

Changes in Perceived Filial Obligation Norms Among Coresident Family Caregivers in Japan

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Purpose of the Study: Japan introduced a nationwide long-term care insurance (LTCI) system in 2000, making long-term care (LTC) a right for older adults regardless of income and family availability. To shed light on its implications for family caregiving, we investigated perceived filial obligation norms among coresident primary family caregivers before and after the policy change. **Design and Methods:** Descriptive and multiple regression analyses were conducted to examine changes in perceived filial obligation norms and its subdimensions (financial, physical, and emotional support), using 2-wave panel survey data of coresident primary family caregivers ($N = 611$) in 1 city. The baseline survey was conducted in 1999, and a follow-up survey 2 years later. **Results:** On average, perceived filial obligation norms declined ($p < .05$). Daughters-in-law had the most significant declines (global and physical: $p < .01$, emotional: $p < .05$) among family caregivers. In particular, physical support, which Japan's LTC reform targeted, declined significantly among daughters and daughters-in-law ($p < .01$). Multiple regression analysis indicated that daughters-in-law had significantly lower perceived filial obligation norms after the policy introduction than sons and daughters ($p < .01$ and $p < .05$, respectively), controlling for the baseline filial obligation and situational factors. **Implications:** Our research indicates declining roles of daughters-in-law in elder care during Japan's LTCI system implementation period. Further international efforts are needed

to design and implement longitudinal studies that help promote understanding of the interplay among national LTC policies, social changes, and caregiving norms and behaviors.

Key Words: Long-term care insurance system, Informal care, Caregiving norms

Families constitute the core of elder care throughout the world. However, filial obligation, or perceived norms of children's duties toward their aging parents, varies across societies and historical times (Lowenstein & Daatland, 2006). Perceived filial obligation norms are related to, but distinct from, personal obligations that individuals feel for their own parents (Ganong & Coleman, 2005; Gans & Silverstein, 2006). Although personal obligations depend on individuals' specific circumstances and the availability of parents, filial obligation norms are relevant for all people, regardless of which generation they belong to or whether they have a surviving parent. Previous research has indicated that individuals' attitudes toward filial norms are not static but rather evolve over the life course (Finley, 1988; Gans & Silverstein, 2006). Social contexts intersect with individuals' life course and influence their attitudes over time. For example, national long-term care (LTC) reforms, as implemented or planned in various countries (Campbell, Ikegami, & Kwon, 2009; Tsutsui & Muramatsu, 2005, 2007), tend to increase societal roles in elder care

and may well affect how individuals feel about filial obligation norms (Daatland & Lowenstein, 2005). However, surprisingly little information is available on how perceived filial obligation norms change before and after nationwide LTC policy reforms that are occurring throughout the world. This is unfortunate because such information will shed light on the unresolved question of whether expanding public LTC could erode or complement existing family informal care systems (Daatland & Lowenstein, 2005; Penning, 2002).

Japan provides an excellent context to study changes in perceived filial obligation norms. As in many Asian societies, Japan has had strong traditional filial obligation rooted in intergenerational coresidence (Futoyu et al., 2010; Long, Campbell, & Nishimura, 2009; Takagi & Silverstein, 2006; Takagi, Silverstein, & Crimmins, 2007). The pre-World War II Civil Code, embraced under the Confucian norm, stipulated that the eldest son inherit the major part of the family property (e.g., the residence and family businesses) and in return assume responsibilities for caring for family members in need; the eldest son's wife (i.e., "daughter-in-law") was expected to assume daily caregiving responsibilities (Harris & Long, 1993; Long et al., 2009; Ogawa & Retherford, 1993). The post-World War II revisions of the Civil Code formally ended the old family system, and all the siblings are now entitled to equal inheritance. However, remnants of this patriarchal ideology have persisted in post-World War II Japanese society. Meanwhile, post-War Japan has experienced population aging unprecedented in the world (Muramatsu & Akiyama, 2011). Rapid fertility decline has reduced the availability of adult children for aging parents, making each adult child's caregiving responsibility escalate. At the same time, increased women's educational attainment and labor force participation put conflicting demands on women (Lee, 2010). By the late 1980s, addressing population aging and its societal impact became a national priority policy agenda. In the 1990s, the Japanese government promoted the Gold Plan, a 10-year plan to increase LTC services and build infrastructures for home- and community-based care, which paved the way for replacing the means test-based public LTC programs with a more comprehensive LTC reform.

In 2000, Japan implemented a mandatory social long-term care insurance (LTCI) system. This system made institutional as well as home- and community-based services (e.g., home help, in-home rehabilitation, adult day services, day

rehabilitation, assisted device, home modification; no cash benefits included) a universal entitlement for every person aged 65 years and older who is certified as having physical and/or mental health needs for LTC, regardless of income levels and family availability (Tsutsui & Muramatsu, 2005, 2007). This nationwide policy has been quickly and widely accepted in the Japanese society. The use of LTC services rapidly increased after an initial brief period of service underutilization (Sugihara, 2006). The massive undertaking of the national and local governments to implement the LTCI system did not accompany concerted efforts to evaluate this significant nationwide social experiment systematically (Tamiya et al., 2011). Thus, our knowledge is quite limited with regard to whether and how family caregiving changed at the backdrop of Japan's nationwide natural experiment of increased public support for formal care (Arai & Kumamoto, 2004; Arai, Masui, Sugiura, & Washio, 2002). As described later, it was a local government's initiative that provided us with a rare opportunity to incorporate filial obligation items into a mandated municipal-wide needs assessment during the LTCI implementation. The goal of this study was to examine changes in coresident primary caregivers' perceived filial obligation norms between 1999 and 2001, which is before and after Japan's LTCI implementation, with special focus on caregivers' kin relationships with the care recipient.

The Current Study

Our study builds on previous studies that indicate that perceived filial obligation norms change with personal circumstances. Our research focuses on behavioral norms related to elder care. A moral standard of filial piety (e.g., respect for the parent) examined in some East Asian studies (Holroyd, 2001; Sung, 1995) is beyond the scope of this study. We addressed two research questions. The first is how perceived filial obligation norms changed among coresident primary caregivers before and after LTCI, in particular, whether and how changes in filial obligation differed across its subdimensions. Acknowledging that filial obligation is both unidimensional and multidimensional depending on the level of abstraction, we used both a global measure and measures of the three dimensions identified and supported in previous research (Hazama, Tang, Taneda, & Nakajima, 2004; Higashino et al., 2007; Ohta & Kai, 2007): physical support (e.g., "taking care of parents is children's duty"), financial support

(e.g., “it is children’s duty to support their parents financially”), and emotional support (e.g., “children should have time to enjoy something with parents”). LTCI services mainly address older adults’ physical care needs, rather than financial and emotional needs. So we expected that the LTCI implementation would lead mainly to changes in the physical care domain of filial obligation.

The second research question is related to how primary caregivers’ kin relationships are associated with perceived filial obligation norms. Of particular interest are daughters-in-law, who have long been considered default caregivers of aging parents in the Japanese society. As highlighted in a recent qualitative study (Lee, 2010), daughters-in-law and other female caregivers are increasingly torn among conflicting expectations, desires, and demands. Women need to negotiate their caregiving roles faced with multiple demands from work and home: traditional family norms to care for their in-laws; cultural norms to value their relationship with their own parents; demands from everyday life and work, such as expectations to care for their husband and children, growing needs for second sources of family incomes, work responsibilities on the job, and expectations for women to care for others in their social networks; and desires for self-realization. Daughters-in-law and daughters share these conflicting demands as women, but differ in important ways (Lee, 2010). Daughters-in-laws’ caregiving role is taken for granted, and their relationship with the care recipient is indirect via their husband; little reciprocal relationship exists in caregiving. Daughters, on the other hand, are regarded outside the family once married, and thus their caregiving to their parents are considered more “voluntary” than daughters-in-laws’. Daughters’ relationship with their care recipient is direct and reciprocal throughout their life course. Thus, we expect that daughters-in-laws’ sense of filial obligation to be more susceptible or vulnerable in the face of increased societal role in elder caregiving, compared with that of daughters.

Traditional norms hold eldest sons responsible for their aging parents. Sons who identify themselves as primary caregivers tend to be those infused with traditional norms, and we expect son caregivers’ filial obligation levels to be relatively high. Because day-to-day physical caregiving tasks usually belong to their wives (“daughters-in-laws”), the LTCI system that mainly addresses physical care needs may show relatively minor effects on sons’ sense of filial obligation. Care

recipients’ spouses (wives and husbands) belong to an older generation than sons and daughters, and are likely to have completed the phase of caring for their own parents. Furthermore, older spouses are likely to have observed and internalized increasing roles of spouse (especially wives; partly reflecting decreasing roles of daughters-in-law) in elder care in post-World War II Japan. So their sense of filial obligation may not be as susceptible to the current policy changes as their children’s generation.

Our expectation was that changes in perceived filial obligation would depend on each individual’s position in the caregiving system (i.e., kin relations with the care recipient) and across dimensions of filial responsibilities (i.e., physical, emotional, and financial support). We hypothesized that declines in filial norms among daughters-in-law would be larger than those among other kin relationships, especially in the dimension of physical care that LTCI targeted. Although normative filial obligation can be studied with a general population, our study targets coresident primary caregivers who remain to be the backbone of caregiving in Japan. Although the traditional three-generation households are declining in proportion in recent years, the majority of older adults still lived with their children at the time of LTCI introduction (Takagi et al., 2007). Coresident primary caregivers, the target of our study, are likely to be more responsive and sensitive to caregiving policy changes because of their daily involvement in caregiving. Thus, they tend to form more timely and informed opinion on caregiving issues than noncaregivers.

Methods

Data and Sample

The analytic sample consisted of 611 coresident primary caregivers who participated in two waves of the survey, “Health and Quality of Life among Primary Family Caregivers of Older Adults,” without any missing data in the variables included in our study. This caregiver survey was conducted in City A in western Japan in 1999 and 2001. City A is an “average” city in Japan, both in terms of the proportion of seniors certified to have LTCI service needs (16% in 2008) and the monthly LTCI premium (4,100 yen or 34.43 dollars in U.S. Purchasing Power Parities in 2008; the premium reflects the balance between the demand for services and the number of people eligible for LTCI services in the municipality). City A was one of the 100 locations established

by the Ministry of Health, Labour and Welfare to monitor the LTCI system implementation process. In preparation for the nationwide implementation of LTCI, the Japanese government mandated all the municipalities to conduct population-based needs assessment and estimate the number of older adults in need for LTC. The needs assessment methods varied across municipalities. City A chose to conduct in-person interviews not only with all the residents aged 65 and older but also with coresident primary family caregivers who lived with older persons with LTC needs. The City contacted the first author for appropriate survey items on caregivers' psychosocial characteristics.

In January through October 1999, City A's public health nurses identified and interviewed coresident primary family caregivers as part of the mandated needs assessment process mentioned earlier. Two years later, City A conducted another survey to determine the municipality's LTCI premium levels. City A's public health nurses attempted to visit all the baseline survey family caregiver participants (excluding cases where care recipients died, were institutionalized, or moved) primarily from January through October 2001. Approximately 7% of the interviews occurred from January through March 2002. The City provided us the two-wave caregiver survey data for those who were certified to have LTCI needs. The municipality's initiatives to conduct these two waves of surveys resulted in a unique quasi-experimental design that captured data on filial obligation norms before and after the LTCI policy implementation.

Of all persons aged 65 and older in City A with certified LTC needs ($N = 5,189$), 1,119 (22%) had baseline primary caregiver survey data. Of them, 673 caregivers agreed to participate in the follow-up survey. Excluding unavoidable longitudinal attrition ($N = 273$, including care recipients' or caregivers' death $N = 98$, moved or unknown address $N = 99$, and hospitalization or institutionalization $N = 7$), 74.4% of 896 potential respondents participated. The remaining attrition was due to refusals ($N = 173$) and item nonresponse for variables included in our analysis ($N = 62$).

Measures

Perceived filial obligation norms were assessed by an 11-item "filial obligation scale" on a 5-point Likert scale (Ohta & Kai, 2007). The scale was coded so that a higher value indicated higher filial obligation. We constructed a global measure of filial obligation (sum of the 11 items, range 0–44) and

three subdomain measures: financial support (sum of three items, range 0–12), physical support (five items, 0–20), and emotional support (three items, 0–12). This measurement strategy was informed by previous studies, which included exploratory factor analysis that identified three subdomains of filial responsibility (Ohta & Kai, 2007) and confirmatory factor analysis that supported a second-order factor model consisting of financial, physical, and emotional support as the first-order factors and filial obligation as the second-order factor (Hazama et al., 2004). This second-order factor model was also supported with our study sample (Comparative Fit Index [CFI] = 0.927, Tucker-Lewis Fit Index [TLI] = 0.902, Root Mean Square System Error of Approximation [RMSEA] = 0.096, results available from authors).

Caregivers' kin relationship to the care recipient, which is salient in caregiving contexts of Japan (Sugihara, Sugisawa, Nakatani, & Hougham, 2004), was the main independent variable of our focus. It was indicated by daughters-in-law (reference category), daughters, wives, husbands, and sons.

We took into consideration caregivers' characteristics and situational factors that are likely to affect filial obligation. Respondents' age and gender are known correlates of filial obligation (Gans & Silverstein, 2006). Older persons grew up when stronger gendered filial obligation norms were pervasive in Japan. Caregivers' household income (three groups: low, middle, and high) is a proxy for socioeconomic status that represents educational and occupational opportunities that may determine financial resources for caregiving as well as opportunity costs for providing physical support. Previous research indicates that adult children's higher income is associated with higher financial support for aging parents (Ishii-Kuntz, 1997). Caregiving duration (in years) is associated with stress (Rabins, Fitting, Eastham, & Zabora, 1990; Sugihara, Sugisawa, Nakatani, & Shibata, 1998) and thus may affect sense of filial responsibility. Parents' LTC needs are known to be associated with levels of adult children's support (Ishii-Kuntz, 1997). Care recipients' age, gender, and care need levels represent the amount and the nature of care required and thus were controlled for. The care recipients' LTC need level was assessed based on the 7-point scale used in the LTCI system throughout Japan (Tsutsui & Muramatsu, 2005). To receive LTC services, a person aged 65 years or older applies to a municipality for LTC needs certification, which involves a nationally standardized care needs assessment of cognitive and

behavioral items (e.g., functional disabilities, basic activities, activities of daily living, comprehension abilities, and problem behaviors) and the opinion of his/her primary care physician. If certified, the applicant is assigned one of the seven care levels, which include “no need,” “needing support,” and “care level 1” to “care level 5 (highest need).” Coresidence status is effectively controlled for as the study included only coresident caregivers.

Statistical Methods

First, we calculated the means of global filial obligation and its three subdimensions as a whole (across all kin relationships) and by kin relationships. Paired *t* tests indicated whether the changes between the two time points were statistically significant. Then, multiple regression analysis was conducted to examine the association between caregivers’ kin relationship to the care recipient and post-LTCI filial obligation, controlling for the baseline filial obligation as well as for relevant factors measured at baseline described earlier in

Measures. “Daughters-in-law” was used as a reference category of kin relationships.

Results

Sample Characteristics

As shown in Table 1, the average age of coresident primary caregivers in our analytic sample ($N = 611$) was 60.5 years, and the average caregiving duration was 48.7 months at baseline. Daughters-in-law accounted for 30.1% of the sample, followed by daughters (24.5%), wives (20%), husbands (13.4%), and sons (11.9%). The respondents in the sample received the baseline interview, on average, 10.3 months before and 13.9 months after the LTCI implementation. The average time between the two waves of data collection was 24.3 months. The analytic sample was not statistically different from the attrition group ($N = 508$, reasons for attrition shown earlier) in terms of their average age, caregiving duration, caregiving needs, relationships to the care

Table 1. Baseline Sample Characteristics of Coresident Primary Caregivers in the Analytic Sample and the Attrition Group

Variables	Analytic sample ($N = 611$)	Attrition group ($N = 508$)
	Mean (<i>SD</i>) or percent	Mean (<i>SD</i>) or percent
Caregiver characteristics		
Age (years)	60.5 (11.2)	60.0 (12.3)
Female	74.6	74.6
Months of care provision	48.7 (53.5)	47.9 (49.2)
Relationship with care recipient		
Husband	13.4	8.7
Wife	20.0	18.5
Son	11.9	10.2
Daughter	24.5	25.4
Daughter-in-law	30.1	30.7
Other	—	6.5
Income		
Low (<1.2 million yen)	29.6	28.7
Middle	35.2	41.9
High (>3.0 million yen)	35.2	29.4
Care-recipients’ characteristics		
Age (years)	81.2 (8.5)	81.2 (8.2)
Female	69.2	67.9
Long-term care need level		
Need support (lower need)	7.0	7.1
Level 1	28.8	29.3
Level 2	27.5	23.2
Level 3	15.5	16.1
Level 4	11.5	12.2
Filial obligation score (overall) ^a	28.0 (8.7)	27.4 (8.6)

^aSum of the three subdomains of filial obligation scales (11 items) assessed using a 5-point Likert scale (*I agree to I do not agree*). Range: 0–44.

recipient, living arrangement, and filial obligation scores at baseline.

Filial Obligation: The Levels and Changes Before and After LTCl

In general, coresident family caregivers reported moderate levels of filial obligation. The average scores (i.e., the scores in Table 2 divided by the number of relevant items; not listed in the table) indicate that their responses to the statements, “it is children’s duty to support their parents” financially, physically, and emotionally, were somewhere between 3 (*slightly agreed*) and 2 (*could not say either*), with the only exception being sons’ higher financial support score (3.13 at Time 1 [T1, 9.4/3 items]; 3.00 at Time 2 [T2, 9.0/3]). Among the subdimensions, physical support had the lowest average overall score (across all kin relationships) (2.46 [12.3/5 items]; 2.26 [11.9/5]; at T1 and T2, respectively), followed by financial support (2.57; 2.50) and emotional support (2.70; 2.63). In general, sons reported the highest level of filial obligation (global scores: 2.96 [32.6/11], 2.91 [32.0/11]),

followed by daughters (2.70, 2.63), husbands (2.49, 2.44), daughters-in-law (2.45, 2.31), and wives (2.29, 2.31). According to regression analysis of T2 scores including the kin relationship variables only, daughters-in-law had lower scores than sons and daughters in all the dimensions of filial obligation ($p \leq .01$ or $p \leq .05$, results not shown); interestingly, care recipients’ wives consistently reported the lowest level of filial obligation across times and subdimensions, even lower than daughters-in-law, although the difference was only statistically significant in the dimension of financial support ($p \leq .05$, results not shown).

Overall, filial obligation declined after LTCl. As expected, the most notable declines were observed in the physical support dimension. The global score decreased between T1 and T2 ($p \leq .05$), but the decline was statistically significant only among daughters-in-law ($p \leq .01$). Across the subdimensions, the decline was significant in the physical support score ($p \leq .05$), but not in the financial and emotional support scores. Notably, filial obligation declined significantly in physical support among daughters-in-law and daughters ($p \leq .01$). Among

Table 2. Filial Obligation Scores Among Primary Caregivers at Baseline (T1, Wave 1), 1-Year Follow-up (T2, Wave 2): Overall Scores and by Relationship and Living Arrangements

Variables	Filial obligation subdimensions							
	Filial obligation: global ^a (sum of 11 items)		Financial support ^b (three items)		Physical support ^c (five items)		Emotional support ^d (three items)	
	T1	T2	T1	T2	T1	T2	T1	T2
Overall (across all relationships)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
Overall (across all relationships)	28.0 (8.7)	27.3 (8.6)*	7.7 (3.0)	7.5 (2.9)	12.3 (4.6)	11.9 (4.4)*	8.1 (2.8)	7.9 (2.8)
By relationship								
Husband	27.4 (9.6)	26.8 (9.7)	7.2 (3.5)	7.1 (3.1)	12.3 (4.6)	12.2 (4.6)	7.9 (2.8)	7.5 (3.3)
Wife	25.2 (8.5)	25.4 (8.0)	6.6 (3.0)	6.5 (2.7)	10.9 (4.4)	11.1 (4.2)	7.7 (2.9)	7.8 (2.8)
Son	32.6 (9.0)	32.0 (8.2)	9.4 (2.7)	9.0 (2.4)	14.4 (4.6)	14.3 (4.4)	8.8 (3.0)	8.6 (2.5)
Daughter	29.7 (8.2)	28.9 (7.8)	8.1 (2.8)	8.0 (2.5)	13.1 (4.7)	12.3 (4.3)**	8.5 (2.5)	8.6 (2.4)
Daughter-in-law	27.0 (7.8)	25.5 (8.6)**	7.6 (2.7)	7.2 (2.9)	11.7 (4.1)	11.0 (4.3)**	7.7 (2.8)	7.3 (2.7)*

^aSum of the three subdomains of filial obligation scales (11 items) assessed using a 5-point Likert scale (*I agree to I do not agree*). The scale was coded so that a higher value indicated higher filial obligation (4 = *Agree*, 3 = *Somewhat agree*, 2 = *Can't say either*, 1 = *Somewhat disagree*, 0 = *Disagree*). Range: 0–44.

^bSum of three items: “It is not necessary for children to give financial support including daily expenses to their parents”; “It is children’s duty to support their parents financially”; “Children should give their parents enough financial support so they do not experience daily difficulties.” The scale was coded so that a higher value indicated higher filial obligation. Range: 0–12.

^cSum of five items: “Taking care of parents is not necessarily the children’s role”; “Children should be ready to take care of their parents”; “It is natural for parents to expect their children to take care of them”; “Children who do not take care of their parents neglect their role as children”; “Taking care of parents is the children’s duty.” The scale was coded so that a higher value indicated higher filial obligation. Range: 0–20.

^dSum of three items: “Children should have time to enjoy something with their parents”; “Children should make time to spend with their parents”; “Children should occasionally provide their parents opportunities for travel or hobby activities.” The scale was coded so that a higher value indicated higher filial obligation. Range: 0–12.

* $p \geq .05$ ** $p \leq .01$ (paired *t* tests of average scores at two time points to indicate significant changes).

daughters-in-law, the emotional support score also declined ($p \leq .05$). Filial obligation, on the other hand, was relatively stable among sons and daughters in global filial obligation except for the decline in physical support among daughters.

Multivariate Analysis of Filial Obligation

Multiple regression analysis revealed statistically significant contrasts between daughters-in-law and children (sons and daughters) in most dimensions of filial obligation at T2, after controlling for T1 filial obligation and relevant situational factors measured at T1, including caregivers' and care recipients' characteristics (Table 3). The exception is that daughters-in-law did not differ statistically from daughters in the dimensions of physical and financial support. No statistically significant differences were found between daughters-in-law and care recipients' spouses.

Regarding other situational factors at baseline, longer caregiving durations were associated with lower filial obligation for physical support at T2, and higher levels of care needs in care recipients related to higher levels in global filial obligation and in physical and financial support dimensions. Household income, caregivers' and care recipients' ages, and care recipients' gender did not

have significant associations with filial obligation. As expected, the baseline level of filial obligation was a significant predictor of the follow-up level. Additional tests of nonlinear relationships between T1 and T2 filial obligations (nonsignificant coefficients of T1 scores squared; results not shown) did not support the notion that family caregivers who begin at a high level of filial obligation would decline most because there is much room left for decline.

Discussion

This study aimed to examine changes in perceived filial obligation norms during the 2-year period before and after the LTCI implementation in Japan, focusing on coresident family caregivers who had various kin relationships with their care recipients. Family caregivers' perceived filial obligation norms declined, particularly among daughters-in-law. Traditionally, daughters-in-law have played central roles as primary caregivers for older adults in the patriarchal system of Japan. Our results corroborate the trend of declining caregiving roles of daughters-in-law. According to a nationally representative survey, 28.9% of primary caregivers for bedridden older adults were daughters-in-law in 1998 (Ministry of Health, Labour and Welfare, 1998). However, after the introduction of LTCI,

Table 3. Multiple Regression Analysis of Filial Obligation Among Caregivers at Wave 2

Variables	Overall filial obligation	Financial support	Physical support	Emotional support
	Coefficient (SE)	Coefficient (SE)	Coefficient (SE)	Coefficient (SE)
Caregiver characteristics				
Age	-0.065 (0.056)*	-0.034 (0.020)	-0.004 (0.029)	-0.022 (0.019)
Relation to care recipient				
Husband	2.987 (1.968)	1.014 (0.693)	1.293 (1.026)	0.559 (0.660)
Wife	2.010 (1.891)	0.486 (0.666)	0.490 (0.986)	0.862 (0.634)
Son	3.264 (0.966)**	0.938 (0.340)*	1.870 (0.502)**	0.745 (0.321)*
Daughter	1.679 (0.759)*	0.435 (0.267)	0.485 (0.395)	0.890 (0.255)**
Daughter-in-law (reference)	—	—	—	—
Income				
Low (reference)	—	—	—	—
Middle	-0.338 (0.699)	-0.136 (0.246)	-0.134 (0.363)	0.037 (0.235)
High	-0.785 (0.713)	-0.220 (0.250)	-0.426 (0.371)	0.030 (0.238)
Caregiving duration (months)	-0.012 (0.005)	-0.003 (0.002)	-0.007 (0.003)*	-0.003 (0.002)
Care recipient characteristics				
Age	0.037 (0.063)	0.025 (0.022)	0.012 (0.033)	-0.001 (0.021)
Female	-0.277 (0.198)	0.015 (0.312)	-0.247 (0.461)	0.008 (0.298)
Long-term care need level	0.649 (0.198)**	0.233 (0.070)**	0.296 (0.103)**	0.097 (0.066)
Filial obligation score at Wave 1	0.587 (0.033)**	0.485 (0.034)**	0.564 (0.033)**	0.531 (0.034)**
Constant	9.866 (3.864)*	3.076 (1.348)	3.692 (2.000)	4.246 (1.301)**

* $p \leq .05$. ** $p \leq .01$.

the percentage of daughters-in-law among primary caregivers for older adults with LTC needs declined from 22.5% to 20.4%, whereas that of service providers increased from 9.3% to 13.6% between 2001 and 2004 (Ministry of Health, Labour and Welfare, 2001, 2004). Biological daughters' filial obligation also decreased, particularly in physical support. Sons' filial obligation remained the highest among family caregivers. Sons may assume primary caregiving roles based on prior agreement or expectation that they would be ultimately responsible for their aging parents. Such agreement may have been explicit (e.g., in the form of wills) or implicit, for example, via parents' preferential treatment of their eldest son throughout their life course (e.g., higher educational opportunities, or grooming sons to succeed the ownership of family business or other properties).

Care recipients' wives reported the lowest levels of normative filial obligation, but their levels did not change before and after the LTCI implementation. Wives' low expectations may reflect the trends of declining roles of daughters-in-law and increasing roles of spouses (especially wives) in Japan. Older women in our study are likely to have personally experienced challenging caregiving roles as daughters-in-law and thus may feel wary of expecting others (especially their own children) to do the same. Their expectations of support from children may have already declined earlier in their life course and thus may have become immune to the impact of the LTCI implementation. Indeed, Ogawa and Retherford (1993) indicated that the proportion of married reproductive-age women who expected old age support from children continuously decreased from 65% in 1950s to 18% in 1990, using data from surveys conducted by a newspaper company for married women of reproductive ages from 1963 through 1990. An Internet survey of persons aged 50 years and older conducted by a market research company in Japan ($N = 871$) indicated that the majority of women preferred to receive care in a LTC facility (50.9%) rather than at home (33.8%), whereas men preferred to receive care at home (48.3%) rather than in a LTC facility (37.6%) (C-net Japan, 2007). Perhaps, women are more aware of practical difficulties in receiving care from their family (i.e., from their children in most cases because wives tend to outlive husbands).

Perceived filial obligation norm was higher among caregivers of persons with higher care needs, consistent with a U.S. study that indicated

an association between filial obligation and elderly parents' health needs (Ganong & Coleman, 1999). Care needs may invoke a sense of filial obligation among family members.

This research is significant in several ways. First, as far as we know, this is the first study of changes in multiple dimensions of filial obligation during the pre- and post-LTCI implementation period in Japan. The aforementioned study by Ogawa and Retherford (1993) indicated that filial obligation norms perceived by married women of reproductive ages started declining significantly in mid-1980s. Our analysis extended their work by including men and showing that rates of decline depend on situational factors, especially primary caregivers' kin relationships to the care recipients. Second, our quantitative analysis of survey data extended prior qualitative research on caregiving experience among daughters-in-law and daughters (Long et al., 2009).

Third, assessment of multiple dimensions of normative filial obligation allowed us to show that declines in filial obligation were more prominent in the dimension of physical support, which LTCI covers, than in financial and emotional support dimensions. Finally, our current research extended previous studies that demonstrated that filial obligation norms are not static but evolve over the life course. Although the sense of filial obligation may be shaped early in life, it may be adjusted according to changing life situations. Gans and Silverstein (2006) found in their 15-year longitudinal study in the United States that filial norms peaked in midlife and then showed an accelerating decline. If this life-course trajectory of filial obligation applies to Japanese society, then filial obligation among daughters-in-law will decline further as they get older, even lower than those reported by older wives of care recipients in our current study.

Our study is limited in that it focused on perceived caregiving norms among primary caregivers. They are likely to be more sensitive to caregiving policy changes than noncaregivers and thus appropriate for our study that examined changes in a relatively short period. However, to the extent that normative filial obligation is more stable and less likely to decline among primary caregivers than among noncaregivers, this study may underestimate the societal-level decline in filial obligation. To empirically compare changes in perceived normative filial obligation among primary caregivers and noncaregivers, future studies should involve a nationally representative sample of the

general population, including the next generations of caregivers. Furthermore, our sample is limited to family caregivers who resided with care recipients. This is justified because elder care in Japan has traditionally been closely tied with intergenerational coresidence. However, future research on filial obligation should include diverse living arrangements (e.g., caregiver living separately but close by) to reflect ongoing changes in living arrangements in Japan: the proportion of adults aged 60 and older coresiding with their children has declined from 70% in 1980s to less than 50% (Takagi & Silverstein, 2006).

Our 2-year study period was relatively short with only two time points. This limited our ability to model within-person changes and to assess changes as part of the longer term trends in filial obligation. Causal inferences of policy changes and family caregiving norms are clearly outside the scope of this research. With three or more waves of data, we would have chosen other methods to handle changes (Allison, 1990, 2009; Hedeker & Gibbons, 2006). Also, the observed statistically significant changes in filial obligation may not look meaningfully large, possibly because of the short observation period. A longer follow-up period might have led to more statistically significant findings. Our study took advantage of the opportunity that emerged as part of the policy implementation. This constrained our research design (e.g., 2-year study period) and prevented us from including important variables, such as caregivers' education and occupation. Prior research indicated that the effects of socioeconomic status on caregiving norms are relatively small or none, in contrast with its effects on personal expectations of old age support from children (Ogawa & Retherford, 1993). Thus, lack of education and occupation variables is unlikely to affect our overall findings. Despite these limitations, our study fills an important gap of research given the paucity of longitudinal data on filial obligation during the critical period of the LTCI implementation.

Japan introduced the LTCI system to address growing family caregiving burden with the slogan, "From care by family to care by society." This LTCI system initially generated concerns among conservative politicians who feared that government support for caregiving would erode the virtue of family care. Over time, older adults' use of LTC has increased, and Japan's LTCI has grown to become the largest system of "formal" LTC in the world (Campbell et al., 2009). Systematic understanding

of Japan's LTCI impact, however, is still lacking. Research to date indicates that use of LTC services has increased with the introduction of the LTCI system in Japan and that, paradoxically, families' perceived caregiving burden did not decline (Arai & Kumamoto, 2004; Arai et al., 2002; Sugihara, 2006; Sugisawa, Nakatani, & Sugihara, 2005). Declining caregiving norms as well as increasing demands (e.g., increasing care demands or job responsibilities) might make family caregivers feel more burdened even if public LTC support partly relieves them of physical care. Alternatively, increased public LTC support may have reoriented the family to provide help with needs that are not covered by LTCI (e.g., emotional and cognitive needs) (Daatland & Lowenstein, 2005). More empirical research is needed to understand the complex relationships among public LTC support, family caregiving, and perceived norms and burden related to family caregiving.

Future research should also examine how norms of filial obligation, personal filial obligation, and actual behavior are related with each other and how such interrelationships may be affected by social and cultural contexts. Although perceived filial obligation norms may be an important determinant of family caregiver availability, those perceived norms may not necessarily determine whether those individuals actually provide care for their own older parents (Chappell & Funk, 2012; Ishii-Kuntz, 1997) or receive care from their own children (Lee, Netzer, & Coward, 1994). Norms pertaining to filial obligation, while persistent in Asian cultures, are changing not only in Japan but also other countries in Asia and Europe (Cheung and Kwan, 2009; Ohta & Kai, 2007; Sung, 1998; Takagi & Silverstein, 2006; Zhan & Montgomery, 2003). We suspect that in a society governed by strong social norms like in pre-War Japan, norms of filial obligation could function as social scripts and strongly predict individuals' perception of personal obligation and actual caregiving behavior for their own aging parents. On the other hand, in a society with rapid social changes like recent Japan and other Asian countries, the relationships among norms, personal obligation, and actual behavior may weaken because individuals face forces that produce conflicting demands on them (Chappell & Funk, 2012; Zhan & Montgomery, 2003).

Traditional informal care systems undergo changes over time, whether in response to increased access to formal care or because of the strong tide of irreversible social changes. The pace

of such changes can be swift as seen in recent Asian countries such as China (Fowler, Gao, & Carlson, 2010). Facing rapidly increasing LTC costs and anticipated gaps of demand for and supply of caregiving resources, Japan is reassessing the role of families and exploring alternative forms of community-based care. In fact, Japan's newest initiatives include the Community-based Integrated Care System, which is intended to integrate medical and LTC in local communities as part of the 2012 LTCI revisions (Ministry of Health, Labour and Welfare, 2011).

Recognizing the growing need for care among older persons with disabilities, an increasing number of countries have committed themselves to developing comprehensive LTC systems. Some (e.g., Scandinavian countries) have chosen tax-based systems. Others, such as Germany and Japan, have selected social insurance models (i.e., LTCI). Among other societies with Confucian norms of filial obligation, Korea started LTCI in 2008 (Campbell et al., 2009; Kim, 2009), and Taiwan is currently preparing its own LTCI system. Whatever model of LTC system is chosen, family members, especially adult children, will continue to be key caregivers. Societies should continuously monitor norms of filial obligation and how such societal norms interact with national LTC policies. The question of whether formal care (i.e., paid nonfamily care) substitutes for, or complements, informal care generated great interest among gerontologists in the United States (Christianson, 1988; Hanley, Wiener, & Harris, 1991; Li, 2005; Penning, 2002; Pezzin, Kemper, & Reschovsky, 1996; Tennstedt, Crawford, & McKinlay, 1993; Tennstedt, Harrow, & Crawford, 1996; Weissert, Cready, & Pawelak, 1988) and in Europe and other countries (Davey et al., 2005; Lowenstein & Daatland, 2006). Increasing nationwide implementation of comprehensive LTC systems generates opportunities to address this and other policy research questions. To fully address these questions, longitudinal research using data encompassing multiple years before and after policy implementation is needed. Comparing and synthesizing findings from multiple countries will improve our understanding of how social policies and contexts interact with individuals' life courses to affect filial obligation norms and actual caregiving behaviors. Our current study contributes a piece to this larger puzzle. We urge further international efforts to design and implement longitudinal studies to help promote understanding of

the interplay among policies, social changes, and caregiving norms and behavior.

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