The Burden of Informal Care: Does Looking After Aging Parents Weaken Social Ties?

LIS^2*ER – SHARE* Luxembourg Joint Workshop

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Motivation

- Population ageing in Europe $\Rightarrow$ rising demand for long-term care (LTC).
- Formal LTC remains limited in many countries, so families - mostly middle-aged women - provide most care.
- Informal caregiving is **unpaid**, **time-intensive**, and often **emotionally demanding**.
- Concern: caregiving may erode caregivers' own social connectedness, a major determinant of:
  - well-being and mental health
  - physical health, morbidity, and mortality
- **Research question:** *Does giving care to one's parents weaken one's social ties?*

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- **Research question:** *Does giving care to one's parents weaken one's social ties?*
- More precisely, how does providing care affect:
  - **Social Connectedness** across five network dimensions
  - **Satisfaction** with one's social relationships
  - **Social capital**: volunteering, participation in associations, civic activities

Contribution

- Study a novel outcome: the social connectedness of informal caregivers, using all key dimensions of their social networks.
- Use high-quality panel data from SHARE, exploiting its rich Social Network module (waves 4, 6, 8, 9).
- Estimate the causal effect of providing intensive daily care to parents on:
  - multidimensional social connectedness
  - satisfaction with social relationships
  - social capital and associational participation
- Document cross-country heterogeneity linked to formal LTC availability and cultural norms.
- Show broader relevance: the activities crowded out by caregiving strongly predict ten-year mortality.

Literature Review: Informal Caregiving and Its Consequences

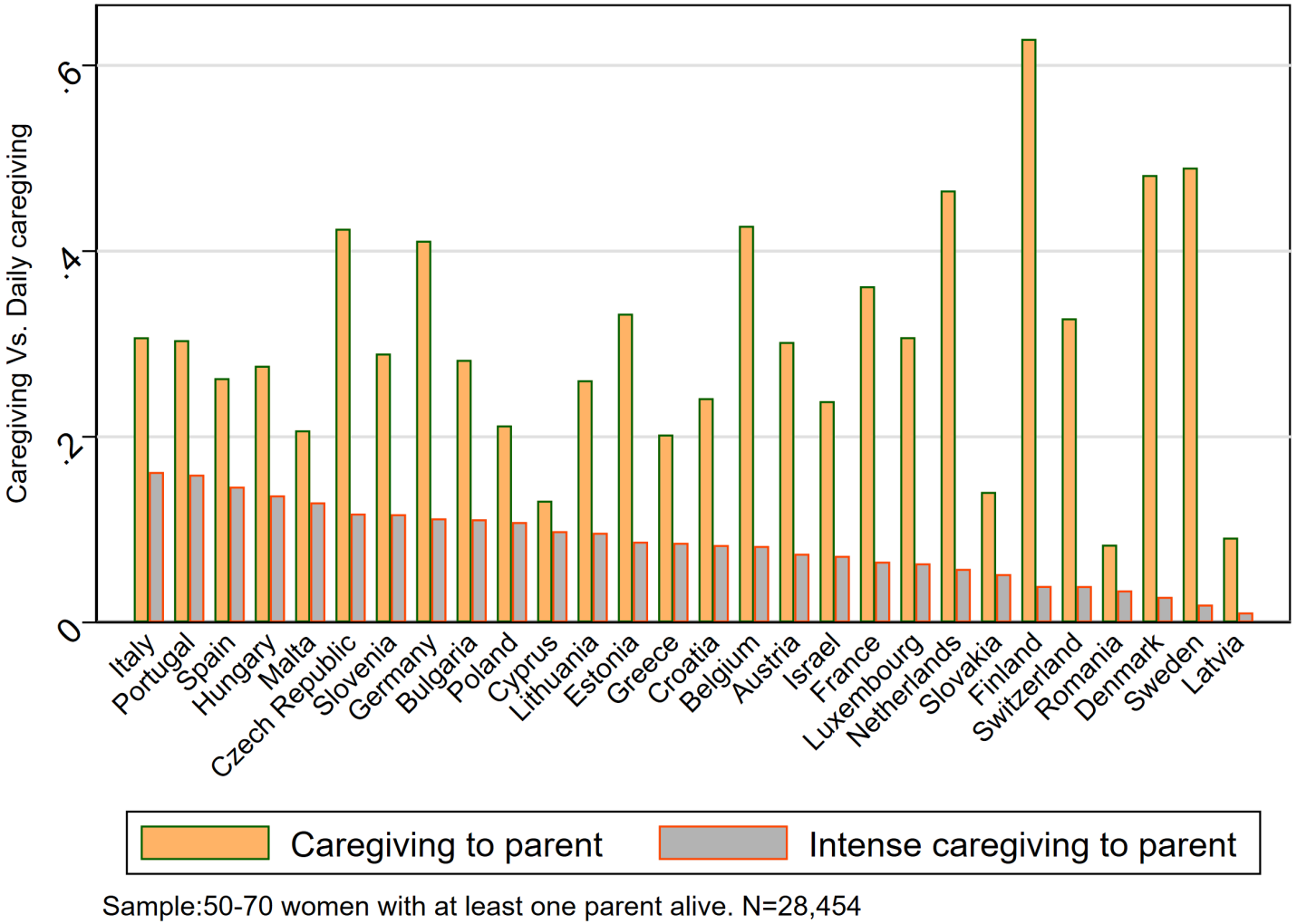
- **Health effects of caregiving**
  - Consistent evidence of higher stress, depression, and worse self-rated health. *Pinquart and Sorensen 2003; Vitaliano et al. 2003; Bauer and Sousa-Poza 2015; Roth et al. 2015*
  - Causal evidence from PSM and IV studies. *Bom et al. 2019; Schmitz and Westphal 2015, 2017; Crespo and Mira 2014; Eibich 2023*
  - Heterogeneity by gender and care intensity. *Colombo et al. 2011; Simard-Duplain 2022; Bom and Stockel 2021, 2022*
- **Labor market consequences**
  - Lower employment, hours, and wages. *Heitmueller 2007; Bolin et al. 2008; Casado-Marin et al. 2011; Crespo and Mira 2014*
  - Wage penalties and earlier retirement. *Schmitz and Westphal 2017; Van Houtven et al. 2013; Eibich 2023*
- **Social connectedness (emerging)**
  - Social isolation strongly linked to health and mortality. *Thoits 2011; Holt-Lunstad and Smith 2015; Fawaz and Mira 2023*
  - Early evidence that caregiving increases isolation and loneliness. *Zwar et al. 2020; Le and Ibuka 2023*

Data

Data and Sample

- **Data source:** Survey of Health, Ageing and Retirement in Europe (SHARE)
  - Waves 4–9 (2010–2022) for social networks and main analysis
- **Social Network (SN) module:** available in waves 4, 6, 8, and 9
- **Sample:** daughters aged 50–70
  - At least one living parent
  - About 70 percent of daily informal caregivers in SHARE are women
- **Key idea:** estimate the effect of daily informal caregiving to parents on social connectedness and related social outcomes

Informal Care Across Countries

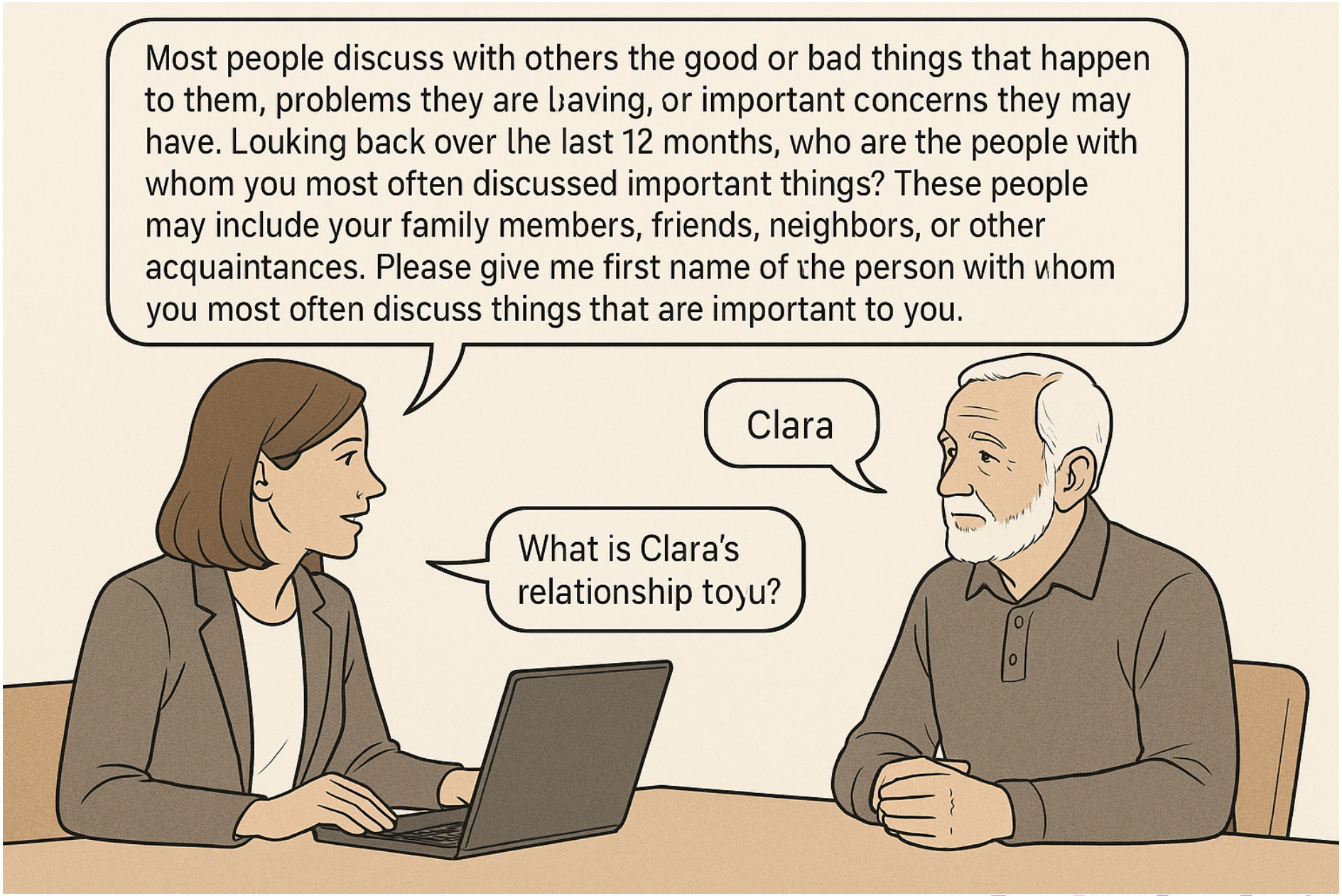


Share of daughters aged 50–70 providing any care and daily care to a parent. Daily caregiving is much more common in Southern and Eastern Europe, where formal long-term care systems are weaker.

Measuring Social Networks in SHARE

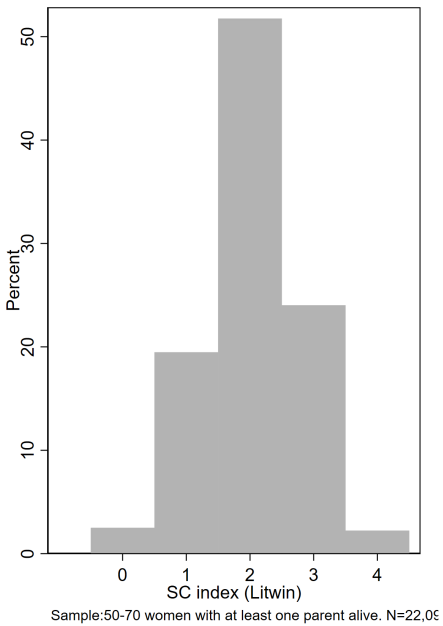
- **Two approaches to social network measurement:**
  - **Indirect**: infer meaningful ties from roles (spouse, children, co-resident relatives) - used in HRS, early SHARE waves, ELSA
  - **Direct**: ask respondents to name subjectively meaningful ties - uses name generators to capture actual confidants
- SHARE was the first cross-national ageing survey to introduce a Social Networks module with a **name generator**:
  - Respondents can name up to 6 people they discussed important matters with
  - Plus one extra person for "any other reason"
- For each named person: relationship, gender, age, proximity, contact frequency, and emotional closeness are recorded

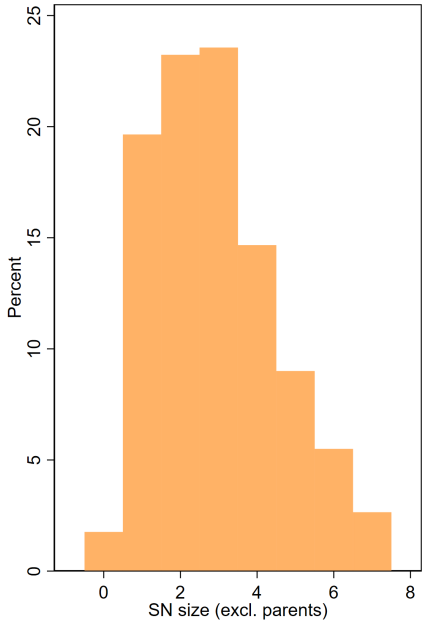
The Social Networks Module: Name Generator



Social Connectedness Index (Litwin et al. 2017)

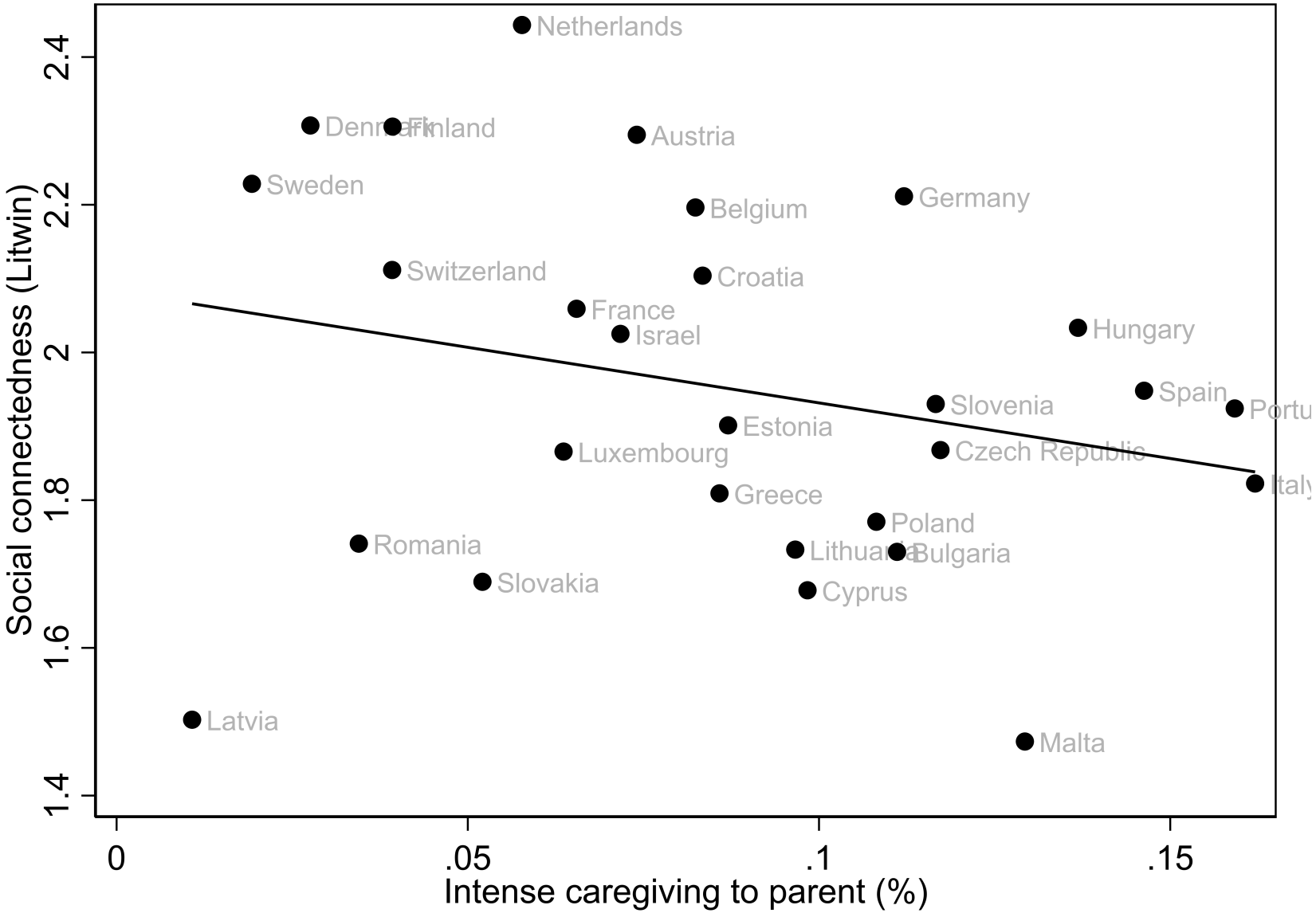
- **1. Network size**
  Number of people named in the roster (max 7)
- **2. Proximity**
  Number of named individuals living within 25 km
- **3. Contact frequency**
  Number of individuals with weekly or more frequent contact
- **4. Emotional closeness**
  Number of individuals rated as very or extremely close
- **5. Relationship diversity**
  Count of distinct types of relationships in the network





Raw score (0–20) is collapsed into 5 categories: 0 = 0; 1 = 1–5; 2 = 6–10; 3 = 11–15; 4 = 16–20.

Informal Caregiving and Social Networks: Descriptive Evidence



Instrument: Parental Health Deterioration

- Parents self-report their health on a 5-point scale: excellent, very good, good, fair, poor
- **Health shock:** transition between $t-1$ and t from any non-poor state (excellent, very good, good, fair) into poor or very poor health
- Captures a sudden, sustained increase in care needs and is a strong predictor of daughters daily caregiving
- In the analysis, entry into poor health is treated as an absorbing state

Empirical Strategy: Instrumental Variables (2SLS)

Goal: estimate the causal effect of providing **daily caregiving** to a parent on social connectedness.

Identification challenge: caregiving is endogenous (daughters who provide care differ systematically from those who do not).

Instrument: Parental Health Deterioration We define a health shock between $t-1$ and t as:

$$\text{HealthShock}_{it} = \begin{cases} 1 & \text{if parent transitions from non-poor health at } t-1 \text{ to poor/ve} \\ 0 & \text{otherwise} \end{cases}$$

2SLS specification:

$$\text{DailyCare}_{it} = \pi \cdot \text{HealthShock}_{it} + X'_{i,t-1}\gamma + u_{it} \qquad \text{(First Stage)} \qquad (1)$$

$$Y_{it} = \beta \cdot \widehat{\text{DailyCare}}_{it} + X'_{i,t-1}\delta + \varepsilon_{it} \qquad \text{(Second Stage)} \qquad (2)$$

Controls $X_{i,t-1}$ (all lagged): age, education, marital status, number of children and grandchildren, household size, siblings and female siblings, co-residence, depressive symptoms, past outcome, plus country FE, year FE, cohort FE, and cohort-by-country trends.

IV Assumptions for Causal Interpretation

We rely on three standard assumptions:

1. **Relevance** Health deterioration must increase the probability that daughters provide daily care. (Strong first stage in our data, especially in Southern and Eastern Europe.)

2. **Exclusion Restriction** Parental health shocks should affect social connectedness *only* via caregiving, not directly through emotional distress or grief. (Addressed empirically by adding mental health controls.)

3. **Monotonicity** No daughter provides *less* care because a parent becomes sicker; i.e., no "defiers". (Consistent with LTC norms and the literature.)

These assumptions follow standard practice in the caregiving IV literature (e.g. Crespo and Mira 2014, Eibich 2023). We validate them through first-stage strength, robustness checks, and institutional context.

Results: First Stage

Parental health deterioration and Informal Caregiving

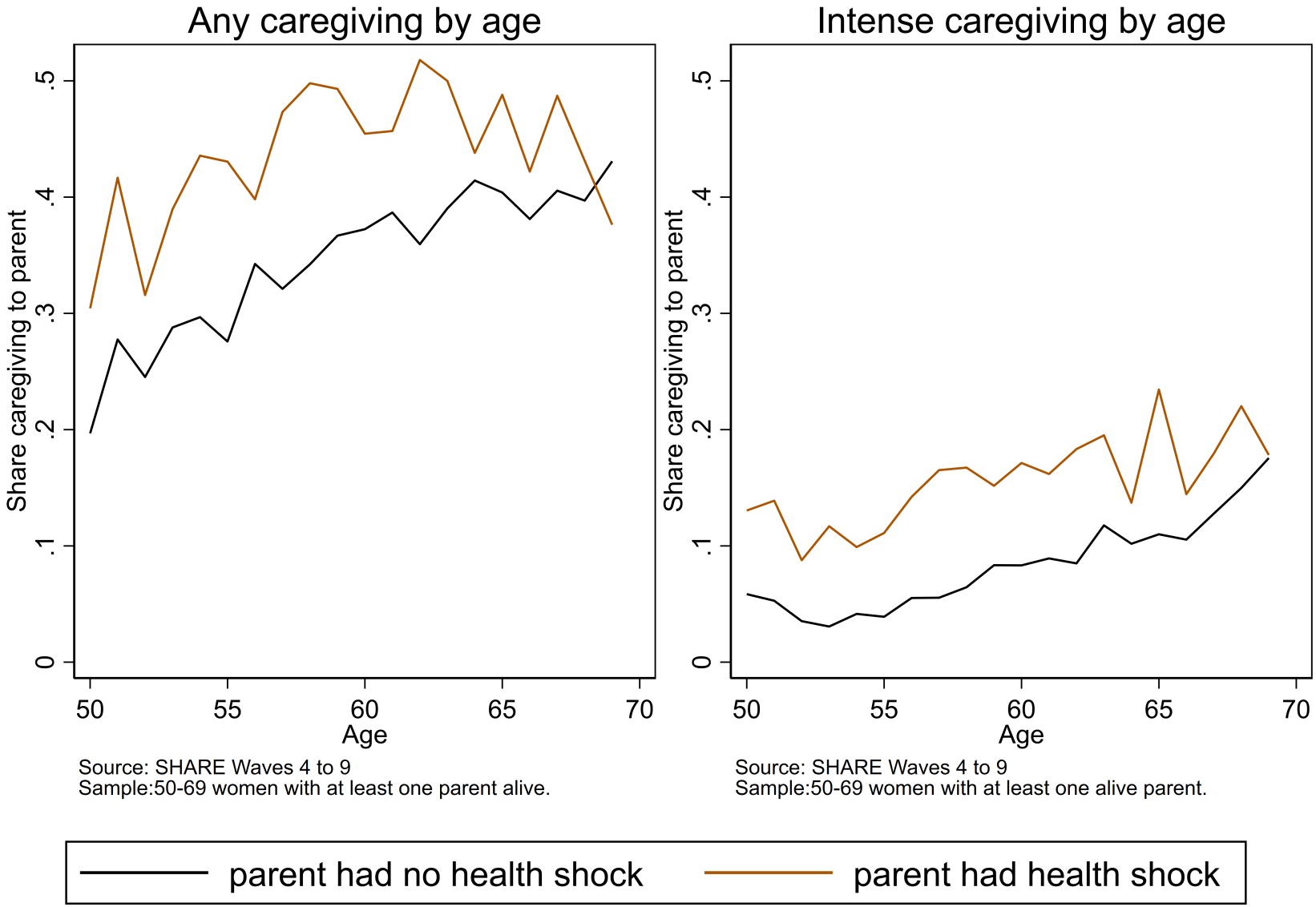


Table: First Stage Estimates

	(1)	(2)	(3)	(4)	(5)
Parental health shock	0.073***	0.072***	0.072***	0.072***	0.071***
	(0.011)	(0.011)	(0.011)	(0.010)	(0.010)
Instrument version	CS	CS	CS	CS	Panel
Basic controls	No	Yes	Yes	Yes	Yes
Siblings	No	No	Yes	Yes	Yes
Coresidence	No	No	No	Yes	Yes
F-Stat	45.3	44.2	45.1	49.8	46.7
R2	0.07	0.07	0.09	0.14	0.14
Observations	5681	5681	5681	5681	5681

Note: Standard errors in parentheses, clustered at individual level.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.
All regressions include country, year, cohort FE, and cohort trend X country FE. Dependent variable is a dummy for daily caregiving to father or mother.
Basic controls: age, married, education, number of children and grandchildren, size of household. All covariates are lagged.

Table: First Stage Estimates by Country Groups

	(1) All	(2) Southern	(3) Western	(4) Northern	(5) Eastern	(6) East_South
Parental health shock	0.071***	0.153***	0.028*	0.005	0.113***	0.162***
	(0.010)	(0.031)	(0.015)	(0.015)	(0.021)	(0.025)
F-Stat	46.7	24.9	3.6	0.1	28.3	40.8
R2	0.14	0.20	0.12	0.07	0.16	0.19
Observations	5681	899	2390	625	1698	1390

Country groups correspond to the classification in the paper:
Southern (Spain, Italy, Greece, Portugal, Cyprus),
Western (Austria, Germany, Netherlands, France, Switzerland, Belgium, Luxembourg),
Northern (Sweden, Denmark, Finland),
Eastern (Czech Republic, Poland, Hungary, Slovenia, Estonia, Croatia, Lithuania, Bulgaria, Latvia, Romania, Slovakia),
and a combined high-intensity group (Spain, Italy, Greece, Poland, Portugal, Croatia, Bulgaria, Malta, Slovakia).

Results: OLS and Second Stage

OLS vs 2SLS Estimates (All Countries)

Table: OLS vs 2SLS: Social Connectedness Outcomes (All Countries)

	Panel A: OLS			
	(1) SC Index	(2) SN Quality	(3) SN Size	(4) SN Satisfaction
Intense caregiving to parent	0.0177	1.160	-0.00290	0.0360
	(0.0338)	(0.958)	(0.0632)	(0.0508)
	Panel B: 2SLS			
Intense caregiving to parent	0.0837	-10.66	0.636	-1.066**
	(0.310)	(8.686)	(0.621)	(0.520)
F-test (IV)	46.66	46.95	46.66	46.62
Hausman p-value	0.83	0.16	0.29	0.02
Observations	5681	5681	5681	5667

Note: Standard errors in parentheses, clustered at the individual level.
All regressions include country FE, year FE, cohort FE, and cohort-by-country cohort trends. Controls (all lagged): age, marital status, education, number of children and grandchildren, household size, siblings, female siblings, coresidence, and the lagged dependent variable.

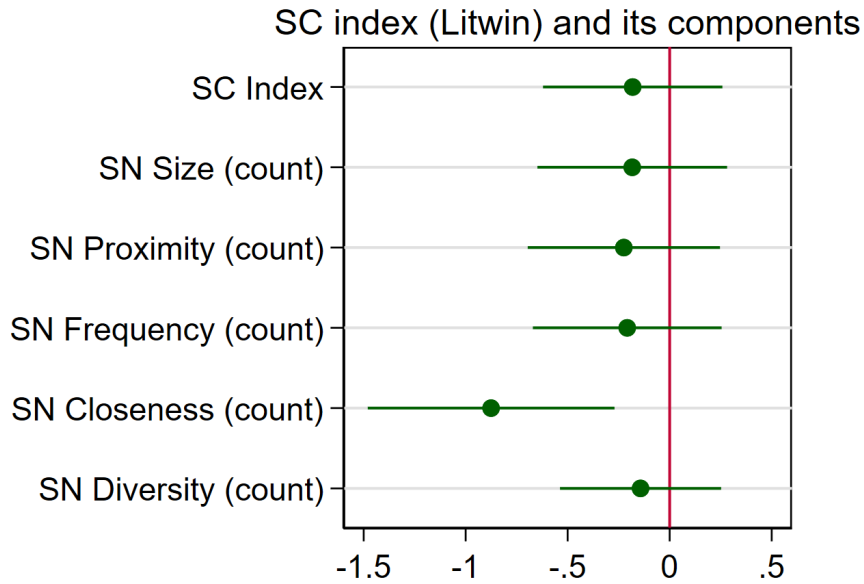
OLS vs 2SLS Estimates (South/East Countries)

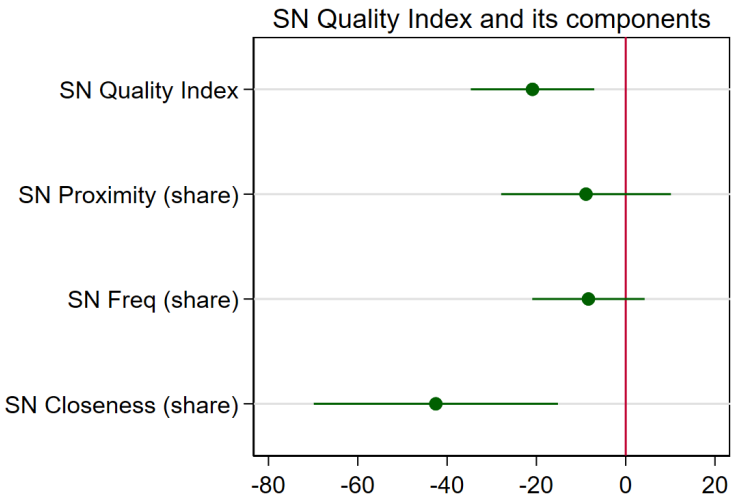
Table: OLS vs 2SLS: Social Connectedness Outcomes (South/East Countries)

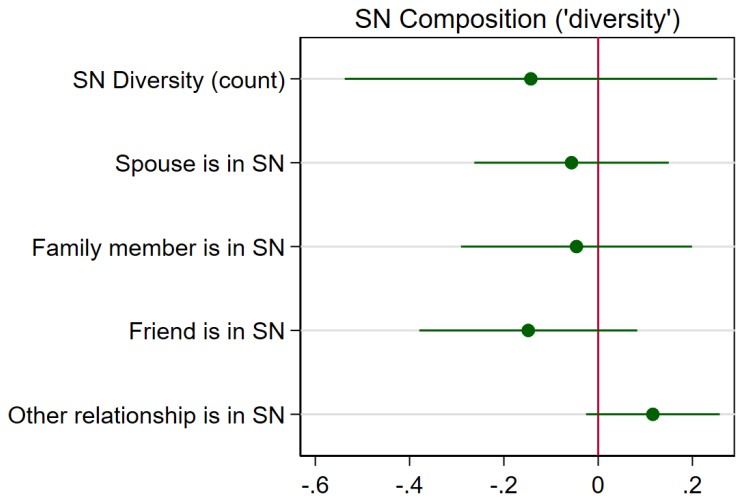
	Panel A: OLS			
	(1) SC Index	(2) SN Quality	(3) SN Size	(4) SN Satisfaction
Intense caregiving to parent	0.00857	-0.269	0.0723	0.0921
	(0.0578)	(1.756)	(0.103)	(0.0877)
	Panel B: 2SLS			
Intense caregiving to parent	-0.181	-20.88**	-0.0830	-0.963**
	(0.267)	(8.399)	(0.478)	(0.470)
F-test (IV)	41.02	40.25	40.67	40.67
Hausman p-value	0.46	0.01	0.73	0.01
Observations	1390	1390	1390	1387

Note: Standard errors in parentheses, clustered at the individual level.
Countries included: Spain, Italy, Greece, Poland, Portugal, Croatia, Bulgaria, Malta, Slovakia.
All regressions include country FE, year FE, cohort FE, and cohort-by-country cohort trends.
Controls (lagged): age, marital status, education, number of children and grandchildren, household size, siblings, female siblings, coresidence, and the lagged dependent variable.

Focus on Southern Europe: How intensive care impacts...







Recap: Impact of Daily Caregiving on Social Networks

- Daily caregiving **erodes the quality** of social networks
  - strongest decline in **emotional closeness**
- It **lowers satisfaction** with one's social relationships
- It **shifts network composition**:
  - spouses and close kin less likely to appear in core networks
  - partial substitution toward "other" or weaker ties
- **No meaningful effect** on network size, proximity, or contact frequency (networks do not shrink, but ties weaken)

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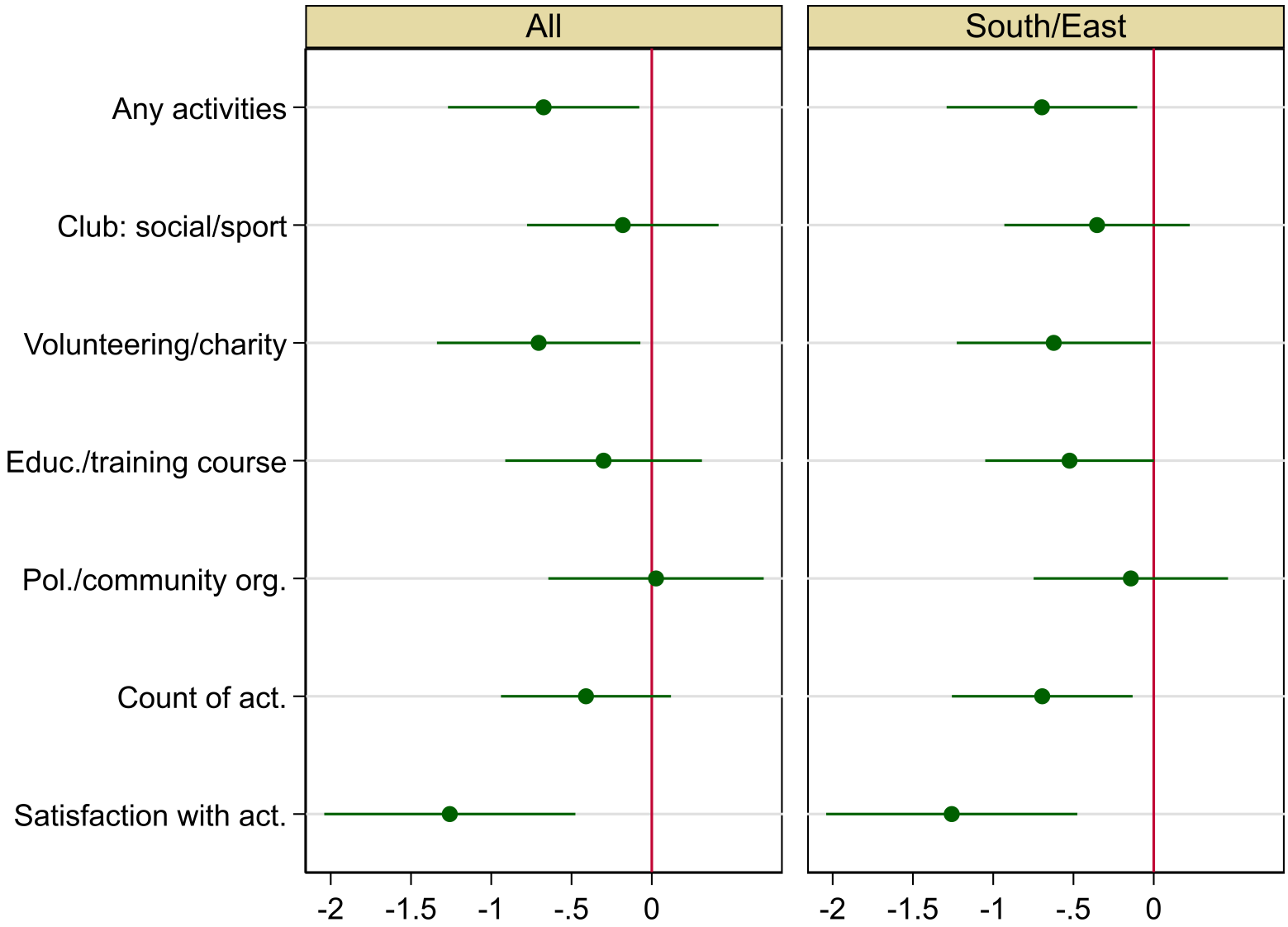
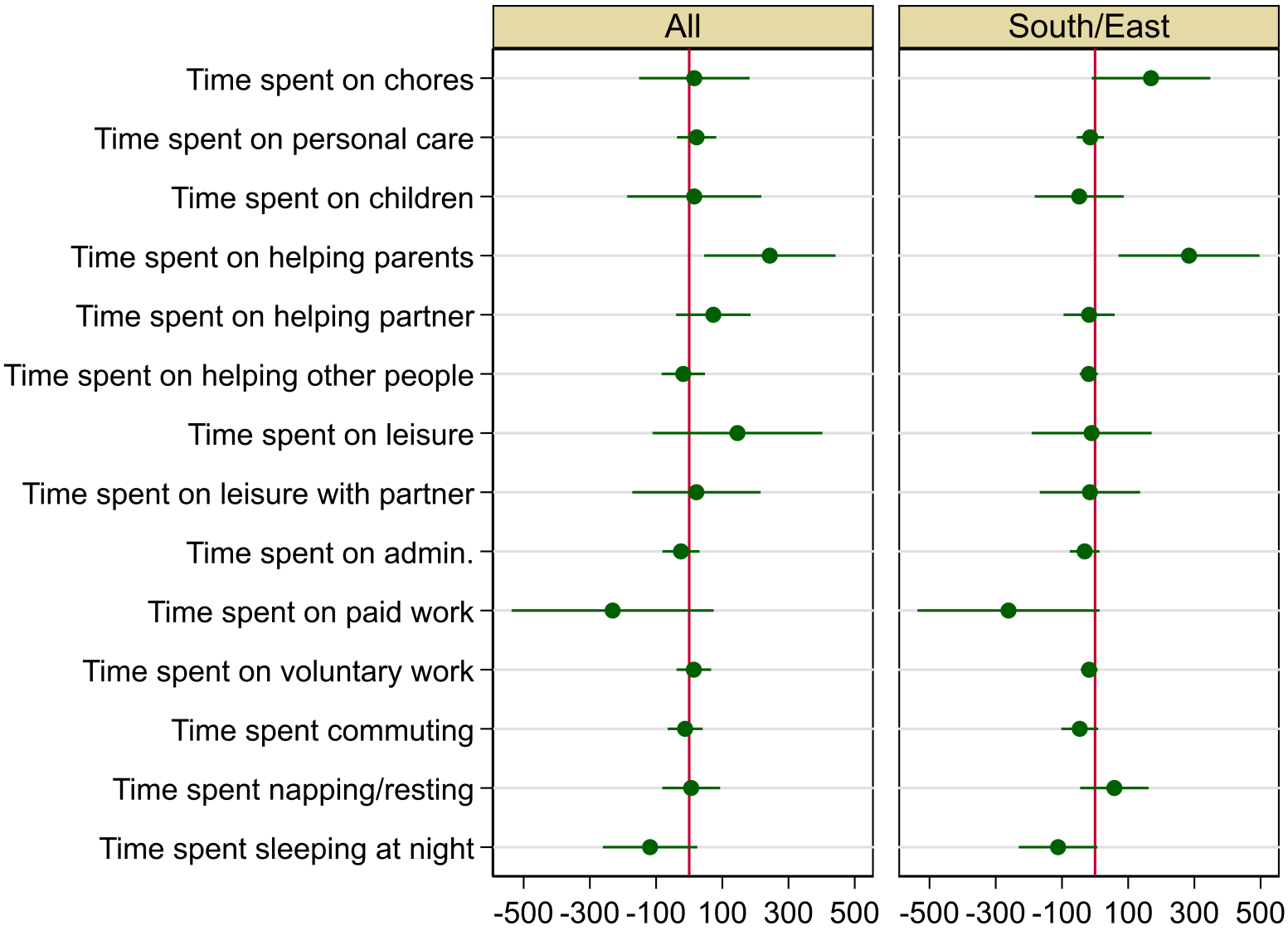
- **Next:** We turn to a broader dimension of social life: **participation in associational activities**, a key component of social capital and social isolation.

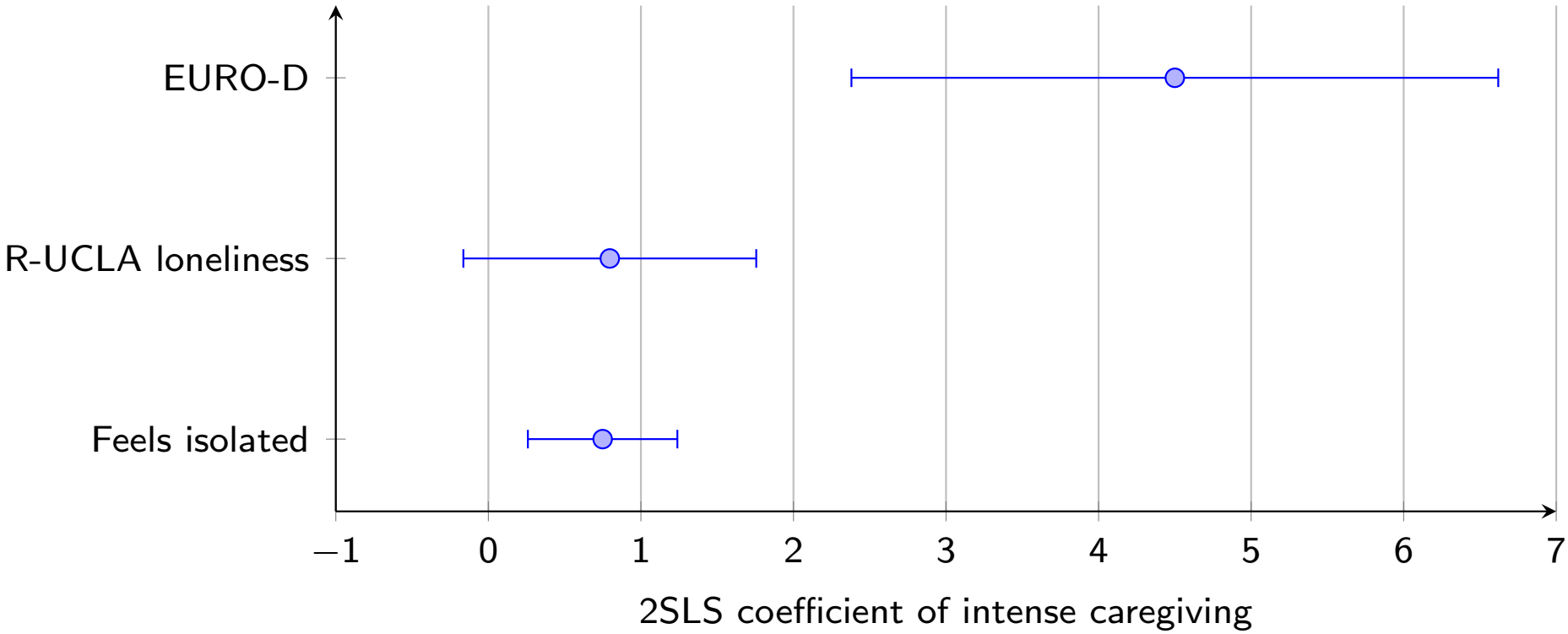
How intensive care impacts participation to associations



How intensive care impacts allocation of time



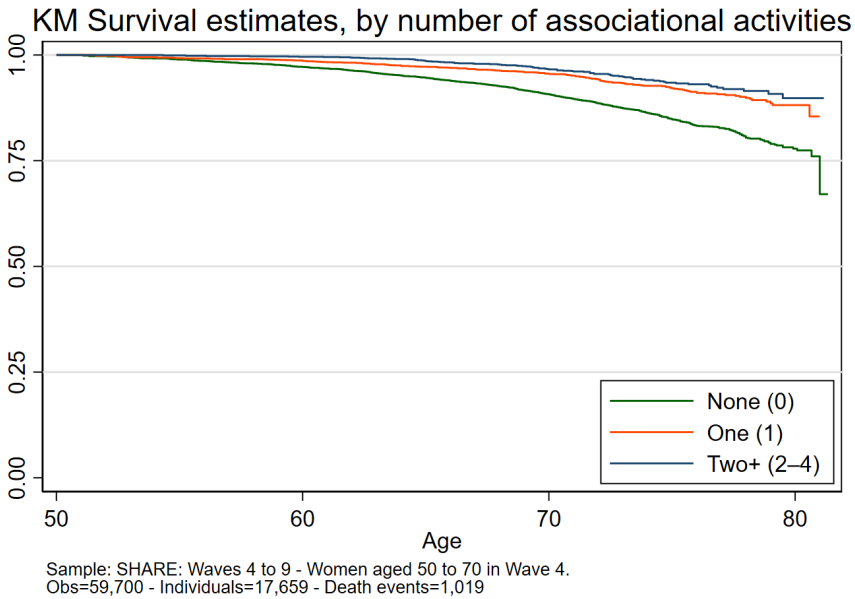
Validation: Daily Caregiving and Mental Health

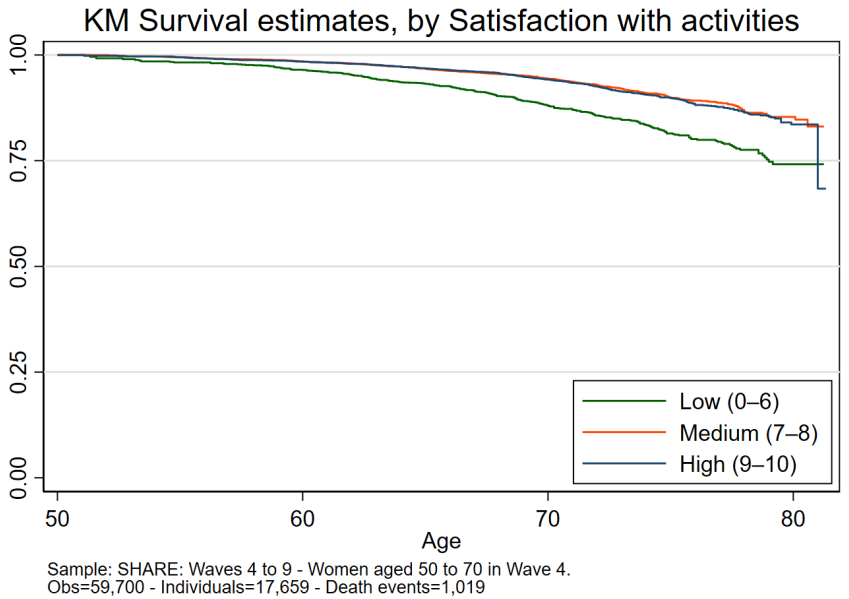


Notes: 2SLS estimates of the effect of intense caregiving to a parent on mental health outcomes. EURO-D (depressive symptoms) shows a large and precisely estimated increase. The composite loneliness index (R-UCLA) is imprecisely estimated, but the indicator for "feeling isolated" rises significantly. Confidence intervals are 95 percent.


But why should we care?

Associational Activities and Long-Run Survival





Kaplan–Meier survival curves for women aged 50–70 at baseline (Wave 4):

- Women with **more associational activities** at baseline survive longer.
- Women with **higher satisfaction** with their activities also survive longer.
- Differences widen sharply after age 70.

Associational Activities Predict Lower Mortality

Using Cox proportional hazards models with rich baseline controls:

- Each additional associational activity at baseline is associated with a **12–20 percent lower** 10-year mortality hazard.
- The extensive margin matters most:
  - Women with **at least one activity** have markedly lower mortality than those with none.
- Results hold after conditioning on:
  - self-rated health, chronic conditions, ADL/IADL limitations,
  - frailty index, depressive symptoms (EURO-D),
  - cognition, socioeconomic status,
  - country and wave fixed effects.
- This shows that the very activities **crowded out by caregiving** are strong predictors of long-run survival.

Policy Implications

Our findings highlight several policy-relevant implications:

- **Informal caregiving imposes hidden social costs** beyond the well-known mental health and labor market impacts.
- **Social erosion mechanism:** daily caregiving weakens the quality and composition of close networks and crowds out participation in social and civic activities.
- **These activities are strongly predictive of long-run survival**, so the social costs of caregiving may translate into future health risks.
- **Weak formal long-term care systems** (Southern and Eastern Europe) amplify these social costs.
- **Policy responses:**
  - expanding access to formal long-term care services
  - respite and support programs for family caregivers
  - interventions aimed at preserving caregivers' social engagement (clubs, volunteering, community programs)