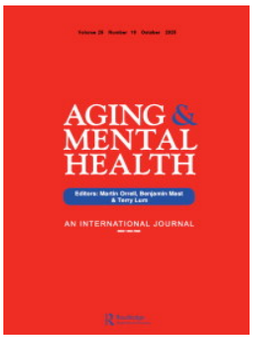

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Carer mental health in Europe. Does it matter who you care for? Cross-sectional and longitudinal findings from SHARE

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ABSTRACT

Objectives: Caring takes place in different locations and involves different relationship types with the care recipient. Although these aspects appear to be important for health, they have only been loosely addressed in research.

Methods: We used information on caring from the Survey of Health, Ageing and Retirement in Europe (SHARE) and distinguished between care provided to spouses, parents (in-law), children, other relatives or non-relatives. We investigated cross-sectional ($n=62.717$) and longitudinal associations ($n=41.947$) between mental health, assessed by the EURO-D depression scale, and caring.

Results: About 8% of men and 10% of women provided care inside (mostly for spouses) and 3% of men and 8% of women outside the household (mostly for parents). Caring for primary relatives was associated with increased depressive symptoms, particularly for females caring inside the household. Respondents providing care to their cohabiting spouse experienced an increase in depressive symptoms even in the long run (Men: Coef. 0.213, 95% CI 0.09–0.33; Women: Coef. 0.265, CI 0.15–0.38).

Conclusion: The relationship type is one important aspect associated with carer mental health. More attention is needed on gender differences in caring, mental health of carers of primary relatives and long-term effects of spousal care inside the household.

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Caring; mental health; depressive symptoms; relationship type

Introduction

Caring, in this work defined as help or assistance that is provided usually unpaid to a person with poor mental and physical health conditions, is the most important source of care for older people in Europe (Eurocarers, 2023; Organisation for Economic Co-operation & Development, 2021). One overarching issue with previous research, however, concerns the lack of consistency in how care is defined and measured (Tur-Sinai et al., 2020). While care provided outside formal settings encompasses a broad spectrum of situations—including diverse relationship types between carer and care recipient (e.g. spouse, parent), different care locations (e.g. within or outside the carer's household), and a wide range of caring activities (from personal care to household tasks)—many studies fail to systematically account for these variations. As a result, important differences in the experience and impact of caring may be overlooked.

This is particularly evident in relation to the type of relationship between carers and care recipients. A large proportion of care recipients are close family members, and research to date has primarily focused on caring within these close relationships, especially among spouses, parents, parent-in-law or children (Bertogg & Strauss, 2020; de Klerk et al., 2021; Glauber, 2017; Haberkern et al., 2015; Litwin et al., 2014; Pinquart & Sörensen, 2011; Swinkels et al., 2022). Some studies thereby distinguish between parents and parents-in-law (Pinquart & Sörensen, 2011), while others do not (de Klerk et al., 2021). In contrast, there is only limited research on carers who support more distant relatives or non-relatives—a group that, although less common (de Klerk et al., 2021), may differ in important ways. In addition, most research on non-kin has been conducted outside of Europe (Barker, 2002; Burns et al., 2011; Lapierre & Keating, 2013), leaving a gap in our understanding of these caring constellations in a broader European context—including their prevalence relative to other types of care and their variation by sociodemographic characteristics. Among those characteristics, gender has emerged as a particularly relevant factor, often closely linked to the type of caring relationship (Haberkern et al. 2015).

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Studies suggest, for example, that women continue to provide the majority of parental care (Hoffmann and Rodrigues 2010; Organisation for Economic Co-operation & Development, 2021). In addition, a handful of studies exist which focus on caring daughters and daughters-in-law (Do et al., 2015; Stephens et al., 2001; Van den Broek & Grundy, 2018), while the role of sons and sons-in-law remains understudied. For spousal caring, it has been shown that men and women are equally likely to provide care in old age, often based on who is less impaired (Arber & Ginn, 1995), Bertogg & Strauss, 2020; Corden & Hirst, 2011; Glauber, 2017; though some studies report a slight male predominance, typically in shared-care arrangements (Bertogg & Strauss, 2020; Broese van Groenou et al., 2013; de Klerk et al., 2021; Patterson & Margolis, 2019). For more distant relatives or non-relatives, the limited available studies again suggest greater female involvement (Broese van Groenou et al., 2013; Egging et al., 2011; Patterson & Margolis, 2019). Altogether, these scattered findings highlight the need for more systematic research that jointly considers relationship type and gender across broader populations and contexts.

Beyond a clearer understanding of who provides care in Europe, it is essential to understand how caring is associated with carer mental health (Hansen & Slagsvold, 2013). This association has been studied frequently, but research results are inconsistent. The largest strand of research on caring in a non-formal setting identifies negative (Estrada Fernández et al., 2019; Hiel et al., 2015; Pinquart & Sörensen, 2003; Verbakel et al., 2017) associations with mental health, especially for females caring for a spouse (Hansen & Slagsvold, 2013), those who report high carer strain (Roth et al., 2009) or highly intensive caring (Fredman et al., 2010) or those who provide care besides working full-time (Bom & Stöckel, 2021). The findings of poorer health have often been interpreted in terms of higher psychosocial strain (Roth et al., 2009; Schulz et al., 1997), specifically, limited reward (McMunn et al., 2009; Siegrist & Wahrendorf, 2009), or fewer opportunities for other activities besides caring (Rokicka & Zajkowska, 2020; Schulz et al., 1997). At the same time, other studies report mixed or even positive associations—particularly in cases involving care for more distant relatives or non-kin (Zhang & Bennett, 2024), or when caring is experienced as meaningful and emotionally rewarding (McCann et al., 2004; Tarlow et al., 2004). One reason for positive associations may lie in selection effects where healthier people are more likely to become a carer (McCann et al., 2004). Other positive aspects identified were a greater closeness to the person in need of care and the feeling of being needed (Hansen & Slagsvold, 2013; Netto et al., 2009; Tarlow et al., 2004).

These mixed findings suggest that not all relevant aspects of caring have been adequately considered. In particular, the type of the relationship between carer and care recipient may be decisive. While some research has addressed this issue, many studies on the association between caring and mental health focus on only one specific type of carer-care recipient relationship (for a review see Bom et al. 2019). Some studies suggest that caring for one's own parents—possibly as a way of reciprocating their care during childhood—may be associated with better mental health than caring for parents-in-law (Fyrand, 2010; Hollstein & Bria, 1998). In contrast, other research reports worse outcomes when caring for close family members, especially spouses (Gallicchio et al., 2002, Chakraborty et al., 2023; Litwin et al., 2014; Marks et al., 2002). Furthermore, relationships marked by lower normative obligations, such as caring for more distant relatives, often showed no associations with health (Marks et al., 2002). This could be partly explained by often more intensive involvement in caring for spouses (Bom et al. 2019) or by the fact that relationships with primary relatives are usually closer and it causes more pain to see a close relative suffer than others (Cantor, 1983). However, other studies found that a higher relationship closeness was associated with better mental health in the short-run (Fauth et al., 2012; Litwin et al., 2014) and a greater worsening over time (Fauth et al., 2012).

Another important but often overlooked factor is the location of care. The relationship type is often closely linked to whether caring takes place inside or outside the household. For example, care for one's own partner usually takes place inside the carer's home, while people who care for their parents often do not cohabit with them. Many studies treat cohabitation as a central aspect, with worse mental health outcomes for carers living with the care recipient, often explained by greater competition between caring tasks and other time-consuming activities (Biliunaite et al., 2022; Lacey et al., 2024; Mentzakis et al., 2009). Thus, in addition to the question of who is cared for, the question of where (e.g. inside or outside the own household) caring is provided also requires attention, as both aspects provide insights into how the care situation is organized and are likely to be relevant to health (Kaschowitz & Brandt, 2017).

The main contribution of this article is to fill the identified research gaps by systematically investigating cross-sectional and longitudinal associations between caring and mental health, with specific attention to relationship type and care location. Using several waves of a large, representative European study, we explore these associations

separately for men and women. We expect that the association with mental health will differ according to the carer's sex, the caring location and the type of the carer-care recipient relationship.

Methods

Data source

The Survey of Health, Ageing and Retirement in Europe (SHARE) is a cross-national and longitudinal study that collects detailed information about the sociodemographic, socioeconomic and health situation of individuals aged 50 and older in Europe, along with their (possibly younger) cohabiting partners. SHARE started in eleven European countries (plus Israel) in 2004 with data collection at two-year intervals. Since study onset, new countries have joined SHARE, even if not all countries always participate in all waves (Bergmann et al., 2022). In order to increase the sample size and maintain the representativeness of the population, new participants were also included in countries in the course of the survey (based on so-called 'refreshment samples'). In terms of panel attrition, the average percentage of respondents lost between the waves between wave 1 and wave 7 was around 20%, with varying values by country and wave-to-wave constellation (see Bergmann et al., 2019 for details). The latest ninth wave was collected between 2021 and 2022. More detailed information about SHARE and its methodology can be found elsewhere (e.g. Börsch-Supan et al., 2013; SHARE, 2022).

Study population

For this paper, we used information on caring taken from waves 1, 2, 6, 7, 8, and 9. Wave 3 was excluded because it consists of a separate retrospective assessments of respondents' previous life, with limited information on care and mental health (the so-called SHARELIFE survey). Waves 4 and 5 were excluded because the care questionnaire in these waves differed from the remaining waves and did not include information on types of care outside the household.

For the cross-sectional analyses of our study, we rely on data taken from the respective baseline of each SHARE respondent, that is, the wave when they first participated and provided information on caring and depressive symptoms. This data is available from 29 countries (Austria, Germany, Sweden, The Netherlands, Spain, Italy, France, Denmark, Greece, Switzerland, Belgium, Israel, Czech Republic, Poland, Ireland, Luxembourg, Hungary, Portugal, Slovenia, Estonia, Croatia, Lithuania, Bulgaria, Cyprus, Finland, Latvia, Malta, Romania, and Slovakia).

This resulted in 62.717 respondents (28.240 men and 34.477 women) eligible for the cross-sectional study sample. Of these, 41.947 respondents (67% of the cross-sectional sample) also provided information on depressive symptoms for at least one subsequent wave (i.e. 'follow-up'), thus allowed to investigate longitudinal associations between caring (at baseline) and depressive symptoms at the next available wave (excluding wave 3, which lacks mental health data). In most cases (67% of the longitudinal sample), this resulted in baseline data provided in wave 1 and follow-up data from wave 2 or from wave 6 and follow-up data from wave 8, with respective time interval of 2 and 4 years between waves. For the longitudinal analyses, we could consider data from all countries with the exception of Ireland, as it only participates in SHARE wave 2. Instead of restricting the sample to those who provided information on caring at one specific wave only, this strategy allowed to use data from each respondent that participated at least once in SHARE (for the cross-sectional analyses), and to use prospective data on mental health for those who participated at least twice (for longitudinal analyses). Figure 1 summarizes the details of the sample selection for our analyses as a flow chart.

Variables

Caring

One aspect examined in the analysis is the *location* of care, both care inside and outside the household. For caring inside the household, respondents were asked *'Is there someone living in this household whom you have helped regularly during the last twelve months with personal care, such as washing, getting*

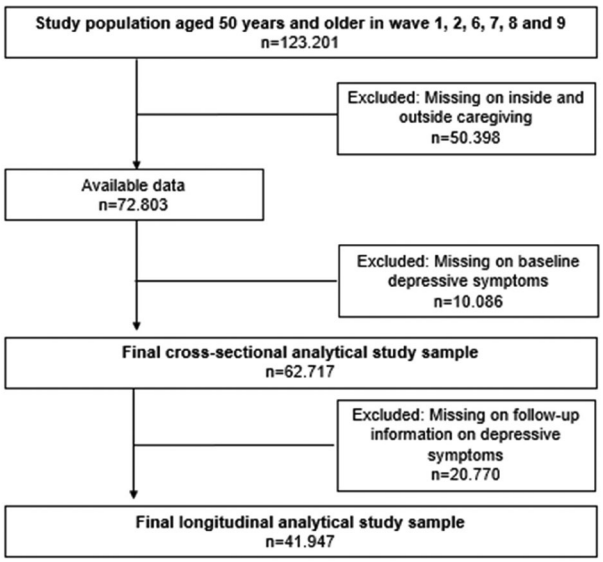

Figure 1. Final sample flow chart.

out of bed or dressing'. For caring outside the household, they were asked *'In the last twelve months, have you personally given any kind of help (personal care, practical household help or help with paperwork) to a family member from outside the household, a friend or neighbor?'*. An additional question then asked *'Which types of help have you given to this person in the last twelve months?'*. Respondents could specify whether they had provided personal care, practical household help, or help with paperwork. We only included respondents who provided personal care (see Table S1 for details on the question wording). In SHARE, the question about care inside the household is only addressed to those people with a household size larger than one. Because all persons with a missing on either inside or outside care are excluded for our analyses, as a result only those cohabiting with someone are considered in these analyses.

SHARE enables us to differentiate between a very large number of possible *relationship types* between carer and care recipient. We differentiated between caring for a spouse, a parent (mother or father), a parent-in-law (mother-in-law or father-in-law), a child, a relative (e.g. brother, sister, aunt, and uncle) or a non-relative (e.g. friend and neighbor) (see Table S1 for a complete list). The reference category always consists of people providing no form of care inside and outside the household in the baseline wave.

Mental health

Depressive symptoms, as one of the most frequent causes of emotional suffering in later life, are measured by the EURO-D depression scale (Blazer, 2003). The EURO-D depression scale encompassed twelve domains measuring the presence (based on binary indicators) of the following depressive symptoms (referring to the past month): 'depressed mood', 'pessimism', 'suicidality', 'guilt', 'sleep quality', 'interest', 'irritability', 'appetite', 'fatigue', 'concentration', 'enjoyment' and 'tearfulness'. When the number of all symptoms is added up, the scale ranges from 0 to 12, with higher values indicating a higher degree of depressive symptoms. For the cross-sectional analyses, information on depressive symptoms was included in the same wave as the information on caring. For the longitudinal analyses, information from the next available wave was included (adjusting for time at risk). For sensitivity purposes, we reran the analyses with a binary depression variable where we defined more than three symptoms as elevated scores. This cut-point has been validated by standardized psychiatric interviews in older populations (Castro-Costa et al., 2008), and has been shown to be strongly associated with other measures of depression in European-wide studies (Prince et al., 1999). These analyses have produced similar results.

Next, we reran the analyses using a positive outcome variable closely related to mental health, the CASP index. The CASP index measures the quality of life of older individuals based on four domains (control, autonomy, pleasure and self-realization) and was originally developed by Hyde et al. (Hyde et al., 2003; Mehrbrodt et al., 2021). To measure quality of life in SHARE, respondents are asked to rate twelve statements on a four-point Likert scale ('often' (1), 'sometimes' (2), 'rarely' (3), 'never' (4)). The resulting value is the sum of these twelve items and ranges from a minimum of 12 to a maximum of 48, with higher values being associated with a higher quality of life (Mehrbrodt et al., 2021).

Additional measures

We included a number of additional measures, including age, wealth and education as two socioeconomic indicators, an indicator of functional limitations and the employment status of the carer. Wealth is based on the household's total net worth, which includes both financial assets (savings, net equity value, mutual funds and bonds) and housing assets (value of primary residence, other real estate, owned business shares and cars). For all analyses, we calculated country-specific tertiles (low, medium, high). As our wealth measure was based on accumulated savings rather than direct income, it may be more appropriate as an indicator of the financial situation of older populations (Galobardes et al., 2006). Education was measured according to the International Standard Classification of Educational Qualifications (ISCED-97) and was categorized into 'low education' (pre-primary, primary or lower secondary education), 'medium education' (secondary or post-secondary non-tertiary education) and 'high education' (first and second level of tertiary education) (UNESCO-UIS., 2006). An increased number of limitations in performing instrumental activities of daily living ('IADL limitations'), based on several essential activities of independent living (e.g. doing work around the house or garden, grocery shopping, preparing hot meals), was used to examine the carer's own health status. For the analyses, functional limitations were categorized as having at least one IADL limitation (Lawton & Brody, 1969). Lastly, the employment status distinguished between those who are in paid employment and those who are not. Table 1 shows details on each variable including categories and their distributions for men and women.

Analytical strategy

All calculations and figures were created in Stata (Version 18.0). We distinguished between caring inside and

outside the own household and perform all analyses separately for men and women. We started with a description of the sample in terms of sociodemographic and socioeconomic characteristics of the cross-sectional study population (Table 1). Table 2 shows the prevalence of caring as well as the average number of depressive symptoms and mean age in the cross-sectional study sample in different carer-care recipient relationship types.

Table 1. Distribution of sociodemographic and socioeconomic characteristics of the study population: Observations (Obs.) and percentages (%) or means with standard deviations (sd).

		Men ($n = 28.240$)		Women ($n = 34.477$)	
	Categories	Obs.	%/mean (sd)	Obs.	%/mean (sd)
Age[a]		27.976	65.84 (9.76)	32.767	65.03 (9.93)
Wealth[a]	Low	8.658	30.66	12.013	34.84
	Medium	9.730	34.45	11.669	33.85
	High	9.852	34.89	10.795	31.31
Education[a]	Low	11.841	42.40	17.074	50.06
	Medium	10.203	36.53	11.359	33.30
	High	5.883	21.07	5.673	16.63
Functional limitations[a]	Yes	3.637	12.88	6.521	18.92
	No	24.597	87.12	27.949	81.08
Employment situation[a]	Paid work	8.650	30.67	8.625	25.05
	No paid work	19.552	69.33	25.801	74.95
Depressive symptoms		28.240	1.96 (2.07)	34.477	2.80 (2.43)
Quality of life[b]		23.951	37.19 (6.11)	28.676	36.59 (6.48)

[a]For these variables there was a proportion of missing values of below 2%.
[b]10.090 (16.1%) respondents had missing values on quality of life.

Next, we estimated a series of multilevel linear regression models (with individuals nested within countries) to examine both cross-sectional and longitudinal associations. The cross-sectional models (Table 3) assessed differences in levels of depressive symptoms and quality of life at baseline in relation to the exposure of interest (caring). In contrast, the longitudinal models (Table 4) used the follow-up measure of depressive symptoms or quality of life as the outcome and adjusted for the corresponding baseline value—an approach known as a conditional change-score model (Twist, 2013). This approach allowed us to assess whether the exposure predicts changes in the outcome over time, rather than just cross-sectional differences in levels of depressive symptoms. Importantly, as the time interval between baseline and follow-up assessments varied across respondents, we included the time elapsed between waves as a covariate in the longitudinal models. All multivariable models were also adjusted for age (linear and squared), sex, education, wealth, functional limitations, and employment situation.

Results

Descriptive results

Table 1 gives an overview of the distribution of the characteristics of the study population. The respondents were on average about 65 years old, the majority (especially of men) were not in paid work anymore and often belonged to the low or medium education

Table 2. Caring in different carer-care recipient relationship types and associations between different carer-care recipient relationship types and depressive symptoms for men and women: Observations (obs.), percentages of carers (%) and means and standard deviations (sd) of depressive symptoms and age in the cross-sectional study sample.

		Male ($n = 27.663$)				Female ($n = 32.715$)			
	Categories	Obs.	%	Mean depressive symptoms (sd)	Mean age (sd)	Obs.	%	Mean depressive symptoms (sd)	Mean age (sd)
Caring inside the household[a]	Yes	2.138	7.73	2.48 (2.34)	67.03 (10.18)	3.265	9.98	3.46 (2.53)	64.67 (9.67)
	No	25.525	92.27	1.92 (2.05)	65.87 (9.71)	29.450	90.02	2.73 (2.42)	65.28 (9.99)
For a spouse		1.536	5.68	2.60 (2.37)	69.25 (9.91)	2.055	6.52	3.53 (2.54)	66.74 (9.43)
For a parent		186	0.72	2.31 (2.27)	58.28 (5.12)	432	1.45	3.14 (2.47)	58.23 (5.27)
For a parent-in-law		101	0.39	1.71 (1.89)	60.98 (6.59)	130	0.44	3.07 (2.32)	56.92 (4.86)
For a child		236	0.92	2.27 (2.30)	62.52 (9.83)	492	1.64	3.61 (2.68)	62.54 (10.34)
For a other relative		71	0.28	2.37 (2.28)	66.89 (10.99)	168	0.57	3.77 (2.57)	65.42 (10.51)
For a other non-relative		42	0.16	2.00 (2.20)	65.00 (9.64)	74	0.25	2.89 (2.00)	66.27 (10.36)
Caring outside the household[b]	Yes	882	3.34	2.18 (2.15)	62.05 (9.34)	2.555	7.98	2.97 (2.31)	61.64 (8.59)
	No	25.525	96.66	1.92 (2.05)	65.87 (9.71)	29.450	92.02	2.73 (2.42)	65.28 (9.99)
For a spouse		168	0.65	2.79 (2.35)	69.92 (10.14)	287	0.97	3.48 (2.52)	66.94 (8.84)
For a parent		296	1.15	2.04 (2.04)	57.26 (5.17)	978	3.21	2.86 (2.24)	57.53 (5.31)
For a parent-in-law		113	0.44	1.69 (1.77)	58.14 (6.30)	218	0.73	2.70 (2.13)	56.61 (5.11)
For a child		55	0.22	2.36 (2.68)	64.60 (8.94)	165	0.56	3.15 (2.45)	64.54 (9.72)
For a other relative		137	0.53	1.97 (1.97)	63.24 (8.95)	529	1.76	2.97 (2.29)	63.00 (8.50)
For a other non-relative		147	0.57	2.24 (2.17)	62.87 (9.64)	548	1.83	3.05 (2.32)	64.85 (9.41)

Note: Respondents could care for more than one person at the same time; because not all respondents gave any information about the person they cared for, for these variables there was a proportion of missing values between and 6.62 and 12.16% regarding different carer-care recipient relationship types.
[a] 2.339 participants had missing values for caring inside the household (3.37%).
[b] 4.305 participants had missing values for caring inside the household (6.86%).

Table 3. Cross-sectional associations between different carer-care recipient relationship types and mental health for men and women inside and outside the household: Adjusted coefficients (coef.) and confidence intervals (95% CI).

		Depressive symptoms								Quality of life							
		Inside the household				Outside the household				Inside the household				Outside the household			
		Men ($n = 27.068$)		Women ($n = 30.728$)		Men ($n = 28.565$)		Women ($n = 33.352$)		Men ($n = 23.014$)		Women ($n = 25.718$)		Men ($n = 21.813$)		Women ($n = 24.832$)	
	Categories	Coef.	95% CI	Coef.	95% CI	Coef.	95% CI	Coef.	95% CI	Coef.	95% CI	Coef.	95% CI	Coef.	95% CI	Coef.	95% CI
Overall	Yes	0.391	[0.31–0.48}	0.634	[0.55–0.72]	0.401	[0.27–0.53]	0.473	[0.38–0.57]	−0.819	[−1.07–0.57]	−1.240	[−1.46 to −1.02]	−0.726	[−1.13 to −0.32]	−0.342	[−0.60 to −0.08]
	No (Ref.)	–		–		–		–		–		–		–		–	
Spouse	Yes	0.420	[0.32–0.52]	0.690	[0.59–0.79]	0.715	[0.43–1.00]	0.865	[0.60–1.13]	−0.945	[−1.24 to −0.65]	−1.326	[−1.59 to −1.06]	−1.276	[−2.12 to −0.43]	−1.331	[−2.02– to −0.65]
	No (Ref.)	–		–		–		–		–		–		–		–	
Parent	Yes	0.417	[0.14–0.69]	0.473	[0.25–0.69]	0.433	[0.21–0.65]	0.471	[0.32–0.62]	−0.996	[−1.78 to −0.21]	−1.061	[−1.62 to −0.50]	−1.150	[−1.85 to −0.45]	−0.307	[−0.72 to 0.11]
	No (Ref.)	–		–		–		–		–		–		–		–	
Parent-in-law	Yes	−0.034	[−0.40–0.34]	0.432	[0.02–0.84]	0.039	[−0.32 to 0.39]	0.422	[0.11–0.74]	−0.253	[−1.32 to 0.82]	−0.305	[−1.37 to 0.76]	−0.298	[−1.38 to 0.79]	−0.585	[−1.50 to 0.33]
	No (Ref.)	–		–		–		–		–		–		–		–	
Child	Yes	0.374	[0.13–0.62]	0.672	[0.46–0.88]	0.417	[−0.08 to 0.91]	0.514	[0.16–0.86]	−0.682	[−1.40 to 0.03]	−1.549	[−2.09 to 1.01]	−0.303	[−1.87 to 1.26]	−1.336	[−2.28 to −0.39]
	No (Ref.)	–		–		–		–		–		–		–		–	
Other relatives	Yes	0.332	[−0.11 to 0.77]	0.567	[0.22–0.91]	0.238	[−0.08–0.56]	0.416	[0.22–0.61]	0.018	[−1.30 to 1.33]	−0.667	[−1.56 to 0.22]	−0.446	[−1.49 to 0.60]	0.000	[−0.55 to 0.55]
	No (Ref.)	–		–		–		–		–		–		–		–	
Other non-relatives	Yes	0.224	[−0.36 to 0.81]	−0.08	[−0.67–0.52]	0.414	[0.10–0.72]	0.456	[0.26–0.65]	0.345	[−1.41 to 2.10]	0.651	[−0.90 to 2.20]	0.040	[−0.93 to 1.01]	0.130	[−0.40 to 0.66]
	No (Ref.)	–		–		–		–		–		–		–		–	

Note: Models are based on multilevel models (individuals nested in countries) and calculated separately for each carer-care recipient relationship type, adjusted for age (linear and squared), wealth, education, limitations in instrumental activities of daily living and employment situation.

group. Women were more likely to belong to the low-wealth group and were more likely to have limitations in instrumental activities of daily living than men. Consistent with previous literature, our study suggested that women generally have a higher number of depressive symptoms than men (Sloan & Sandt, 2006; Van de Velde et al., 2010).

Overall, about 7.7% of male and almost 10% of female respondents aged 50 years or older provided personal care for someone inside the household and about 3.3% of male and 8% of female respondents provided care for someone outside the household (Table 2). In all carer-care recipient relationship types a higher percentage of carers were women than men. In particular, large differences between men and women are found in caring for parents, other relatives, and non-relatives outside the household. Caring inside the household was very often care for a spouse, while outside the household it was usually a parent who was cared for.

Furthermore, at this point we provided a first answer to our main research question by showing means of depressive symptoms for carers and non-carers. Both male and female carers in most relationship types had higher mean values for depressive symptoms than their non-caring counterparts, especially when providing care inside the own household (men: 2.48 and 1.92; women: 3.46 and 2.73). Another striking aspect was that the average age of carers inside the household (men: 67.0; women: 64.7) was clearly higher compared to carers outside the household (men: 62.0; women: 61.6). Besides this, the average age of carers both inside and outside the household was highest for those caring for a spouse, with males being almost 70 years and females almost 67 years old.

Multivariable results

Caring in several carer-care recipient relationship types inside and outside the household was associated with more depressive symptoms and thus a poorer mental health (Table 3). Women who care for their spouse inside the household had a 0.690 (CI 0.59–0.79) and outside the household an even 0.865-point (CI 0.60–1.13) higher score of depressive symptoms compared with female non-carers. Furthermore, the results highlighted interesting differences between parents and parents-in-law for males. Males providing care for parents, both inside and outside the household, had more depressive symptoms than male non-carers, a pattern we do not find for males providing care for parents-in-law. In particular, caring for a spouse, parent, child, parent-in-law (only for females) or another relative (only for females) was associated with more depressive symptoms for carers compared to non-carers, especially for women.

The results of the CASP-index were similar to depressive symptoms. Overall, a significantly lower quality of life for carers compared to non-carers was found in particular in caring for a spouse (for men and women), parent (for men and women), or child (only for females) in the cross-sectional analyses. For example, for females caring for a spouse inside the household was associated with an on average more than one-point (Coef. 1.326, CI −1.59- −1.06) lower quality of life compared to female non-carers. Thus, for both mental health indicators, caring for a close relative like a spouse, parent or child was associated with poorer mental health, while no notable differences between carers and non-carers are observed for other relationship types.

The longitudinal results revealed that caring for a spouse inside the household was associated with more mental health problems also in the long-run (Table 4). For example, among males caring for a cohabitating spouse was associated with an increase of 0.213 (CI 0.09–0.33) depressive symptoms till the next wave. For women, providing care for a spouse (Coef. 0.265, CI 0.15–0.38) and for a child (Coef. 0.321, CI 0.08–0.56) inside the household were associated with a significant increase in depressive symptoms over time. Regarding quality of life, we found that men providing care for a spouse either inside and outside the household are more likely to have a lower quality of life in the next available wave. In the long run, the location of care seems to be more important as we found significant results in particular for care inside the household. The only exception was the lower quality of life of men who cared for their spouse outside the household. However, this care situation was rare.

Discussion

This investigation provided new knowledge about the proportion of carers in Europe and the complex association between caring and carer mental health. Overall, the proportion of people who provide personal care to someone inside the household was larger than the proportion providing personal care for someone outside the household. In the majority of cases, care inside the household was for a spouse, while in care outside the household the care recipients can be various people. However, the largest number of non-residential care recipients were the carers own parents. In addition, our findings showed that women were more likely to care, both inside and outside the household, especially when provided to parents and other relatives. There was also a clear difference in mean ages by relationship type and

Table 4. Longitudinal associations between different carer-care recipient relationships and mental health for men and women inside and outside the household: Adjusted coefficients (coef.) and confidence intervals (95% CI).

		Depressive symptoms								Quality of life							
		Inside the household				Outside the household				Inside the household				Outside the household			
		Men (n = 17.520)		Women (n = 20.968)		Men (n = 16.797)		Women (n = 20.747)		Men (n = 14.686)		Women (n = 17.362)		Men (n = 13.989)		Women (n = 16.987)	
	Categories	Coef.	95% CI	Coef.	95% CI	Coef.	95% CI	Coef.	95% CI	Coef.	95% CI	Coef.	95% CI	Coef.	95% CI	Coef.	95% CI
Overall	Yes	0.131	[0.03–0.23]	0.180	[0.09–0.27]	0.037	[−0.11 to 0.18]	−0.025	[−0.12 to 0.73]	−0.380	[−0.66 to −0.10]	−0.061	[−0.29 to 0.17]	−0.334	[−0.76 to 0.09]	−0.025	[−0.28 to 0.23]
	No (Ref.)	–		–		–		–		–		–		–		–	
Spouse	Yes	0.213	[0.09–0.33]	0.265	[0.15–0.38]	0.076	[−0.26 to 0.41]	0.220	[−0.06 to 0.50]	−0.461	[−0.80 to −0.13]	−0.055	[−0.34 to 0.23]	−1.452	[−2.41 to −0.50]	0.067	[−0.62 to 0.76]
	No (Ref.)	–		–		–		–		–		–		–		–	
Parent	Yes	−0.171	[−0.49 to 0.15]	0.017	[−0.22 to 0.25]	0.097	[−0.14 to 0.34]	−0.098	[−0.25 to 0.06]	−0.117	[−0.98 to 0.76]	0.046	[−0.55 to 0.64]	−0.262	[−0.97 to 0.45]	−0.238	[−0.65 to 0.17]
	No (Ref.)	–		–		–		–		–		–		–		–	
Parent-in-law	Yes	−0.176	[−0.59 to 0.24]	−0.375	[−0.82 to 0.07]	0.178	[−0.21 to 0.57]	0.090	[−0.24 to 0.42]	−0.066	[−1.21 to 1.08]	0.024	[−1.09 to 1.14]	−0.262	[−1.38 to 0.86]	−0.277	[−1.18 to 0.63]
	No (Ref.)	–		–		–		–		–		–		–		–	
Child	Yes	0.060	[−0.23 to 0.35]	0.321	[0.08–0.56]	−0.007	[−0.58 to 0.56]	0.171	[−0.22 to 0.56]	−0.160	[−0.96 to 0.64]	−0.280	[−0.87 to 0.31]	0.210	[−1.44 to 1.86]	−0.714	[−1.74 to 0.31]
	No (Ref.)	–		–		–		–		–		–		–		–	
Other relatives	Yes	0.168	[−0.35 to 0.69]	−0.303	[−0.70 to 0.10]	−0.051	[−0.40 to 0.30]	−0.123	[−0.32 to 0.08]	−0.402	[−1.90 to 1.09]	−0.936	[−1.93 to 0.06]	−0.380	[−1.46 to 0.70]	0.474	[−0.07 to 1.02]
	No (Ref.)	–		–		–		–		–		–		–		–	
Other non-relatives	Yes	0.108	[−0.56 to 0.78]	−0.060	[−0.72 to 0.59]	−0.060	[−0.41 to 0.29]	0.062	[−0.14 to 0.26]	−0.882	[−2.79 to 1.02]	−1.044	[−2.74 to 0.65]	0.404	[−0.60 to 1.41]	−0.154	[−0.68 to 0.38]
	No (Ref.)	–		–		–		–		–		–		–		–	

Note: Models are based on multilevel models (individuals nested in countries) and calculated separately for each carer-care recipient relationship type, adjusted for age (linear and squared), wealth, education, limitations in instrumental activities of daily living, employment situation and time at risk.

location, with carers of spouses and carers inside the household tending to be older on average.

Our multivariable findings indicated that the carer-care recipient relationship types can help to understand variations in the association with depressive symptoms. The cross-sectional analyses revealed that caring for a spouse, parent, and child was associated with more depressive symptoms with differences in the strength of the association by carer sex, with stronger associations for females, and location, with stronger associations for inside caring. In the longitudinal analyses, caring inside the household for a spouse (for men and women) and a child (only for women) was significantly associated with more depressive symptoms and thus a decrease of mental health over time. As we observed this particularly in care inside the household, care within the own household seems to have a long-lasting impact on the carer's mental health. Overall, the results regarding quality of life were similar.

Our findings are consistent with those from studies that have found that caring for primary relatives was associated with poorer mental health (Gallicchio et al., 2002; Litwin et al., 2014; Marks et al., 2002). This may be explained in part by the fact that these relationships tend to be closer and it causes greater pain to see a close relative suffer than others. In particular in terms of caring for a partner, this could also be attributed to the fact that this group has a higher average age (Table 2), which in turn is associated with poorer mental and physical health (Santoni et al., 2015). In addition, our results confirm the existing literature with regard to the fact that we found poorer mental health among carers who live in the same household with the person in need of care. One reason for this could be a greater competition between caring tasks and other activities (Biliunaite et al., 2022; Lacey et al., 2024; Mentzakis et al., 2009). One the other hand, this could be explained by a lack of separation between work, in this case care work, and leisure time. This so-called blurring of boundaries has already been found to be associated with more work-life conflicts in studies on working from home in the context of paid work (e.g. Olson-Buchanan & Boswell, 2006), which could also apply to care work. Additionally, in our results there was no difference in mental health of male carers and non-carers of parents-in-law. whereas we found a significant negative association with mental health when caring for own parents. This implies that parents and parent-in-law should also be considered separately and not combined in future studies.

When interpreting the results, the following limitations must be taken into account. Our analyses included individuals nested in countries, but did not account for country-specific differences in depressive symptoms. However, national care policies (e.g. national spending on long-term care, care leave, care allowances and support of carers), cultural norms and perceived expectations (e.g. gendered roles and expectations of caring) differ a lot across Europe and could influence the extent of the association between caring and health (Kaschowitz & Brandt, 2017; van Damme et al., 2025; Verbakel, 2018). Zarzycki et al., 2023; Another limitation includes that the question about caring referred to the past year, and depressive symptoms were assessed for the past month. Because personal care (of a seriously ill person) is often provided for only a short period of time, it is possible that this will introduce some bias because the information about depressive symptoms do not necessarily cover the same time period as the information on care. Furthermore, our longitudinal analyses examined the association between caring at baseline and mental health at the next available follow-up. This approach, however, does not guarantee that baseline wave is the same for each respondent, as individuals entered the study at different time points. Likewise the time interval between baseline and follow-up also varies by participants. In addition, this approach does not capture potential changes in caring status between waves (e.g. continuous caring, stopping, or starting care). Along these lines, one could also argue that longer-term trajectories of mental health should be considered by incorporating additional follow-up waves. While this study offered both cross-sectional and initial longitudinal evidence, these limitations highlight opportunities to extend our analyses in future work (Lacey et al. 2019; Schaps et al. 2025). In the case of the longitudinal analyses, one may also ask whether attrition could have led to a selective longitudinal sample, as some groups are more likely to drop out than others. Given that attrition tends to be higher among people in poor mental health (and because we conducted a complete case analyses), however, it is likely that the adverse impact of caring on mental health is even underestimated in our findings. The COVID-19 pandemic and its potential impact on mental health may also have affected those respondents for which our second measure of depressive symptoms comes from wave 9, which was conducted during the pandemic in 2021 and 2022. This applied to about 14.5% of our longitudinal sample. Next, it is always important to consider whether there is another person to help with caring. As spouses are in many cases the sole carer and receive less support, carers of other persons are often supported by other (formal or non-formal) carers, which of course has an impact on the association between caring and mental health. For example, previous literature reveals that couples often share caring for parents and parents-in-law (Henz, 2009; Szinovacz & Davey, 2008). Unfortunately, at this time, SHARE did not provide information

about other carers. As both dependent variables, EURO-D and CASP, contain different sub-dimensions, it should be noted that the association between caring and mental health might vary in strength depending on the sub-dimension.

Despite these limitations, our study was able to emphasize that considering further characteristics of the caring situation represents an important contribution to research on the provision of care and its cross-sectional and longitudinal association with mental health. Especially important were the differences between men and women in caring and the still existing unequal gender norms and the societal expectations towards women in Europe. Our study underlined once again, the importance of care location and the importance to differentiate for the relationship between the carer and the person in need of care.

In the light of the ongoing ageing and the expected need for care, the conditions of carers need to be improved. One important aspect is the gender inequality in care. Increasing the proportion of male carers is a key aspect of creating new resources, especially for the care of parents and other relatives. Financial and organizational support are likely to improve the conditions of cares and soften possible negative impacts of care on mental health. In addition, meeting platforms for carers should be expanded in order to increase the possibilities to talk about possible challenges associated with caring and address possible mental health issues from the onset. Overall, support should be particularly targeted at more vulnerable groups, namely those caring for primary relatives, in particular inside the own household.

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Disclosure statement

No potential conflict of interest was reported by the authors.

Ethics statement

SHARE waves 1 to 4 were approved by the Ethics Committee of the University of Mannheim ethics committee (decisions dated 13.12.2004, 16.12.2008 and 28.6.2010). SHARE wave 4 to 9 were approved by the Ethics Council of the Max Planck Society (decisions dated 19.10.2011, 15.2.2012, 13.6.2012, 19.2.2014, 23.2.2016, 14.6.2018, 29.5.2020 and 8.6.2021).

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References

Arber, S., & Ginn, J. (1995). Gender differences in informal caring. *Health & Social Care in the Community*, *3*(1), 19–31. https://doi.org/10.1111/j.1365-2524.1995.tb00003.x

Barker, J. C. (2002). Neighbours, friends, and other nonkin caregivers of community-living dependent elders. *The Journals of Gerontology. Series B, Psychological Sciences and Social Sciences*, *57*(3), S158–S167. https://doi.org/10.1093/geronb/57.3.s158

Bergmann, M., Scherpenzeel, A., & Börsch-Supan, A. (2019). *SHARE Wave 7 Methodology: Panel innovations and life histories*. MEA, Max Planck Institute for Social Law and Social Policy.

Bergmann, M., Kneip, T., Luca, G., de Scherpenzeel, A. (2022). Survey participation in the Eighth Wave of the Survey of Health, Ageing and Retirement in Europe (SHARE). Based on Release 8.0.0. In *SHARE Working Paper Series*, 81–2022: Munich: SHARE-ERIC. https://doi.org/10.17617/2.3390284

Bertogg, A., & Strauss, S. (2020). Spousal care-giving arrangements in Europe. The role of gender, socio-economic status and the welfare state. *In Ageing and Society*, *40*(4), 735–758. https://doi.org/10.1017/S0144686X18001320

Biliunaite, I., Kazlauskas, E., Sanderman, R., & Andersson, G. (2022). Informal caregiver support needs and burden: A survey in Lithuania. *In BMJ Open*, *12*(1), 1–12. https://doi.org/10.1136/bmjopen-2021-054607

Blazer, D. G. (2003). Depression in late life: Review and commentary. *The Journals of Gerontology. Series A, Biological Sciences and Medical Sciences*, *58*(3), 249–265. https://doi.org/10.1093/gerona/58.3.m249

Bom, J., Bakx, P., Schut, F., & van Doorslaer, E. (2019). Health effects of caring for and about parents and spouses. *In the Journal of the Economics of Ageing*, *14*, 100196. https://doi.org/10.1016/j.jeoa.2019.100196

Bom, J., Bakx, P., Schut, F., & van Doorslaer, E. (2019). The impact of informal caregiving for older adults on the

health of various types of caregivers: A systematic review. *The Gerontologist*, *59*(5), e629–e642. https://doi.org/10.1093/geront/gny137

Bom, J., & Stöckel, J. (2021). Is the grass greener on the other side? The health impact of providing informal care in the UK and the Netherlands. *Social Science & Medicine (1982)*, *269*, 113562. https://doi.org/10.1016/j.socscimed.2020.113562

Börsch-Supan, A., Brandt, M., Hunkler, C., Kneip, T., Korbmacher, J., Malter, F., Schaan, B., Stuck, S., & Zuber, S. (2013). Data resource profile: The survey of health, ageing and retirement in Europe (SHARE). *International Journal of Epidemiology*, *42*(4), 992–1001. https://doi.org/10.1093/ije/dyt088

Broese van Groenou, M., De Boer, A., & Iedema, J. (2013). Positive and negative evaluation of caregiving among three different types of informal care relationships. *European Journal of Ageing*, *10*(4), 301–311. https://doi.org/10.1007/s10433-013-0276-6

Burns, C. M., Abernethy, A. P., Leblanc, T. W., & Currow, D. C. (2011). What is the role of friends when contributing care at the end of life? Findings from an Australian population study. *Psycho-oncology*, *20*(2), 203–212. https://doi.org/10.1002/pon.1725

Cantor, M. H. (1983). Strain among caregivers. A study of experience in the United States. *The Gerontologist*, *23*(6), 597–604. https://doi.org/10.1093/geront/23.6.597

Castro-Costa, E., Dewey, M., Stewart, R., Banerjee, S., Huppert, F., Mendonca-Lima, C., Bula, C., Reisches, F., Wancata, J., Ritchie, K., Tsolaki, M., Mateos, R., & Prince, M. (2008). Ascertaining late-life depressive symptoms in Europe: An evaluation of the survey version of the EURO-D scale in 10 nations. The SHARE project. *International Journal of Methods in Psychiatric Research*, *17*(1), 12–29. https://doi.org/10.1002/mpr.236

Chakraborty, R., Jana, A., & Vibhute, V. (2023). Caregiving: A risk faktor of poor health and depression among informal caregivers in India – A comparative analysis. In. *BMC Public Health*, *23*(1), 42. https://doi.org/10.1186/s12889-022-14880-5

Corden, A., & Hirst, M. (2011). Partner care at the end-of-life: Identity, language and characteristics. *In Ageing and Society*, *31*(2), 217–242. https://doi.org/10.1017/S0144686X10000838

de Klerk, M., De Boer, A., & Plaisier, I. (2021). Determinants of informal care-giving in various social relationships in the Netherlands. In. *Health & Social Care in the Community*, *29*(6), 1779–1788. https://doi.org/10.1111/hsc.13286

Do, Y. K., Norton, E. C., Stearns, S. C., & Van Houtven, C. H. (2015). Informal care and caregiver's health. In. *Health Economics*, *24*(2), 224–237. https://doi.org/10.1002/hec.3012

Egging, S., De Boer, A. H., & Stevens, N. L. (2011). Zorgzame vrienden en buren als mantelzorgers van oudere volwassenen: Een vergelijking met kinderen. *Tijdschrift Voor Gerontologie En Geriatrie*, *42*(6), 243–255. https://doi.org/10.1007/s12439-011-0043-0

Estrada Fernández, M. E., Gil Lacruz, A. I., Gil Lacruz, M., & Viñas López, A. (2019). Informal care. European situation and approximation of a reality. In. *Health Policy (Amsterdam, Netherlands)*, *123*(12), 1163–1172. https://doi.org/10.1016/j.healthpol.2019.09.007

Eurocarers. (2023, November 29). About carers. https://eurocarers.org/about-carers/

Fauth, E., Hess, K., Piercy, K., Norton, M., Corcoran, C., Rabins, P., Lyketsos, C., & Tschanz, J. (2012). Careguvers' relationship closenesse with the person with dementia predicts both positive and negative outcomes for caregivers' physical health and psychological well-being. *Aging & Mental Health*, *16*(6), 699–711. https://doi.org/10.1080/13607863.2012.678482

Fredman, L., Cauley, J. A., Hochberg, M., Ensrud, K. E., & Doros, G. (2010). Mortality associated with caregiving, general stress, and caregiving-related stress in elderly women: Results of caregiver-study of osteoporotic fractures. *Journal of the American Geriatrics Society*, *58*(5), 937–943. https://doi.org/10.1111/j.1532-5415.2010.02808.x

Fyrand, L. (2010). Reciprocity: A predictor of mental health and continuity in elderly people's relationships? A review. *Current Gerontology and Geriatrics Research*, *2010,* 1–14. https://doi.org/10.1155/2010/340161

Gallicchio, L., Siddiqi, N., Langenberg, P., & Baumgarten, M. (2002). Gender differences in burden and depression among informal caregivers of demented elders in the community. *International Journal of Geriatric Psychiatry*, *17*(2), 154–163. https://doi.org/10.1002/gps.538

Galobardes, B., Shaw, M., Lawlor, D. A., Lynch, J. W., & Davey Smith, G. (2006). Indicators of socioeconomic position (part 2). *Journal of Epidemiology and Community Health*, *60*(2), 95–101. https://doi.org/10.1136/jech.2004.028092

Glauber, R. (2017). Gender differences in spousal care across the later life course. *Research on Aging*, *39*(8), 934–959. https://doi.org/10.1177/0164027516644503

Haberkern, K., Schmid, T., & Szydlik, M. (2015). Gender differences in intergenerational care in European welfare states. *In Ageing and Society*, *35*(2), 298–320. https://doi.org/10.1017/S0144686X13000639

Hansen, T., & Slagsvold, B. (2013). The psychological effects of providing personal care to a partner: A multidimensional perspective. *Health Psychology Research*, *1*(2), 25. https://doi.org/10.4081/hpr.2013.743

Henz, U. (2009). Couples' provision of informal care for parents and parents-in-law: Far from sharing equally? In. *Ageing and Society*, *29*(3), 369–395. https://doi.org/10.1017/S0144686X08008155

Hiel, L., Beenackers, M. A., Renders, C. M., Robroek, S. J. W., Burdorf, A., & Croezen, S. (2015). Providing personal informal care to older European adults: Should we care about the caregivers' health? In. *Preventive Medicine*, *70*, 64–68. https://doi.org/10.1016/j.ypmed.2014.10.028

Hoffmann, F., Rodrigues, R. (2010). Informal carers. Who takes care of them? https://www.euro.centre.org/downloads/detail/1256/1

Hollstein, B., & Bria, G. (1998). Reziprozität in Eltern-Kind-Beziehungen? Theoretische Überlegungen und empirische Evidenz. *In Berliner Journal Für Soziologie*, *8*(1), 7–22.

Hyde, M., Wiggins, R. D., Higgs, P., & Blane, D. B. (2003). A measure of quality of life in early old age: The theory, development and properties of a needs satisfaction model (CASP-19). In. *Aging & Mental Health*, *7*(3), 186–194. https://doi.org/10.1080/1360786031000101157

Kaschowitz, J., & Brandt, M. (2017). Health effects of informal caregiving across Europe: A longitudinal approach. *Social Science & Medicine (1982)*, *173*, 72–80. https://doi.org/10.1016/j.socscimed.2016.11.036

Lacey, R. E., McMunn, A., & Webb, E. (2019). Informal caregiving patterns and trajectories of psychological distress in the UK Household Longitudinal Study. In. *Psychological Medicine*, *49*(10), 1652–1660. https://doi.org/10.1017/S0033291718002222

Lacey, R. E., Xue, B., Di Gessa, G., Lu, W., & McMunn, A. (2024). Mental and physical health changes around transitions into unpaid caregiving in the UK: A longitudinal, propensity score analysis. *In the Lancet Public Health*, *9*(1), e16–e25. https://doi.org/10.1016/S2468-2667(23)00206-2

Lapierre, T. A., & Keating, N. (2013). Characteristics and contributions of non-kin carers of older people: A closer look at friends and neighbours. *In Ageing and Society*, *33*(8), 1442–1468. https://doi.org/10.1017/S0144686X12000736

Lawton, M. P., & Brody, E. M. (1969). Assessment of older people. Self-maintaning and instrumental activities of daily living. *The Gerontologist*, *9*(3 Part 1), 179–186. https://doi.org/10.1093/geront/9.3_Part_1.179

Litwin, H., Stoeckel, K. J., & Roll, A. (2014). Relationship status and depressive symptoms among older co-resident caregivers. *Aging & Mental Health*, *18*(2), 225–231. https://doi.org/10.1080/13607863.2013.837148

Marks, N. F., Lambert, J. D., & Choi, H. (2002). Transitions to caregiving, gender, and psychological well-being: A prospective U.S. national study. *Journal of Marriage and Family*, *64*(3), 657–667. https://doi.org/10.1111/j.1741-3737.2002.00657.x

McCann, J. J., Hebert, L. E., Bienias, J. L., Morris, M. C., & Evans, D. A. (2004). Predictors of Beginning and Ending Caregiving During a 3 year period in a biratial community population of older adults (McCann et al., 2004). *American Journal of Public Health*, *94*(10), 1800–1806. https://doi.org/10.2105/ajph.94.10.1800

McMunn, A., Nazroo, J., Wahrendorf, M., Breeze, E., & Zaninotto, P. (2009). Participation in socially-productive activities, reciprocity and wellbeing in later life: Baseline results in England. *In Ageing and Society*, *29*(5), 765–782. https://doi.org/10.1017/S0144686X08008350

Mehrbrodt, T., Gruber, S., Wagner, M. (2021). Scales and multi-item indicators. SHARE. https://share-eric.eu/fileadmin/user_upload/Other_Publications/Scales Manual_rel.8-0-0.pdf

Mentzakis, E., McNamee, P., & Ryan, M. (2009). Who cares and how much: Exploring the determinants of co-residential informal care. *Review of Economics of the Household*, *7*(3), 283–303. https://doi.org/10.1007/s11150-008-9047-0

Netto, N. R., Jenny, G. Y. N., & Philip, Y. L. K. (2009). Growing and gaining through caring for a loved one with dementia. *In Dementia*, *8*(2), 245–261. https://doi.org/10.1177/1471301209103269

Organisation for Economic Co-operation and Development. (2021). Health at a Glance 2021. OECD Indicators. https://www.oecd-ilibrary.org/sites/ae3016b9-en/index.html?itemId=/content/publication/ae3016b9-en

Patterson, S. E., & Margolis, R. (2019). The demography of multigenerational caregiving: A critical aspect of the gendered life course. *In Socius: Sociological Research for a Dynamic World*, *5*, 237802311986273. https://doi.org/10.1177/2378023119862737

Pinquart, M., & Sörensen, S. (2003). Differences between caregivers and noncaregivers in psychological health and physical health: A meta-analysis. *Psychology and Aging*, *18*(2), 250–267. https://doi.org/10.1037/0882-7974.18.2.250

Pinquart, M., & Sörensen, S. (2011). Spouses, adult children, and children-in-law as caregivers of older adults: A meta-analytic comparison. *Psychology and Aging*, *26*(1), 1–14. https://doi.org/10.1037/a0021863

Prince, M. J., Reischies, F., Beekman, A. T., Fuhrer, R., Jonker, C., Kivela, S. L., Lawlor, B. A., Lobo, A., Magnusson, H., Fichter, M., van Oyen, H., Roelands, M., Skoog, I., Turrina, C., & Copeland, J. R. (1999). Development of the EURO-D scale – A European, Union initiative to compare symptoms of depression in 14 European centres. *The British Journal of Psychiatry: The Journal of Mental Science*, *174*(4), 330–338. https://doi.org/10.1192/bjp.174.4.330

Rokicka, M., & Zajkowska, O. (2020). Informal elderly caregiving and time spent on leisure: evidence from time use survey. *Ageing International*, *45*(4), 393–410. https://doi.org/10.1007/s12126-020-09396-5

Roth, D. L., Perkins, M., Wadley, V. G., Temple, E. M., & Haley, W. E. (2009). Family caregiving and emotional strain: associations with quality of life in a large national sample of middle-aged and older adults. *Quality of Life Research: An International Journal of Quality of Life Aspects of Treatment, Care and Rehabilitation*, *18*(6), 679–688. https://doi.org/10.1007/s11136-009-9482-2

Santoni, G., Angleman, S., Welmer, A. K., Mangialasche, F., Marengoni, A., & Fratiglioni, L. (2015). Age-related variation in health status after age 60. *PloS One*, *10*(3), e0120077. https://doi.org/10.1371/journal.pone.0120077

Schaps, V., Hansen, T., Nes, R. B., & Wahrendorf, M. (2025). How are location and type of caring associated with the carer's mental health? Cross-sectional and longitudinal findings from SHARE. *European Journal of Ageing*, *22*(1), 5. https://doi.org/10.1007/s10433-025-00843-3

Schulz, R., Newsom, J., Mittelmark, M., Burton, L., Hirsch, C., & Jackson, S. (1997). Health effects of caregiving: The caregiver health effects study: An ancillary study of the cardiovascular health study. *Annals of Behavioral Medicine: A Publication of the Society of Behavioral Medicine*, *19*(2), 110–116. https://doi.org/10.1007/bf02883327

SHARE. (2022). SHARE Release Guide 8.0.0. The Munich Center for Economics of Aging. https://share-eric.eu/fileadmin/user_upload/Release_Guides/SHARE_release_guide_8-0-0.pdf

Siegrist, J., & Wahrendorf, M. (2009). Participation in socially productive activities and quality of life in early old age: Findings from SHARE. *In Journal of European Social Policy*, *19*(4), 317–326. https://doi.org/10.1177/1350506809341513

Sloan, D. M., & Sandt, A. R. (2006). Gender differences in depression. *Women's Health (London, England)*, *2*(3), 425–434. https://doi.org/10.2217/17455057.2.3.425

Stephens, M. A. P., Townsend, A. L., Martire, L. M., & Druley, J. A. (2001). Balancing parent care with other roles. Interrole conflict of adult daughter caregivers. *The Journals of Gerontology. Series B, Psychological Sciences and Social Sciences*, *56*(1), P24–P34. https://doi.org/10.1093/geronb/56.1.P24

Swinkels, J. C., van Tilburg, T. G., & Broese van Groenou, M. (2022). Why do spouses provide personal care? A study among care-receiving Dutch community-dwelling older adults. *Health & Social Care in the Community*, *30*(4), e953–e961. https://doi.org/10.1111/hsc.13497

Szinovacz, M. E., & Davey, A. (2008). The division of parent care between spouses. *In Ageing and Society*, *28*(4), 571–597. https://doi.org/10.1017/S0144686X07006915

Tarlow, B. J., Wisniewski, S. R., Belle, S. H., Rubert, M., Ory, M. G., & Gallagher-Thompson, D. (2004). Positive Aspects of Caregiving. Contributions of the REACH Project to the Development of New Measures for Alzheimer's Caregiving. *Research on Aging*, *26*(4), 429–453. https://doi.org/10.1177/0164027504264493

Tur-Sinai, A., Teti, A., Rommel, A., Hlebec, V., & Lamura, G. (2020). How many older informal caregivers are there in Europe? Comparison of estimates of their prevalence from three european surveys. *International Journal of Environmental Research and Public Health*, *17*(24), 9531. https://doi.org/10.3390/ijerph17249531

Twist, J. W. R. (2013). *Applied longitudinal data analysis for epidemiology: A practical guide*. (2nd ed.) Cambridge University Press.

UNESCO-UIS. (2006). International Standard Classification of Education. ISCED 1997. https://uis.unesco.org/sites/

default/files/documents/international-standard-classification-of-education-1997-en_0.pdf

van Damme, M., Spijker, J., & Pavlopoulos, D. (2025). A care regime typology of elder, long-term care institutions. *European Journal of Ageing*, *22*(1), 1–11. https://doi.org/10.1007/s10433-025-00854-0

Van de Velde, S., Bracke, P., & Levecque, K. (2010). Gender differences in depression in 23 European countries. Cross-national variation in the gender gap in depression. *Social Science & Medicine (1982)*, *71*(2), 305–313. https://doi.org/10.1016/j.socscimed.2010.03.035

Van den Broek, T., & Grundy, E. (2018). Parental health limitations, caregiving and loneliness among women with widowed parents: Longitudinal evidence from France. *European Journal of Ageing*, *15*(4), 369–377. https://doi.org/10.1007/s10433-018-0459-2

Verbakel, E. (2018). How to understand informal caregiving patterns in Europe? The role of formal long-term care provisions and family care norms. *Scandinavian Journal of Public Health*, *46*(4), 436–447. https://doi.org/10.1177/1403494817726197

Verbakel, E., Tamlagsrønning, S., Winstone, L., Fjær, E. L., & Eikemo, T. A. (2017). Informal care in Europe: Findings from the European Social Survey (2014) special module on the social determinants of health. *European Journal of Public Health*, *27*(suppl_1), 90–95. https://doi.org/10.1093/eurpub/ckw229

Zarzycki, M., Morrison, V., Bei, E., & Seddon, D. (2023). Cultural and societal motivations for being informal caregivers: A qualitative systematic review and meta-synthesis. *Health Psychology Review*, *17*(2), 247–276. https://doi.org/10.1080/17437199.2022.2032259

Zhang, Y., & Bennett, M. R. (2024). Insights into informal caregivers' well-being: A longitudinal analysis of care intensity, care location, and care relationship. *The Journals of Gerontology: Series B*, *79*(2), gbad166. https://doi.org/10.1093/geronb/