Received 4 March 2024
Revised 30 April 2024
Accepted 30 April 2024

Formal long-term care, individualisation and filial responsibility: a multi-level analysis of 21 European countries

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Abstract

Purpose – Due to the rapid ageing of the continent's population, a significant surge in long-term care expenses for the elderly is expected across Europe in the coming years. Could a potential solution to this challenge involve the increased informal care provided by adult children? In this context, we examined a general view or moral duty of European citizens regarding whether adult children should assume responsibility for providing long-term care to the elderly.

Design/methodology/approach – Our multilevel analysis draws on individual-level data from the 2017 European Value Study and country-level data from various European sources encompassing participants from 21 member countries of the European Union.

Findings – The findings reveal that in nations where public long-term care services are sufficiently available and of superior quality, there is a negative sentiment towards the notion that adult children should bear the responsibility for elderly care. In total, 71% of the country-level variance in our dependent variable was explained by the availability and quality of formal long-term care in a country. Furthermore, various individual-level attributes contribute to shaping attitudes towards care-giving responsibility. We observed that women, middle-aged individuals, those without religious affiliations, those with modern gender role attitudes and non-immigrants tended to hold unfavourable attitudes towards the responsibility of adult children in long-term care provision.

Originality/value – There are relatively many studies on the general attitude of the population towards filial obligation. However, so far there have been very few studies available that examine the population's attitude towards the obligation of adult children to commit to their parents' long-term care. Our research explains the variation of the phenomenon in Europe with both country-level and individual-level factors.

Keywords Informal long-term care, Formal long-term care, Filial obligation, Individualisation, Gender roles
Paper type Original article

Introduction

The population in Europe is rapidly ageing, and simultaneously, there is growing concern about organizing long-term care (LTC) for the elderly (Grages and Pfau-Effinger, 2022). The European Commission has estimated that the public costs of long-term care will significantly increase throughout the EU in the coming decades. A large part of the increase in costs is

The present study is part of NetResilience consortium funded by the Strategic Research Council at the Academy of Finland (grant number 345183) and INVEST flagship funded by the Academy of Finland (grant number 320162) and Academy of Finland (grant number 325857 and 331400 and 338869).

International Journal of Sociology and Social Policy
Vol. 44 No. 13/14, 2024
pp. 116-131
Emerald Publishing Limited
0144-333X
DOI 10.1108/IJSSP-03-2024-0105

related to an increase in the number of people in need of long-term care. Currently, member states provide long-term care services in diverse ways, and the roles of publicly provided or market-based formal care services and informal care provided by relatives or friends vary considerably between countries (European Commission, 2021). In countries where long-term care is predominantly financed with public funds (i.e. Nordic countries and the Netherlands), the pressure on services is naturally more pronounced. Decision makers in these countries must critically consider whether the level of service can be afforded in the future, when the number of potential people needing help continues to grow. For example, in the Nordic countries, the principle of universalism (Anttonen and Sipilä, 1996) in the provision of long-term care has been abandoned in many respects. The supply of services has been partially transferred to private service providers, and caregiving responsibility has increasingly been shifted to informal caregivers, such as family members (Rostgaard *et al.*, 2022).

On the other hand, in countries where long-term care is organized mainly through informal caregiving (e.g. southern European countries), questions arise about the viability of this model in modern Europe, where gender equality, women's rights to education, participation in the labour market, and the individual basic rights of citizens are emphasized. Observations have indeed been made, according to which European countries have somewhat converged with each other in terms of care policy. Especially in Central European countries, the coverage of public care services has somewhat approached the level of Northern European countries (Carrera *et al.*, 2013).

Consequently, European decision-makers are faced with an obvious dilemma regarding the organization of long-term care: What role should public services and informal care play in organizing long-term care? Prior studies have shown that informal social support and help of the elderly is largely provided by their spouse and adult children (Haberkern *et al.*, 2015; Hämäläinen and Tanskanen, 2021; Mazzotta *et al.*, 2020). However, the informal help offered is mostly temporary in nature and does not establish a long-term interdependent relationship between the caregiver and the care recipient (Verbakel, 2018). Here, we study the extent to which Europeans agree with the idea that adult children should be obliged to provide long-term care for their parents, and how we can explain the individual- and country-level variation of this phenomenon. In particular, we examined the effects of the quantity and quality of formal long-term care available in a country on attitudes towards informal long-term care.

Formal and informal long-term care for the elderly

Long-term care can be defined as a range of services and assistance for people who, because of mental and/or physical frailty and/or disability over an extended period of time, rely on help with daily living activities and/or are in need of permanent nursing care. Long-term care provision comprises formal and informal types. Formal care involves trained staff and can be home-based, institutional, or community-based (van Groenou and De Boer, 2016). Financial support options include cash benefits for purchasing private services or supporting caregivers. Provision varies across European countries, with the Netherlands, Denmark, and Sweden offering most comprehensive services, while others face accessibility challenges (Barczyk and Kredler, 2019; European Commission, 2021).

The quality of long-term care can be assessed from many perspectives (Donabedian, 1980; Spilsbury *et al.*, 2011). First, the structure of the care system refers to various and relatively stable organizational features such as physical facilities, tools, and staff. The number of staff members, training quality, working conditions, and remuneration reflect the staff's ability to provide high-quality care services. The structure of the care system also includes an organizational culture that reflects the main objectives of the work and the means of ensuring quality control. Second, quality can be assessed based on the nursing process when it comes to the interaction between the nurse and the patient: what is being done for them and with

them. Third, good quality of life may be considered the main objective of long-term care (European Commission, 2021). Good quality of life includes not only objectively measured satisfaction of basic needs but also the subjective experience of a good and meaningful life (e.g. Osborne, 1992).

The amount and type of informal care vary considerably among European countries. Intensive informal long-term care is most common in countries where formal long-term care services are inadequately organized. Typical examples are the countries of Southern and Eastern Europe, where informal long-term care replaces inadequately organized formal care. In Nordic countries, where formal long-term care services are more generous, intensive informal care is less common. (European Commission, 2021)

Filial responsibility: the societal context of the norm

Informal support from adult children to parents called filial responsibility, is often considered to be based on normative solidarity between generations (e.g. Bengtson and Roberts, 1991; Dykstra and Fokkema, 2012; Lowenstein and Daatland, 2006; Stuifbergen and Van Delden, 2011). Reciprocity forms the basis of filial responsibility, where adult children feel indebted to care for elderly parents due to the support received in childhood (Stuifbergen and Van Delden, 2011; Schinkel, 2012). Keller (2006) distinguishes between generic goods, such as practical assistance, and special goods, which are unique expressions of love and care, specific to the parent-child relationship.

The observation of the special relationship between adult children and parents raises the question of whether we should conceptually separate the norm of obliging help (filial responsibility) from the desire to help (Van Groenou and Boer, 2016; Chapman *et al.*, 2018). The norm that obliges help creates normative pressure: adult children must help elderly parents if they need help. If children do not help, the environment punishes them in some way, for example, by showing disapproval. However, if there is a special relationship between children and parents in which positive emotions play a strong role, helping is based on the desire to help rather than a sense of obligation (Chapman *et al.*, 2018).

It is important to note that filial obligations are formed differently in different social contexts (Schinkel, 2012). Traditions form one context that is still of great importance when looking at differences in filial obligation between, e.g. Southern Europe and Northern Europe (Reher, 1998). However, traditions are reflected in concrete practices, such that in countries with strong family traditions, formal support systems are clearly less developed than in countries with weaker family traditions. This results in a self-reinforcing cycle. When formal long-term care services meet not the needs of the elderly population, the social pressure experienced by adult children to take responsibility for parental care increases. The responsibility of taking care of parents is felt to be particularly strong in countries with a lively family tradition, where adult children do not have an option, and duty turns into a virtue. Correspondingly, in countries where formal care services are sufficient and high quality, the pressure experienced by adult children to arrange for demanding care decreases. However, this does not mean that the desire to interact with their parents decreased. In contrast, in countries where formal long-term care services are well-organized and care is perceived less as an obligation of adult children, the social interaction between adult children and their elderly parents is lively, and the motive for helping is the joy of helping rather than a sense of obligation (Brandt, 2013).

The demandingness to help a parent can also be seen as a very important contextual factor, which probably influences how strongly one commits to the duty of care (see e.g. Herlofson *et al.*, 2011; Dykstra, 2010; Verbakel, 2018). In this study, we specifically examine attitudes towards the norm that it is the duty of adult children to organize their parents' long-term care. In previous studies, filial responsibility has been examined as a general norm, in

which case, the question has not focused on the sort of aid offered. However, in this study, we used a measure that binds attitudes specifically to long-term care. We assume that the responsibility for informal long-term care of one's own parents is perceived to be greatest in countries where formal care services are organized in a way that does not meet the need for care and where the quality of the formal care provided is perceived as questionable. Therefore, we do not look at attitudes towards caring responsibility as a variation in moral commitment due to differences in family culture but as a result of variation in the quantity and quality of formal care services.

Attitude towards filial responsibility for providing informal LTC: individual-level explanatory factors

Societies are changing from collectivism towards individualism (Santos *et al.*, 2017). In societies that emphasize collectivism, the family, local community or nation defines an individual's position and behaviour. In cultures that emphasize individualism, on the other hand, people are autonomous and relatively independent of communal norms: priority is given to the individual's own goals and aspirations. (Triandis, 2001; Hui and Triandis, 1986) Individualization has been considered to be connected to the economic development of societies: the improvement of the education level of the population, the entry of women into the labour market, urbanization and in general the development called "modernization", where the values emphasizing traditions have less and less influence in people's lives. The societies of Northern and Western Europe and North America have advanced the furthest in the process of individualization, but individualization seems to be developing globally as well (Santos *et al.*, 2017; Inglehart and Baker, 2000).

One of the consequences of individualism can be considered the development of attitudes emphasizing gender equality, whereby the equal status of women both in the home and in public life is recognized. Davis and Williamson (2019, 2022) have found that the development of an individualistic culture promotes values and attitudes emphasizing gender equality. In traditional family culture, women are expected to take care of housework, child care, and in general care-related responsibilities. The men's task is to take care of the family's livelihood. However, this thinking model is changing in Europe, which can be seen, for example, in attitude surveys (Lomazzi *et al.*, 2018) and in the real economy as a significant increase in the employment rate of women in all European countries during the last decades (Eurostat, 2023).

Religiosity has been found to be associated with the filial responsibility; religious people are more likely than others to consider it their duty to care for their ageing parents (Gans *et al.*, 2009; Dykstra and Fokkema, 2012; Hwang *et al.*, 2021). This observation is not surprising, as family values and respect for parents are strongly emphasized in most religions. However, with individualisation and modernisation, the importance of religiosity has been decreasing (Molteni and Biolcati, 2018). We can therefore assume that persons who support traditional gender roles and religious people have a positive attitude towards the duty of long-term care.

Empirical studies show that European immigrants tend to exhibit stronger intergenerational solidarity and social support compared to native populations. This trend varies among immigrant groups and countries of origin. Several factors contribute to this phenomenon: immigrants often bring strong family values from their collectivist societies, seek support due to discrimination, and undergo a shift in family solidarity over generations due to acculturation (de Valk and Schans, 2008; Schans and Komter, 2010; Bordone and de Valk, 2016). Conflicts between the values of origin and host countries may also affect family cohesion (Arends-Toth and van de Vijver, 2008; Baykara-Krumme and Fokkema, 2019).

The association between respondents' gender and attitude towards filial obligation seems to vary across countries. Generally, it seems that women have a somewhat more negative attitude than men towards the idea of filial obligation, especially in Northern and Western

Europe, where the availability of welfare services is at a good level and women's participation in working life is more common than in the rest of Europe (Herlofson *et al.*, 2011; Dykstra and Fokkema, 2012; Daatland and Herlofson, 2003).

How does age affect attitudes towards filial responsibility? A study covering 11 European countries found that middle-aged respondents seem to perceive adult children's caregiving obligation more critical than other age groups (Kääriäinen *et al.*, 2024). In this respect too, findings vary from country to country. For example, Dykstra (2010) found that in the Netherlands and Germany, older respondents were critical of the idea that adult children should adapt their work to meet the needs of their parents. Likewise, Norwegian research suggests decreasing commitment to caregiving with age (Daatland *et al.*, 2012). In contrast, as Dykstra (2010) found, in Hungary and Romania, older respondents expected younger generations to prioritize caregiving over career. This may relate to the availability of formal care services and pensions. In countries with robust services, elders prefer independence, while in others, they rely on children.

Conflicting results were obtained also regarding the connection between educational level and attitude towards filial responsibility. For example, Herlofson *et al.* (2011) obtained varying country-specific results in a study involving nine European countries. According to them, the respondents' high levels of education predicted a positive attitude towards filial responsibility in Norway and Hungary, but the result was the opposite in the Netherlands, Germany, Romania, and Bulgaria. In France, Russia, and Georgia, there was no statistically significant connection.

Research questions

We study the following questions:

(1) How much do people's attitudes towards norm of filial responsibility for providing long-term care vary between European countries?

(2) What proportion of the variance in this attitude can be explained by country-level factors on the one hand and individual-level factors on the other?

(3) What proportion of country-level variance can be explained by the amount of formal long-term care offered in the country and the quality of formal long-term care offered in the country?

(4) What proportion of the variation at the individual level is explained by the respondents' attitudes towards gender equality, religiosity, immigrant background, gender, age, level of education and labour force participation.

Data and methods

The European Value Study (EVS) 2017 was used as the individual-level empirical data in this study. EVS data were collected between 2017 and 2020 from 36 countries that participated in the study. For the analyses in this study, only EU member states of the European Union were selected because comparable country-level explanatory variables were available only for these countries. Thus, 21 countries were selected: Austria, Bulgaria, Croatia, Czechia, Denmark, Estonia, Finland, France, Germany, Hungary, Italy, Latvia, Lithuania, the Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, and Sweden.

The national effective sample sizes in the EVS (2017) were 1,200 (countries with a population of over 2 million) and 1,000 (countries with a population below 2 million). Random samples provided full coverage of the target population (persons aged 18 years and older residing in private households, regardless of nationality or language). For more detailed information on the methodology of the study, see the European Values Study (2017) and the EVS (2020a, b).

Country-level variables

At the country level, two independent variables describing the (1) availability and (2) quality of formal long-term care were compiled.

Availability of formal LTC services. We used the share of potential dependents aged 65+ years receiving formal LTC in kind as a measure of the availability of formal LTC. It shows the combined coverage of home and institutional care publicly provided or funded for potential dependents. In some cases, coverage may be greater than 100%. For more information, see European Commission (2021).

Quality of formal LTC. The measure was based on question Q58 of the 4th European Quality of Life Survey (European Quality of Life Survey, 2016; European Foundation, 2018): "In general, how would you rate the quality of each of the following public services in [COUNTRY]? Please tell me on a scale of one to 10, where one means very poor quality and 10 means very high-quality long-term care." The interviewer was given an annotation: "Long term care: Services for dependent people because of old age, chronic illness of disability. Services may be given in the persons' home or in care institutions." Based on these answers, we calculated country-specific standardized averages. For our analyses, both of the country-level independent variables were standardized.

Individual-level variables

Individual-level variables were based on EVS 2017 data (European Values Study, 2017; EVS, 2020a, b).

The dependent variable was based on the question, "Adult children have the duty to provide long-term care for their parents." We used a reverse scale of the original response options: "(1) strongly disagree, (2) disagree, (3) neither agree nor disagree, (4) agree, or (5) strongly agree."

Level of education. We used a three-level classification calculated for the data archived by Gesis: (1) low, (2) medium, and (3) high.

Gainfully employed. Based on the question, "Are you yourself gainfully employed at the moment? Please select from the card the employment status that applies to you." The main options were "Paid employed" (included option: self-employed) and "No paid employment."

Foreign background. The respondent was classified as having a foreign background if he/she, both his/her parents, or one of his/her parents was born in a country other than where the survey was conducted.

Religiosity. The religiosity of the respondents was assessed using several questions from the European Value Study. The question selected for this study was "Please say, for each of the following, how important it is in your life . . . religion. The response options were (1) Very important, (2) quite important, (3) not important, and (4) not at all important."

Gender role attitudes in the domestic and public domain. The formation of the variables is described in the supplementary material.

In addition to the aforementioned variables, respondents' *gender and age* were used as independent variables at the individual level. The age variable was classified into ten-year intervals because it was assumed that the relationship between age and the dependent variable was nonlinear.

Analytical strategy

To answer our first research question, we calculate the mean values of the dependent variables and their confidence intervals by country. Additionally, we describe the association between the dependent variable and two country-level explanatory variables.

Next, we calculate the multilevel models in three steps, thereby answering our three research questions. First, we calculate the empty model (or so-called variance-partitioning

model, see Goldstein *et al.*, 2002), which allows us to estimate how large the between-country variation in our dependent variable is relative to the variation within countries. In the second model, country-level exploratory variables, availability of formal care services, and the quality of formal care services were included. This model provides an estimate of how well the cross-national differences in our dependent variable are explained b these country-level variables. Individual-level variables were added to the third model. In this way, we aim to check the effect of the addition of individual-level variables on the explanatory power of country-level variables and how well each individual-level variable explains the variation in our dependent variable. All multilevel models were calculated using SPSS version 20.0. The estimation method was restricted to maximum likelihood.

Results

Observations at country-level

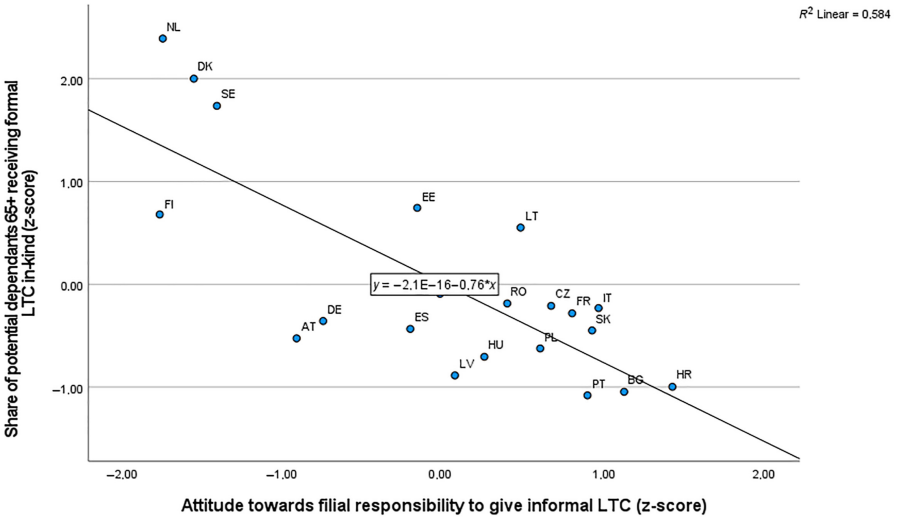
We calculated the average values of the dependent variables and other descriptive statistics by country in Table 1. Countries are arranged in ascending order according to the values of the dependent variable. We find that in countries with a strong welfare state, such as Finland, the Netherlands, Denmark, and Sweden, the willingness of the population to commit to long-term care for their parents is the lowest. Correspondingly, in countries with a weak welfare state and strong family traditions, such as Croatia, Bulgaria, Italy, Slovakia, and Portugal, commitment to long-term care for ageing parents was the strongest. The differences between the extremes can be considered significant. Slovenia is the closest to the average of all countries, and statistically significant differences can be found between Estonia and Latvia.

					95% confidence intervals			
	N	Mean	Standard deviation	Standard error	Lower bound	Upper bound	Min	Max
Finland	1,201	2.59	1.001	0.029	2.53	2.65	1	5
Netherlands	2,374	2.60	0.984	0.020	2.56	2.64	1	5
Denmark	3,343	2.70	1.086	0.019	2.66	2.73	1	5
Sweden	1,191	2.77	1.144	0.033	2.70	2.83	1	5
Austria	1,619	3.02	1.189	0.030	2.96	3.08	1	5
Germany	2,134	3.10	1.149	0.025	3.05	3.15	1	5
Spain	1,193	3.37	1.149	0.033	3.31	3.44	1	5
Estonia	1,281	3.39	1.032	0.029	3.34	3.45	1	5
Slovenia	1,076	3.47	0.96	0.029	3.41	3.52	1	5
Latvia	1,303	3.51	0.915	0.025	3.46	3.56	1	5
Hungary	1,496	3.60	1.065	0.028	3.55	3.66	1	5
Romania	1,589	3.68	1.16	0.029	3.62	3.73	1	5
Lithuania	1,422	3.72	0.921	0.024	3.67	3.77	1	5
Poland	1,331	3.78	0.94	0.026	3.73	3.83	1	5
Czechia	1,747	3.81	0.963	0.023	3.77	3.86	1	5
France	1,870	3.88	1.069	0.025	3.83	3.93	1	5
Portugal	1,211	3.93	0.776	0.022	3.88	3.97	1	5
Slovakia	1,426	3.94	0.968	0.026	3.89	3.99	1	5
Italy	2,245	3.96	0.878	0.019	3.92	4.00	1	5
Bulgaria	1,554	4.04	0.89	0.023	4.00	4.08	1	5
Croatia	1,487	4.19	0.846	0.022	4.15	4.23	1	5
Total	34,091	3.43	1.14	0.006	3.42	3.44	1	5

Table 1.
Descriptive statistics of the dependent variable based on respondents' country

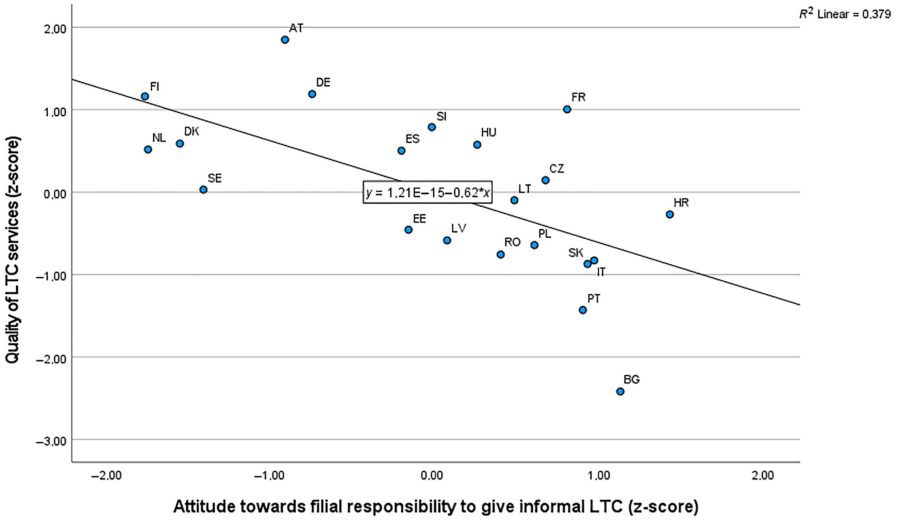
Source(s): Table created by authors

Next, at the country level, we examined the relationship between LTC provision and the perceived quality of long-term care with the dependent variable. Figures 1 and 2 show the connections between the variables. We found that both variables explained a significant part of the variation in the dependent variable at the country level. When we calculate a regression model with these variables (Table 2), we find that both variables are statistically significant explainers and that the explanatory power of the model (adjusted R^2) is 71% of the country-level variation in the dependent variable.



Source(s): Figure created by authors

Figure 1. Share of potential dependents aged 65+ receiving formal in-kind LTC and attitude towards filial responsibility for providing informal LTC



Source(s): Figure created by authors

Figure 2. Quality of LTC services and attitude towards filial responsibility for providing informal LTC

Results of multilevel analysis

Multilevel analyses were conducted in three steps (Table 3). First, an empty model was calculated without explanatory variables, wherein the variance of the dependent variable was divided into two parts: individual and country levels. We found that the country-level variance was accounted for approximately 21% of the total variance of the individual-level

Table 2.
Attitude towards filial responsibility for providing informal LTC: Country-level regression model

	Standardized coefficients			
	B	Std. error	*t*	Sig.
(Constant)	0	0.118	0	1
Availability of formal LTC (z-score)	−0.631	0.128	−4.932	<0.001
Quality of formal LTC services (z-score)	−0.412	0.128	−3.223	0.005

Note(s): Adjusted $R^2 = 0.71$

Table 3.
Attitude towards filial responsibility for providing informal LTC: Results from hierarchical regression models

Variable	Empty model	Estimates, Model 1	Sig.	Estimates, Model 2	Sig.
Fixed part					
Intercept	0.05	0.05	0.400	0.18	0.003
Country-level					
Availability of formal LTC		−0.30	<0.001	−0.25	<0.001
Quality of formal LTC services		−0.18	0.006	−0.14	0.016
Individual level					
Gender (female)				−0.09	<0.001
Age: 18–24 (ref)					
Age: 25–34				−0.13	<0.001
Age: 35–44				−0.25	<0.001
Age: 45–54				−0.28	<0.001
Age: 55–64				−0.29	<0.001
Age: 65–74				−0.26	<0.001
Age: 75–				−0.18	<0.001
Education: low (ref)					
Education: medium				−0.06	0.006
Education: higher				−0.01	0.515
Paid employment				−0.01	0.672
Foreign background				0.16	<0.001
Religion: very important				0.34	<0.001
Religion: quite important				0.15	<0.001
Religion: not important				0.08	<0.001
Religion: not at all important (ref.)					
Gender attitudes in domestic domain				−0.14	<0.001
Gender attitudes in public domain				−0.07	<0.001
Random part					
σ^2e (individual-level residual variance)	0.78	0.78		0.73	
σ^2u0 (country-level residual variance)	0.21	0.06		0.05	

Source(s): Table created by authors

dependent variable. Thus, there seems to be a genuine country-level dependent variable variation.

In the second step, country-level independent variables were added to the model. Of these, both seemed to significantly explain the country-level variation in the dependent variable; the availability of formal LTC was a particularly strong explainer, but the quality of formal LTC also seemed to significantly explain the variance in the dependent variable. By comparing the country-level residual variances between the empty and second model, we notice that these two variables explain the drop in the country-level residual variance between the models by up to approximately 71%, that is, ((0.21–0.06)/0.21)*100 = 71. In other words, close to three-quarters of the country-level variance in our dependent variable is explained by these two variables.

In the third step, individual-level variables were introduced into the model. Women were less likely than men to view long-term parental care as a duty for their children. Furthermore, the respondents' age also seems to explain the variation in the dependent variable: middle-aged respondents see the long-term care of their parents as their children's responsibility less frequently than other age groups. The respondent's education also affects the variation in the dependent variable: the highly educated are less likely to view the long-term care of their parents as their children's duty. However, the respondents' participation in working life did not seem to explain the variation in the dependent variable. Meanwhile, the respondents' gender equality attitudes both in domestic and public domain, religiosity and foreign background seem to have a clear connection with the dependent variable: those who had positive attitudes towards traditional gender roles, religious and immigrant respondents more often see parents' long-term care as the duty of their children.

Furthermore, we observe that the country-level residual variance did not significantly change (0.06 -> 0.05), even when the influence of individual-level variables was taken into account.

Discussion

In this article, we examined Europeans' attitudes towards the assertion that it is the duty of adult children to take responsibility for the long-term care of their elderly parents. Our data represent the adult populations of the 21 European Union member states. Our first observation reveals significant differences between the countries: the strongest obligation to provide informal long-term care is perceived in southern and eastern European countries and the weakest in Nordic countries and the Netherlands. Second, the differences between countries can be explained by the amount and quality of formal care services. According to our interpretation, the social pressure experienced by the population to organize long-term care in informal ways decreases when formal services are properly organized.

Third, many individual-level factors explain the phenomena studied. The respondents' gender and age seemed to matter; women and middle-aged people were the most critical of the duty of long-term care. This observation must be understood in the context that expectations regarding caring responsibility are most strongly aimed at women and middle-aged people approaching retirement age, whose parents often already require intensive care. In addition, they may belong to the so-called "sandwich generation," whose responsibility falls not only on the care of their own parents but also on that of their grandchildren (Hämäläinen and Tanskanen, 2021). The goal of the European Union is to raise the populations' retirement age, thereby increasing the employment rate (European Commission, 2010). This has also been successful; for example, the employment rate of women aged 55–64 was 35% in 2009 and 55% in 2022. (Eurostat, 2023). This effort may be one of the reasons why attitudes towards filial responsibility seem to have changed in a clearly negative direction in Europe during the last couple of decades, especially among middle-aged women (Kääriäinen *et al.*, 2024).

According to our findings, other phenomena observed at the individual level also appear to explain the commitment to social norms regarding informal long-term care. Of these, the respondents' foreign backgrounds, religiosity and gender role attitudes emerged most clearly. Immigration is on rise in Europe, potentially leading to an increase, at least in the short term, the prevalence of positive attitudes towards filial responsibility (de Valk and Schans, 2008; Schans and Komter, 2010; Bordone and de Valk, 2016). The situation is the opposite in terms of religiosity and attitudes towards gender roles. With the modernization, European societies have become secularized, and cultural change is directed towards individualism (Santos *et al.*, 2017; Inglehart and Baker, 2000). These changes, together with the economic efficiency requirement, imply that the population's attitudinal and practical readiness to take responsibility for the informal long-term care of their parents will probably decrease in the future. In the political debate about long-term care, this observation may be important, as it highlights the shift in citizens' attitudes from familialism to de-familialism, which must be considered in political decision-making. The promotion of formal services provided by the welfare state has generally garnered support from left-wing parties, while right-wing parties have favoured traditional family-based models. However, there appears to be a changing trend in this regard as European conservative parties have gradually increased their support for the dual-breadwinner model, advocating for women's employment and the expansion of public social and health services (Giuliani, 2022).

The willingness of the population to take responsibility for their parents' LTC seems strongly connected to the quantity and quality of services provided by the welfare state. Does this mean that the welfare state is eroding people's desire to help the older generations? Previous research has shown that this is not the case. Since the beginning of the 21st century, the impact of the welfare state on social capital has been intensively researched, and the main finding is that societies' equal income distribution and well-functioning public social and health services have increased, rather than decreased, citizens' desire for mutual social interaction and informal help and support (Rothstein and Stolle, 2003; Van Oorschot and Arts, 2005; Kääriäinen and Lehtonen, 2006). Similar results were obtained when the connection between intergenerational solidarity and welfare state type was examined. The results obtained in this study align well with, for example, Verbakel's (2018) observation that generous welfare services provided by society increase adult children's attitudinal readiness to offer their parents relatively light help supplementing public services but decrease their readiness for intensive, long-term support and care.

In the present study, the dependent variable measured agreement with the statement "Adult children have the duty to provide long-term care for their parents." This captures a broad moral perspective on filial responsibility, but may not directly assess individuals' personal readiness or willingness to provide care. This distinction is important as it can lead to different policy implications. Policies focusing on personal readiness or willingness may support individual caregivers and promote work-life balance. Meanwhile, policies addressing the general view of moral duty may involve legal, regulatory, and social welfare interventions to uphold familial obligations and ensure the well-being of older adults.

Our research is not without limitations, and therefore, the topic warrants further investigation using alternative methods. Our findings regarding the quantity of formal long-term care provision and its quality across different countries are based on measures that may raise legitimate critical questions about their reliability and validity. The organization of formal long-term care varies significantly between countries, making it challenging to identify uniform and reliable criteria for measuring the supply of such care (Carrera *et al.*, 2013). For example, the European Commission's report (2021) utilized several alternative measures to describe the supply of formal long-term care. From these, we selected the one we deemed most suitable for our study. Unlike most metrics that describe the amount of formal care, our chosen metric attempts to account for the number of people in need of long-term

care. Similarly, the measure of care quality we employ may be viewed as problematic because it solely captures the population's subjective perceptions of long-term care quality, overlooking objective criteria.

However, the problem we described above is not only methodological but also substantive. The ways in which European countries organize long-term care for the elderly vary greatly. Therefore, it is not a very simple task to analyse how the accessibility and quality of formal care services affect attitudes about informal care. Despite these challenges, we believe that our study lays the groundwork for further research into the factors influencing the population's willingness and ability to provide informal long-term care for ageing individuals.

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Supplementary material

Respondents' perceptions of gender roles were measured in the study with a question consisting of eight items. These items were run with factor analysis (principal component analysis, varimax rotation). The items that measure gender equality in family life were clearly loaded on the first factor, and the items that measure it in the public domain were loaded on the second factor. The result of the factor analysis corresponds very much to the result obtained by Lomazzi (2022) and the factors could thus be named as she had named them: Gender role attitudes in the domestic domain and Gender role attitudes in the public domain. On the basis of factor analysis we calculated the factor scores for each of the respondents.

Table A1. Gender role attitudes: factor analysis of eight items

Items	Component 1	Component 2
Child suffers with working mother	0.826	0.140
Women really want home and children	0.737	0.295
Family life suffers when woman has full-time job	0.844	0.158
Man's job is to earn money; woman's job is to look after home and family	0.622	0.516
Men make better political leaders than women	0.235	0.842
University education more important for a boy than for a girl	0.219	0.780
Men make better business executives than women	0.160	0.880
One of main goals in life has been to make my parents proud	0.400	0.104

Note(s): Extraction method: principal component analysis; Rotation method: varimax with Kaiser normalization

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