands as the strongest and most consistent positive predictor. And, this support significantly reduces depression and loneliness while enhancing life satisfaction, subjective well-being, and self-esteem. (Cong & Silverstein, 2008). Moreover, a systematic review explored that intergenerational support, especially emotional support and financial support emerged as crucial factors that can significantly reduce depressive symptoms among older individuals (Sharifi et al., 2024).

Regarding mental health, Maslow’s hierarchy of needs theory includes physiological needs and the need for security, belonging and love, respect, and self-realization (Maslow, 1954). According to Maslow, intergenerational support starts with the internal needs of adults and helps them form a healthy psychological state by satisfying their needs at different hierarchical levels. It can be said that economic and emotional support can alleviate loneliness and address safety and social needs. Intergenerational financial support involves the exchange of economic assistance between generations within a family (Zhao et al., 2023). It encompasses economic assistance and reciprocal support between generations, and may become increasingly vital as the cornerstone of informal care for older adults and family solidarity. When needed (e.g., during health crises), such support can alleviate stress and boost happiness. For example, a study showed that intergenerational financial support can satisfy adults’ physiological needs (Yan et al., 2023). Downward intergenerational financial support, where older adults provide support to their children also enhance life satisfaction of older adults (Chen & Silverstein, 2000; Liu & Bai, 2024). Providing instrumental support (e.g., caring for grandchildren), when undertaken voluntarily, moderately, and within one's capacity, this typically constitutes "productive aging," which brings a sense of purpose, fulfillment,

and vitality.

However, excessive or forced caregiving responsibilities can become stressors, leading to fatigue and anxiety (Cong & Silverstein, 2008). Moreover, prolonged or excessive reliance on care from one's children may lead to dependency, loss of autonomy, and guilt, ultimately harming mental health, especially when older adults feel that they are becoming a burden. Accepting financial support from children can alleviate economic pressure among resource limited seniors and indirectly promote mental health. Accepting such support may also cause psychological burdens, such as feelings of inadequacy or dependency. Although providing financial assistance to one's children is often associated with better economic conditions and mental well-being (as evidenced by their ability to demonstrate sufficient capacity), it may also create financial strain (Hughes et al., 2007). The study indicates that downward intergenerational support including both providing support to children and aid received from children increase depression among older parents (Lee et al., 1995).

Majority of empirical studies which have explored the association between providing intergenerational financial support and mental health among older adults were conducted in East Asian countries. In this region, the culture of supporting one's parents and filial piety remains deeply ingrained. Although Japan is the country of this region, to the best of our knowledge, little is known about the views of Japanese adults on providing and receiving financial support between children and parents. In addition, intergenerational financial support also implies a great focus on receiving financial support from one's children (Huang & Fu, 2021; Zhou et al., 2017). Therefore, the study aimed to examine the association between both downward and upward intergenerational financial support and well-being among Japanese adults. We also compare the differences of these relationships before and during the corona virus disease 2019 (COVID-19) pandemic.

The COVID-19 pandemic had comprehensive and profound effects on society worldwide, including lockdowns and social distancing measures that dramatically altered lifestyles and social interactions. Strict epidemic prevention policies restricted face-to-face contact, even among family members. Social isolation policies negatively affect not only social connections and family contacts, but also household income particularly those who were socially vulnerable people (Kanbayashi et al., 2021). Furthermore, declining economic situations may affect mental health and well-being. For example, studies conducted in six European countries illustrated that economic difficulties caused by unemployment, reduced incomes, and shortened working hours adversely affected mental health during the pandemic (Witteveen & Velthorst, 2020). However, people with COVID-19 who perceived high family support were more likely to present a high capacity for coping strategies (Chilon-Huaman et al., 2023). Moreover, social support can be a

protective factor against decreased psychological well-being, particularly help received from one's children, which may reduce depressive symptoms in older adults (Lu et al., 2023). In this context, social and financial support play important roles in mitigating the impact of social isolation and can reduce stress, improve mood, and promote positive coping mechanisms (Roohafza et al., 2014). On the other hand, regarding with household economic difficulties may increase burden on people who provide economic aid for their family. We hypothesized that effect of intergenerational financial support on well-being might differ from normal times to social crisis period. In addition, relationships between intergenerational financial support and well-being may differ by age groups. Therefore, this study aimed two aspects: (1) to examine effect of providing and receiving intergenerational financial support on individual mental health during critical junctures, such as the COVID-19 pandemic, and (2) to compare associations between upward intergenerational financial support and mental health and well-being among age groups. The study may help improve responses to potential future public crises and promote comprehensive mental well-being throughout society.

2 Materials and Methods

2.1 Study design and data sources

Data were obtained from the Japan Household Panel Survey (JHPS) conducted in 2019–2022, provided by the Keio University Panel Design and Analysis Center. The JHPS is a panel survey that use households selected through stratified two-stage random sampling comprised of the population aged ≥ 20 and has been conducted annually since 2009. The attributes of the participants were similar to those published in the national census and were reported to be a highly representative sample of the parent population. The questionnaire was originally completed only through face-to-face interviews; however, from the 2020 survey onwards, participants could answer either face-to-face or online. The questionnaire is self-report and can be completed for the selected respondent. In waves 11–14 of the survey (2019–2022), the respondents (respondent rate) totaled 1582 (90.8%), 1466 (92.3%), 1337 (90.3%), and 1264 (93.9%), respectively. The dataset which excluded personally identifiable information was acquired from the Keio University Panel Design and Analysis Center.

In Japan, the state of emergency declaration for the COVID-19 pandemic was declared in April 2020. The JHPS was conducted every February; therefore, we defined “before pandemic” was data from 2019–2020 and “during the pandemic” was data from 2021–2022. Our study excludes respondents whose parents had passed away and those who participated in the study only either before- or during the pandemic. Thus, 702 samples were analyzed.

2.2 Dependent variable

The main outcomes of this study were mental health and well-being. Mental health was assessed by asking respondents how they had felt over the past 30 days for six items: “nervous,” “hopeless,” “restless,” “depressed,” “everything is hard work for me,” and “worthless.” The answers were provided on a 5-point Likert scale as follows: “always (1),” “often (2),” “sometimes (3),” “a few times (4),” or “never (5).” Total scores ranged from 6 to 30, with higher scores indicating better mental health. Well-being was assessed using two items: “I have something to live for” and “I have hopes in my life.” Each item had five answer options: “inapplicable (1),” “not really applicable (2),” “neither inapplicable nor applicable (3),” “somewhat applicable (4),” or “applicable (5).” Total scores ranged from 2 to 10, with higher scores indicating higher well-being.

2.3 Explanatory variables

The main explanatory variables were the providing and receiving intergenerational financial support. Providing financial support was evaluated by asking respondents, “how much money did you give to your parents last year?” The purpose of providing financial support was housing purchases, rent, living expenses, medical expenses, no purpose, or others. Receiving financial support was evaluated by asking the respondents, “how much money did you receive from your parents last year?” The purpose of receiving financial support was same as providing one, and inheritance was excluded. These questions were measured in Japanese yen (JPY, 1 JPY = 147 USD). Although responses were obtained based on monetary amount, the amounts contained outliers, therefore, we categorized respondents into two groups based on whether they had provided support to or received support from their parents (“yes” = 1, “no” = 0).

2.4 Confounding variables

The potential confounding variables consisted of demographic and physical health conditions and the need long-term care for the participants’ parents (presence or absence of long-term care needs). Demographic variables included age, gender, employment status, marital status, family size, and annual net household income in the previous year. Self-rated health was assessed on a 5-point scale as “good,” “fairly good,” “neither good nor bad,” “fairly bad,” or “bad.”

2.5 Statistical analysis

First, descriptive statistics were calculated for each dataset. Second, a logistic regression model was applied to identify the factors associated with providing and receiving financial support before and during the pandemic. Finally, a mixed-effects ordered logistic regression model was applied to the panel data to

identify the effect of overall trends (fixed effects) on providing and receiving financial support and variations in that trend (random effects) in each wave. Mental health and well-being had non-normal distributions; thus, these outcomes were categorized into four groups based on interquartile range scores. All analyses were performed at Okayama University using Stata ver19 (StataCorp., TX., USA). The statistical significance level was set at $p < 5\%$.

3 Results

3.1 Participants characteristics

Table 1 presents the participants' descriptive statistics for each wave. Approximately 14% of the respondents provided financial support to their parents, and nearly 11% received financial support from their parents. The means (standard deviation) of providing and receiving financial support in before the pandemic period were 75,523 (409,864) and 63,325 (685,756) JPY, respectively. The means (standard deviation) of providing and receiving financial support during the pandemic period were 75,834 (310,849) and 36,497 (173,796) JPY, respectively. A Chi square test showed no statistical difference providing and receiving support by survey years. In addition, a Kruskal-Wallis test showed no differences in mental health and well-being scores in each wave.

Table 1 Descriptive statistics of the subjects' characteristics in each wave (2019–2022)

Variables	Wave 2019 N = 778 (%)	Wave 2020 N = 779 (%)	Wave 2021 N = 758 (%)	Wave 2022 N = 717 (%)
Age category				
30–39	154 (19.8)	132 (16.9)	110 (14.5)	88 (12.3)
40–49	281 (36.1)	272 (34.9)	244 (32.2)	230 (32.1)
50–59	229 (29.4)	247 (31.7)	257 (33.9)	254 (35.4)
≥ 60	114 (14.7)	128 (16.4)	147 (19.4)	145 (20.2)
Female	376 (48.3)	377 (48.4)	369 (48.7)	345 (48.1)
Married	578 (74.3)	582 (74.7)	562 (74.0)	541 (75.5)
Living alone	77 (8.1)	74 (8.6)	68 (9.0)	58 (8.0)
Employed	658 (84.8)	661 (85.0)	625 (82.5)	605 (84.4)
Net annual income (in 1000 JPY) ^a	758 (463)	743 (428)	746 (425)	758 (441)
Self-rated health				
Good/fairly good	321 (41.8)	358 (46.1)	314 (41.6)	305 (42.8)
Neither good nor bad	327 (42.6)	302 (38.9)	317 (42.0)	289 (40.6)
Fairly bad/bad	120 (15.6)	117 (15.1)	123 (16.3)	118 (16.6)
Parental need for long-term care	112 (14.4)	124 (15.9)	132 (17.4)	124 (17.3)
Providing financial support	105 (13.6)	120 (15.5)	110 (14.6)	95 (13.4)
Receiving financial support	87 (11.3)	85 (11.0)	79 (10.5)	65 (9.2)
Mental health scores ^a	25.0 (4.8)	25.3 (4.9)	24.9 (5.1)	24.8 (5.3)
Well-being scores ^a	7.0 (1.9)	7.0 (2.0)	7.0 (2.0)	7.0 (1.9)

^a:The mean (standard deviation)

3.2 Associated factors with providing and receiving intergenerational financial support before and during the pandemic

The logistic regression model showed that male gender, being married, higher net annual income, better self-rated health, and parental need for long-term care were associated with providing intergenerational financial support before the pandemic. However, employed participants were more likely to provide financial support to their parents than unemployed participants during the pandemic (Table 2).

Table 2 Factors associated with providing intergenerational financial support before and during the pandemic

Variables	Before pandemic		During pandemic	
	Odds Ratio	95% CI	Odds Ratio	95% CI
Age	0.99	0.97, 1.01	1.00	0.98, 1.02
Gender (ref. male)	0.61**	0.44, 0.86	0.56**	0.40, 0.80
Marital status (ref. married)	6.84***	4.67, 10.02	9.84***	6.46, 15.01
Family size	1.06	0.93, 1.20	0.99	0.87, 1.14
Work (ref. employed)	1.40	0.81, 2.41	2.79**	1.44, 5.40
Log annual income	1.78***	1.33, 2.38	2.53***	1.83, 3.51
Self-rated health (ref. bad)	0.78**	0.66, 0.93	0.88	0.73, 1.06
Need care for parents (ref. no)	2.07**	1.35, 3.16	1.65*	1.06, 2.56

Significance levels: *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$

Table 3 shows female and younger age participants were more likely to receive financial support from their parents before the pandemic. However, participants being married and had more family members were more likely to receive financial support from their parents than participants not being married and have less family members.

Table 3 Factors associated with receiving intergenerational financial support before and during the pandemic

Variables	Before pandemic		During pandemic	
	Odds Ratio	95% CI	Odds Ratio	95% CI
Age	0.98*	0.96, 0.99	0.98	0.96, 1.00
Gender (ref. male)	1.48*	1.05, 2.06	1.43	0.99, 2.06
Marital status (ref. married)	1.28	0.83, 1.97	2.04**	1.30, 3.19
Family size	1.11	0.97, 1.28	1.24**	1.08, 1.43
Work (ref. employed)	1.72	0.99, 2.97	0.65	0.41, 1.02
Log annual income	0.76	0.56, 1.03	0.74	0.53, 1.02
Self-rated health (ref. bad)	0.94	0.78, 1.12	1.08	0.89, 1.30
Need care for parents (ref. no)	0.93	0.55, 1.58	1.01	0.61, 1.69

Significance levels: *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$

3.3 Effects of intergenerational financial support on mental health and well-being before and during

the pandemic

A mixed-effects ordered logistic regression showed that both providing financial support to their parents and receiving support from their parents have negative association with mental health status, however, positive association with well-being. Additionally, we found that marital status and better self-rated health have strong predictors of better mental health and well-being level (Table 4).

Table 4 A mixed-effects ordered logistic regression for effect of intergenerational financial support and mental health and well-being

Variables	Mental Health		Well-being	
	Coefficient (SE)	95% CI	Coefficient (SE)	95% CI
Providing financial support (ref. no)	-0.15 (0.11)	-0.36, 0.07	0.03 (0.12)	-0.19, 0.26
Receiving financial support (ref. no)	-0.14 (0.11)	-0.37, 0.08	0.27 (0.12)*	0.03, 0.50
Age	0.03 (0.004)***	0.02, 0.03	-0.02 (0.004)***	-0.03, -0.16
Gender (ref. male)	-0.36 (0.07)***	-0.50, -0.22	0.27 (0.78)**	0.11, 0.42
Marital status (ref. married)	-0.31 (0.10)**	-0.51, -0.11	-0.84 (0.11)***	-1.06, -0.62
Family size	-0.04 (0.03)	-0.10, 0.02	0.05 (0.03)	-0.01, 0.11
Work (ref. employed)	-0.25 (0.10)*	-0.45, -0.05	-0.12 (0.11)	-0.34, 0.09
Log annual income	-0.006 (0.07)	-0.14, 0.13	0.06 (0.07)	-0.09, 0.20
Self-rated health (ref. bad)	0.83 (0.04)***	0.75, 0.92	0.86 (0.05)***	0.78, 0.95
Need care for parent (ref. no)	-0.04 (0.99)	-0.24, 0.15	0.01 (0.11)	-0.20, 0.22
Survey years (ref. 2019)				
2020	0.10 (0.10)	-0.09, 0.29	0.06 (0.10)	-0.14, 0.26
2021	-0.08 (0.10)	-0.27, 0.11	0.12 (0.10)	-0.08, 0.32
2022	-0.07 (0.10)	-0.26, 0.13	0.13 (0.11)	-0.08, 0.33

Significance levels: *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$

Finally, we examined the effects of providing and receiving financial support on mental health and well-being by age groups (Table 5). Participants in their 40s who received financial support were significantly feel better well-being than those who did not receive.

Table 5 Coefficients of intergenerational support on mental health and well-being by age categories

Variables	Mental Health				Well-being			
	Age 30s	Age 40s	Age 50s	Age ≥ 60	Age 30s	Age 40s	Age 50s	Age ≥ 60
Providing financial support (ref. no)	0.006	-0.18	-0.22	-0.33	0.39	-0.10	-0.18	-0.05
Receiving financial support (ref. no)	0.35	-0.34	-0.20	-0.17	-0.04	0.46*	0.11	0.65

A mixed-effects ordered logistic regression model was performed with confounding factors including marital status, gender, employment status, family size, self-rated health, need long-term care for parents, and net log annual income.

Significance levels: * $p < 0.05$

4 Discussion

This study examined the association and direction of the relationship between intergenerational financial support and mental health and well-being of Japanese adults before and during the COVID-19 pandemic. Using panel data from 2019 to 2022, the results showed no differences in mental health and well-being levels before and during the pandemic. The results also showed no significant difference in providing or receiving financial support between 2019 and 2022. A mixed-effects model showed no significant relationship between providing intergenerational financial support and well-being, whereas receiving intergenerational financial support was positively associated with well-being. Particularly, this association was more likely to associate among age 40s participants.

Contrary to our results, a study conducted in the U.S. found that receiving financial support from adult children may result in low self-esteem among older adults (Orth et al., 2010). A previous study in China also found that receiving financial support from children reduced depression among older adults; however, this effect diminished over time (Wu et al., 2023). Among older adults, those who under-benefited from financial support were less likely to have depression and disability than those who demonstrated reciprocal financial support patterns (Zhao et al., 2023). However, those receiving financial support from family members may feel a greater sense of self-worth, and this enhanced self-esteem may be a psychological resource (Thomas et al., 2017). Initial assumptions suggested that such assistance might burden parents or children, potentially causing psychological stress that undermines self-esteem and negatively affects overall well-being. However, the impact of receiving financial support may improve well-being among the study participants. During the COVID-19 pandemic, the Japanese government issued cash payments of 100,000 JPY (USD 700) to approximately 10 million households with documented post-COVID-19 income losses (Ando et al., 2020; Ikeda et al., 2021). The study in Korea revealed that public financial assistance can provide material resources and positively affect adults' mental health (Choi et al., 2024). Public economic aid may have a positive impact on mental health through meeting basic needs. However, family support may contribute to higher well-being among middle-aged people through not only tangible resources but also the provision of intangible resources including affection between parents and children.

Although there was not statistically significant, the results showed that providing financial support to parents decreased mental health and well-being among participants age 40 years or older. The study conducted in Korea, older adults who give financial support were better life satisfaction and less mental health. The authors assumed that this may be because older adults feel more self-worth and dignity when they provide financial support to their children (Lee et al., 2014). Through this approach, individuals can satisfy their self-actualization needs, which are at the top of Maslow's hierarchy (Maslow, 1954). Japan has

a horizontal family view in which adults maintain independence, responsibilities are clearly defined, and emotions are maintained within the bounds of propriety. This may explain why providing intergenerational financial support does not significantly affect the mental health and well-being of the Japanese adults. In addition, most participants in previous studies were older adults, whereas the age range of the participants in this study was relatively wide, which may partially explain these results.

The results also revealed that other individual factors, such as marital status, gender, and self-rated health, may be key in determining individual well-being and mental health levels during the COVID-19 pandemic. This suggests that certain factors not addressed in the study, or the combined effect of these factors and the impact of COVID-19, may have contributed to the continuous decline in these variables. Several studies have indicated that loneliness may have increased (Losada-Baltar et al., 2021; Van der Velden et al., 2021) and remained high during the pandemic (Bu et al., 2020b; Groarke et al., 2020). The risk of loneliness may have increased even more among those who were already at risk of feeling lonely (Bu et al., 2020a). This study showed marital status was one of the significant factors associated with better mental health and well-being. Single people were reported to be more prone to experiencing loneliness than those who did not live alone during the COVID-19 pandemic (Luchetti et al., 2020). In Japan, a similar pattern was founded, in that people without spouses had poorer mental health than those with them. In addition, sub-analysis by age group revealed a significant difference among those in their 40s. This study assumed the elevated incidence of depression among members of this age group is likely related to their higher social standing, great obligations, and propensity to be severely influenced by social isolation (Kudoh et al., 2023). Although financial support can mediate psychological stress or strain, social contact or isolation may be more significant contributors to mental health and well-being among adults.

Besides the major study objectives, we found approximately 12% of participants whose age was 60 years and older have provided financial support to their parents. Due to longevity and super aged society in Japan, increase the number of older primary caregivers is major aged care issues. Among older primary caregivers, meaningfulness is the most important for mental health. However, longer caregiving time declined mental health among older caregivers (Ninomiya et al., 2019). Further study is needed on how providing financial support to one's parents affects the mental health of older caregivers themselves.

The study's measure of intergenerational financial support was a rather simplistic binary variable, with participants indicating "yes" or "no." We did not consider the amount or level of economic support and could not control for all confounding factors, which could have led to less precise conclusions. In addition, when using secondary data, we must consider a comparison with empirical literature because of questionnaire and data limitations, particularly mental health in the JHPS, which assesses five items rather

than using a standard depressive symptoms scale. During the COVID-19 pandemic, well-being declined continuously, whereas mental health did not. The JHPS is conducted every February, and the state of emergency declaration for the pandemic was declared in April 2020. Thus, COVID-19 policies may not have had much of an impact on society during the study period. The study targeted Japanese, “infection anxiety,” which was consistent with previous reports of increased anxiety (Chishima & Liu, 2023). Economic strain, including intergenerational financial support, may not have influenced mental health during the emergency period.

Data Availability

This paper uses data from JHPS 2019–2022 (<https://www.pdrc.keio.ac.jp/en/paneldata/>). The detail of methodology of this survey can refer web page of the Panel Data Research Center at Keio University (<https://www.pdrc.keio.ac.jp/en/paneldata/datasets/jhpskhps/>).

Ethics Declarations

Conflict of interests

The authors declared no potential conflict of interest with respect to the research, authorship, and/or publication of this article.

Ethics approval and consent to participate

Not applicable.

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