Erasmus School of
Health Policy
& Management

The more the merrier? The causal effect of high fertility on later-life loneliness in Eastern Europe

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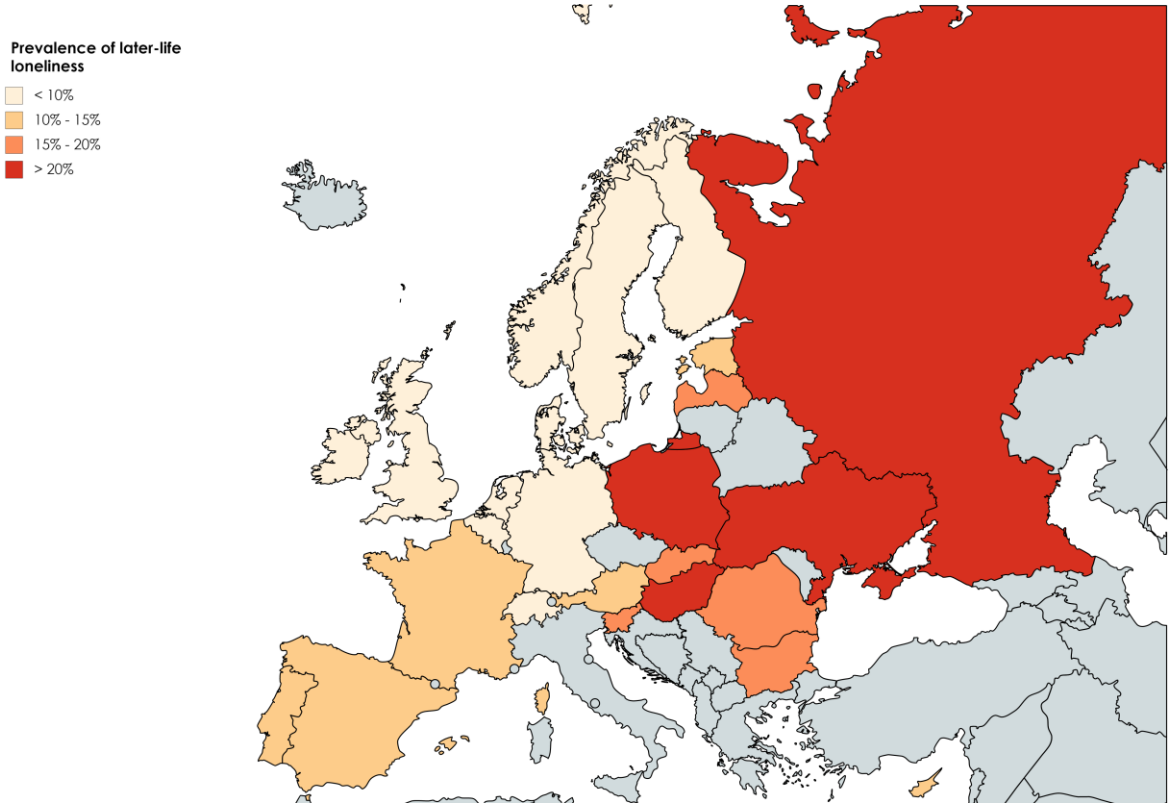
Background

- Loneliness: negative subjective experience of discrepancy between support that can be derived from network of social relations and the support desired
- Predictive of morbidity (e.g., CVD, depression) and mortality
- Prevalence varies across countries

Later-life loneliness in Europe



(Map based on Yang & Victor, 2011)

Number of children and later-life loneliness

- Children are a key source of social support for older people
- BUT having many children is also associated with health problems, stress, financial strain…..

- Eastern-European context:
  - Care and support systems for older people: fragmentation, inadequate infrastructures, lack of financial resources
  - Strong norms of filial obligation
- Hypothesis: In context studied, having more children is protective against feelings of loneliness in later life

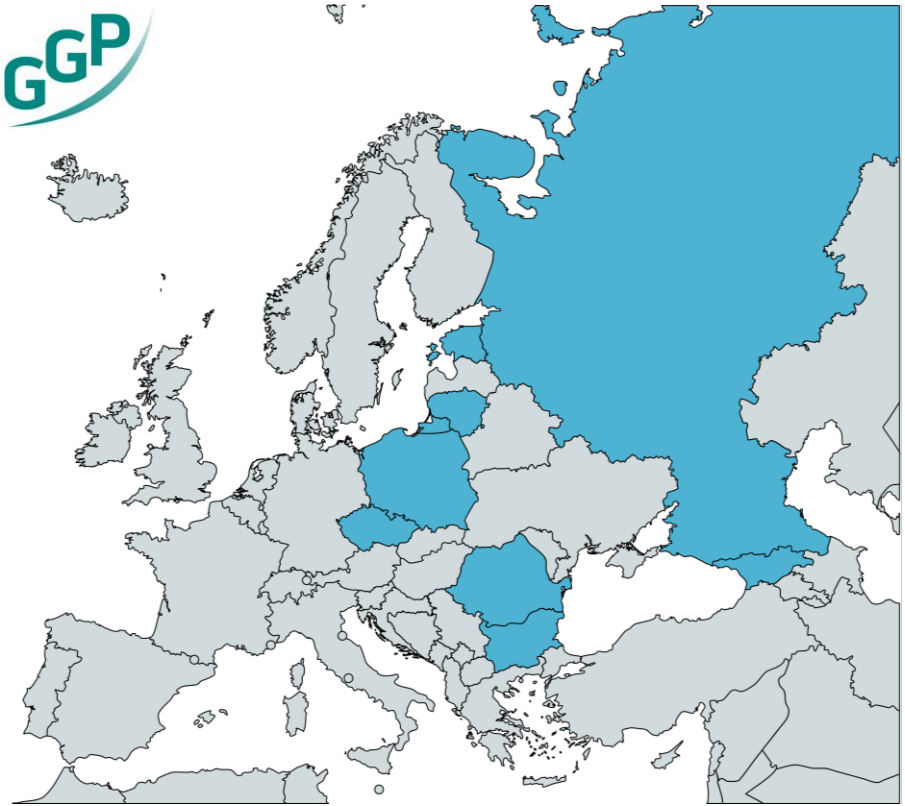
Earlier research

- Few studies on association between number of children and loneliness
- Weak negative associations (De Jong Gierveld & Van Tilburg, 2010; Hansen & Slagsvold, 2016; Pinquart & Sörensen, 2001; Van den Broek, Tosi, & Grundy, 2019) and null-findings (De Jong Gierveld et al., 2009; Stevens & Westerhof, 2006)

- Descriptive approach: estimates may be biased due to unobserved confounders and/or reverse causality

- High fertility is highly selective (age at first birth, socio-economic status, religiosity, family background….)
- Lonely people may have fewer children (cf. Mencarini et al., 2018)

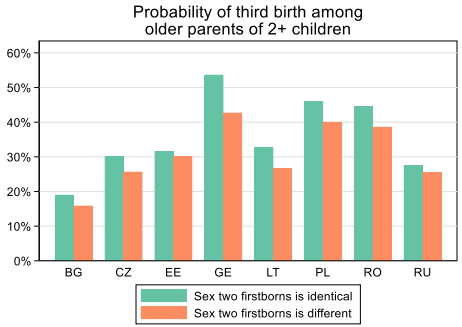
Data



- Generations and Gender Survey
- Eight countries (BG, CZ, EE, GE, LT, PL, RO, RU)
- Only women and men aged 50-80, at least two children, valid analytical weight and no missing information on variables of interest
- 14,807 women and 10,672 men
- Loneliness: 6-item De Jong Gierveld loneliness scale

Analytical approach

- Instrumental variable approach (cf. Kruk & Reinhold, 2014)
- Exploiting the preference for mixed-sex offspring (e.g., Hank & Kohler, 2000; Mills & Begall, 2010)



Analytical approach

$$X_i = \alpha_0 + \alpha_1 Z_i + \varepsilon_i \qquad (1)$$

$$Y_i = \beta_0 + \beta_1 \hat{X}_i + u_i \qquad (2)$$

- Two-stage approach:
  - First stage: total number of children regressed on sex composition of two firstborn children
  - Second stage: loneliness regressed on total number of children as predicted in the first stage
- Two stage least squares (2SLS)

Results

Women (N=14,807)	OLS		First stage		Second stage	
	Coeff.	(SE)	Coeff.	(SE)	Coeff.	(SE)
Number of children	-0.024	(0.015)			-0.906*	(0.404)
Sex composition two firstborn children:						
Identical			Ref.			
Different			-0.091***	(0.018)		
Constant	2.426***	(0.018)	0.617***	(0.013)	2.931***	(0.231)
Men (N=10,672)						
	OLS		First stage		Second stage	
	Coeff.	(SE)	Coeff.	(SE)	Coeff.	(SE)
Number of children	-0.045*	(0.019)			-0.454	(0.374)
Sex composition two firstborn children:						
Identical			Ref.			
Different			-0.100***	(0.018)		
Constant	2.377***	(0.018)	0.565***	(0.013)	2.588***	(0.194)

Notes: Data are from Generations and Gender Surveys, Wave 1; Weighted;
* $p < .05$, ** $p < .01$, *** $p < .001$

Discussion

- An additional child has causal protective effect against feelings of loneliness among older mothers
- Negative association between number of children and feelings of loneliness among men, cannot be conclusive about causality
- Limitations:
  - Unbiased estimates, but low precision
  - East-West comparison unfeasible
  - Only parents with 2+ children in sample
  - Instrument does not predict additional unplanned children
- Robustness checks: smaller age ranges, control variables (education…), alternative instruments (daughter-daughter versus son-daughter / daughter-son; sex of first child)
- Trend towards smaller families may have loneliness implications for new cohorts of older people (women) in Eastern Europe

Thank you for your attention!

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