Social network effects on survival among middle-aged and older population

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Background

- The role of social relations is generally mentioned in demographic frameworks in abstract terms
- Disablement as a social process = loss or reduction of ability to perform activities related to a social role (Verbrugge & Jette 1994)
 - Everyday activity limitations → successful ageing; Healthy Life Years
- Three sets of factors moderate disablement: predisposing (i.e. demographic, biological), intraindividual (i.e. social relations), and extra-individual factors (i.e. health care)



Background

- Lack of social networks and low interaction increases mortality (Berkman & Syme 1979; Tough et al. 2017)
- For people with disability social participation may be restricted (Abuladze & Sakkeus 2013; Tough et al. 2017)
- In general, network diversity protects from earlier death (Berkman & Syme 1979; Giles et al. 2005; Ellwardt et al. 2015)
- Married \rightarrow longer survival;
- Spousal relationship quality as well as having children as confidants shows no effect on survival (Giles et al. 2005; Antonucci et al. 2010)



Possible associations

- Main and buffering effects of social networks (Cohen & Wills 1985)
 - Social networks may have a direct beneficial effect on health and survival, irrespective of experiencing chronic stress
 - Social networks may buffer the stress experience partly or completely



Data and methods

- SHARE Estonia, interviewed in 2010-2011
- Observed until 2020
- N=6729 (2736 men, 3990 women); deceased=1490 (22.2%)
- Gompertz models for men and women separately
 - Dependent time to event (death or last interview)
 - Independent variables:
 - birth cohort, origin, no. of children, smoking, years spent in education, employment status*, partner in household*, receipt of support*, giving support*
 - everyday activity limitations (GALI)*



** time-varying variable*

Data and methods

- Personal/ discussion ego networks:
 - Looking back over the last 12 months, who are the people with whom you most often discussed important things?
- Name generator method name up to 7 confidants
- social network size (0-7), contact frequency with family members (daily – never),
- number of children in network (0-7), having a spouse in network (yes/no), friends in network (yes/no),
- emotional closeness with network members (not very close – extremely close)



Network characteristics (%)

		Men	Women
Have network		94,0	96,7
Have children in network		43,3	61,6
Have spouse in network		75,8	44,8
Have friends in network		15,9	29,0
Very/ Extremely close emotionally		77,8	81,7
Contact frequency:	Daily	46,9	34,4
	Several times a week	30,7	40,9
	Never/Less than once a month	11,6	11,9

All differences are statistically significant at p<0.001 level



Kaplan-Meier survival estimates



Cohort-specific hazard ratios





Main effects



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Hazard ratios of death, results after controlling for all variables

Main effects



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Hazard ratios of death, results after controlling for all variables

Buffering effects - men





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 Hazard ratios of death, results after controlling for all variables

Buffering effects - women





Hazard ratios of death, results after controlling for all variables

Findings

		MAIN EFFECTS	BUFFERING EFFECTS
WOMEN	Social network size	+	+
	(Children in network)	(+)	
MEN	Social network size	+	
	Emotional closeness	+	+



Conclusions

- Protective effect of larger network size may refer to the importance of having more support sources
 - Buffering effect might emerge due to comparing social isolates with the rest
- Emotional closeness is protective of dying among men, both for those who experience chronic stress as well as all others



Conclusions

- The role of confidant children and spouse, and emotional closeness in survival might change with age
- Potentially a selective sample in older ages healthier people have survived
- Social networks in general explain little of survival differences



THANK YOU!

