

The influence of social health on dementia (an emerging topic in dementia **research**)

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Rationale

Discrepancy neuropathology and cognitive symptoms

Multifactorial syndrome

Certain compensatory factors provide brain reserve and cognitive reserve

(Winblad et al. Lancet Neurology, 2016)

Cognitive reserve

Brain's ability to use brain networks more efficiently or to recruit alternative networks in the presence of pathology

(Stern, Lancet Neurol, 2012)

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GUEST EDITORIAL

Social health and dementia: the power of human capabilities

No breakthrough has been made in dementia research to find a cure in the last century (Selkoe, [2012](#)), but a great deal of progress has been made in the description of pathology. The damage caused by this multifaceted “disease” has been described in terms of its physical, neuropsychological, and

advocate for dementia at the First WHO Ministerial Conference on Global Action Against Dementia in 2015.

When I was diagnosed with dementia at the age of 49, I was told to get my end of life affairs in order. to

Social health

Social health: dynamic balance between opportunities and limitations, influenced by social and environmental factors

(Huber, Knottnerus, Green, Jadad, Kromhout, Leonard, van der Meer, Loureiro, van der Meer, Schnabel, Smits, van Weel, BMJ, 2011)

Social health

Person: Competencies to participate in social life

Others: Influence of social interactions on the dynamic balance between competencies and limitations

(Huber,Knottnerus, Green, Jadad, Kromhout,Leonard, van der Meer, Loureiro, Schnabel, Smits, van Weel, BMJ, 2011;Vernooij-Dassen et al. Manifesto Aging & Mental Health, in press)

Social health domains and interventions

Capacity of people to fulfil potential and obligations
group stimulation cognitive functioning (McDermott et al., 2018)

Ability to manage their life with some degree of independence despite a medical condition Shared
decision making (Mariani, Chattat, Vernooij-Dassen, 2018); Partner in balance (Boots, de Vugt, Verhey, 2018)

Ability to participate in social activities Community based
meeting centres (Droes et al., 2017)

Working mechanisms: Social health hypothesis

Social health aspects may contribute to brain reserve and might also be crucial in optimally using the plasticity of the brain through active facilitation and utilisation of social and environmental resources individuals possess

(Vernooij-Dassen, Jeon, Int Psych 2016)

Social health: structural indicators in epidemiological prevention studies related to cognition

Structure:

- Social network. Friendship set (Balough et al., Int J Geriatr Psychiatry, 2019)
- Social capital and neighbourhood network (Murayama Geriatr Gerontol Int, 2018)
- Frequency of social contacts (Bellou et al., Alzheimers Dement 2017)
- Weak ties (number and frequency of social activities), use of convoy model (Pan et al., Aging Ment Health, 2019)
- Marital status (Sommerlad et al., J Neurol Neurosurg Psychiatry 2018)
- Living alone (negative) (Grande et al., J Geriatr Psychiatry Neurol 2018)

Social health: interactional indicators in epidemiological prevention studies related to cognition

- Social activities (Xu et al., JAMA neurol, 2019)
- Social engagement (Biddle et al., Am J Geriatr Psychiatry 2019)
- Close confiding relationship (Huntley, Ballard, 2018)
- Satisfying social life (Miceli et al, European J Aging, 2019)

Prevention: social health and longevity

Strongest predictors of how long you live:

1. Social integration: how much you interact with people as you move through the day
2. Close relationships
3. Quit smoking
4. Quit boozing
5. Flu vaccine
6. Cardiac rehabilitation
7. Exercise
8. Overweight
9. Hypertension
10. Clean air

(Holt-Lunstad, Social relationships and mortality risk: a meta-analytic review. PLoS Medicine, 2010)





Aging & Mental Health

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Social health in dementia. Towards a positive dementia discourse

Marjolein de Vugt & Rose-Marie Dröes

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International Psychogeriatric Association
Better Mental Health for Older People

Special Issue: Social Health
Guest Editors: Myrra Vernooij-Dassen, Esme Moniz-Cook, and Yun-Hee Jeon



Social pathology

Being treated as an 'other' rather than 'one of us'
Being treated as 'lesser' rather than a full, valued
member of society

(Patterson, Clarke, Wolverson, Moniz-Cook, International Psychogeriatrics,
2017)

Paradigm shift

Lost capacities

Remaining
capacities

Ignorance awareness

PPI

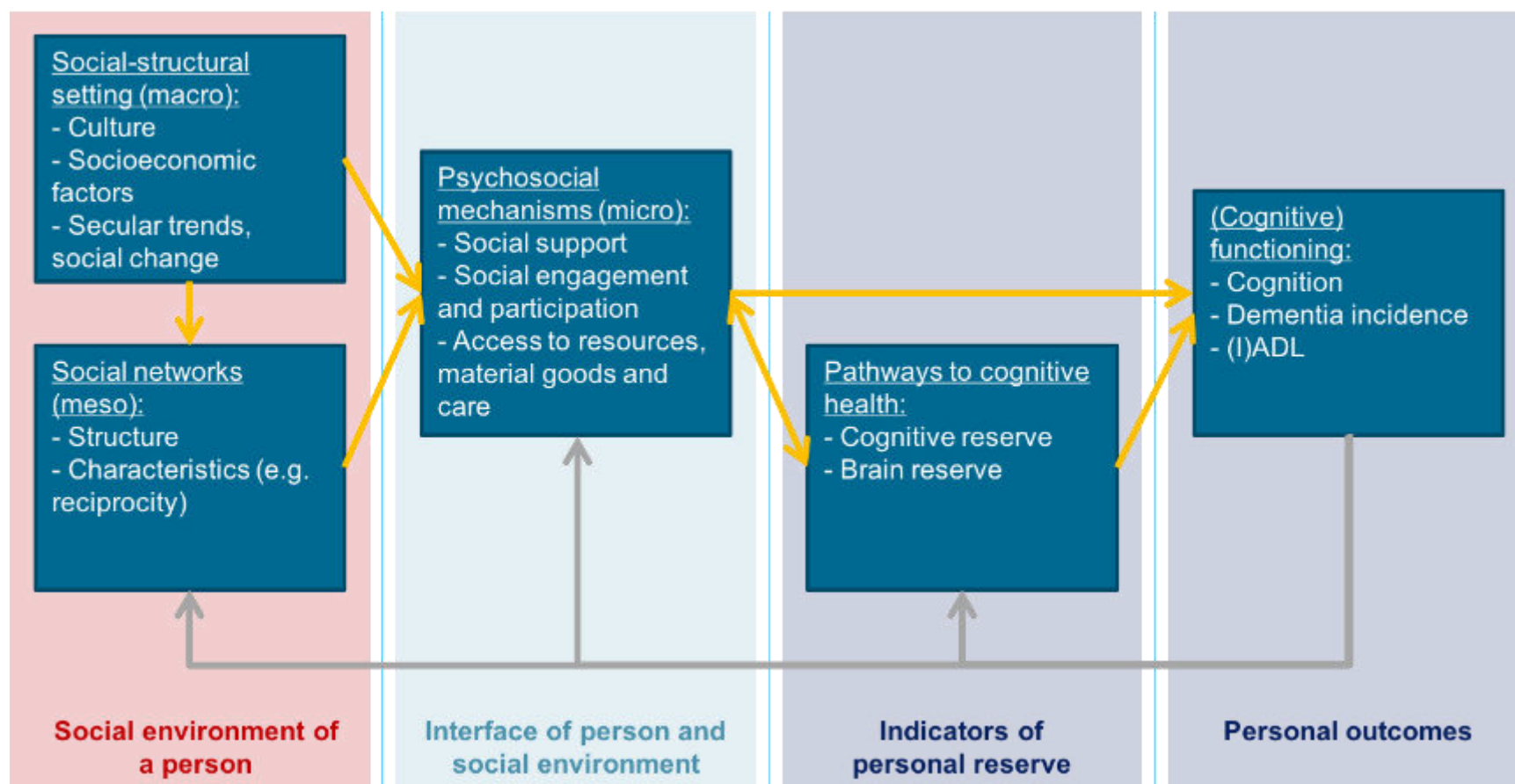
Integrated social health studies

- Concepts under umbrella social health
- Operationalisation
- Associations
- Theoretical model building in relation to cognitive functioning
- Interventions

(Funding SHiMMMy Memorabel; Funding SHARED JPND)



Figure 1. Social network model.

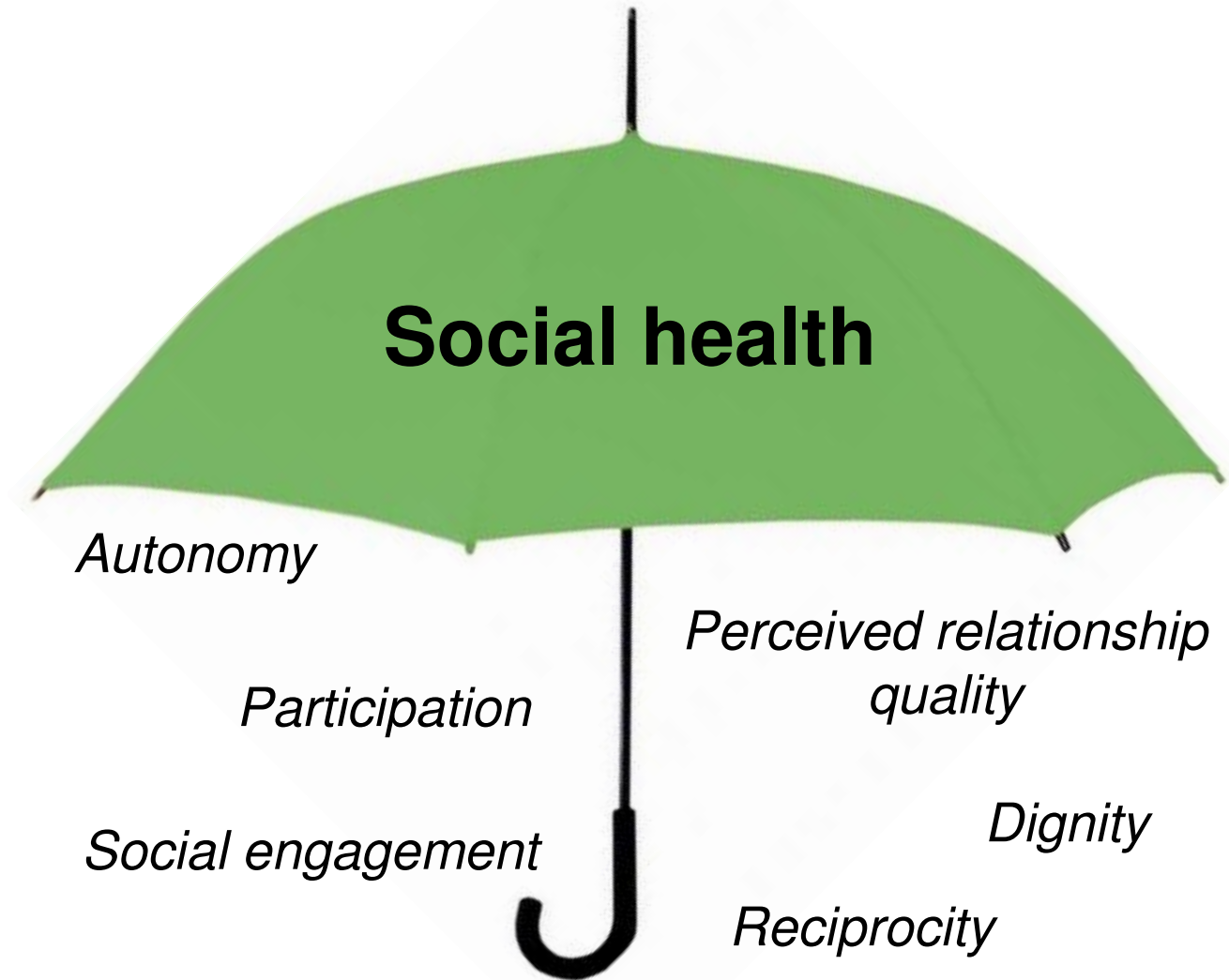


Memorabel SHiMMMy

- Social health hypothesis
- Aim: to identify the role of social health in the onset of dementia
- Integrated analyses of data on social health, cognitive functioning, brain structure and neuro-inflammation in humans and mice
- Towards an early intervention

(van der Velpen, Lanooij S, Kas M, Van der Zee, E., Eisel U, ,Drinkenburg W, Ikram A, Vernooij M, Vernooij-Dassen M. Perry M, Melis R, 2018)

Terminology





Cross-sectional results

Loneliness

White matter volume: -4.7 mL

White matter integrity MD: +0.1 SD



Brain volume: -10.0 mL

Grey matter volume: -5.7 mL

White matter volume: -4.3 mL

Never married

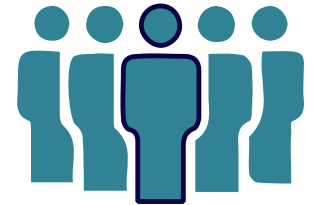
Perceived social support

Brain volume: +1.1 mL

Grey matter volume: +1.0 mL

White matter integrity FA: +0.04 SD

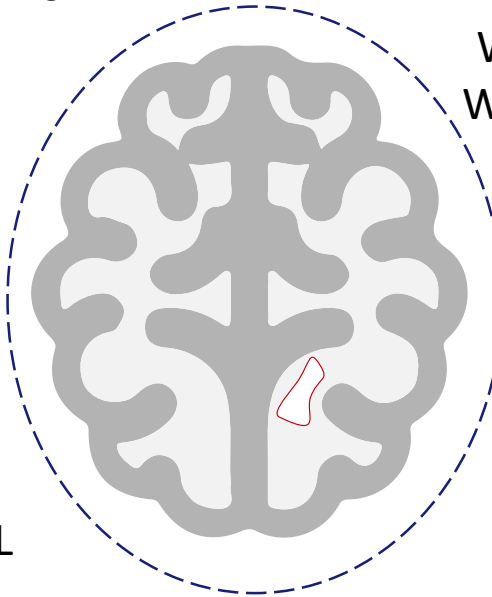
White matter integrity MD: -0.04 SD



Lacunar infarcts: OR 1.5

White matter integrity FA: -0.1 SD

Widowed/divorced



(I.F. van der Velpen, R.J.F. Melis, M. Perry, M.J.H. Kas, M.J.F. Vernooij-Dassen, M.A. Ikram, M.W. Vernooij, Alzheimer Europe conference, 2019)

Social Health And Reserve in the Dementia patient journey (SHARED)

Aim: to unravel the interplay between social health and biological and psychological factors on the trajectory from cognitive healthy through MCI to dementia

Ikram A VM, Melis R, Perry M, Vernooij-Dassen M, Welmer AK, Hui-Xin Wang, Calderón-Larrañaga A, Dekhtyar S, Brodaty H, Sachdev P, Lipnicki D, Davis D, Richards M, Ploubidis G, Patalay P, Wolf-Ostermann K, Gerhardus A, Rymasewska J, Szuba A, Zatońska K, Szcześniak D, Leoutsakos JM, Astuti, Effendy C, Thyrian R, Chattat R, Jeon JH, Eline Verschoor

Partners: The Netherlands, Germany, Sweden, Australia, UK, Poland

External collaborators: Italy, Indonesia, USA

Funding: JPND



SHARED epidemiology

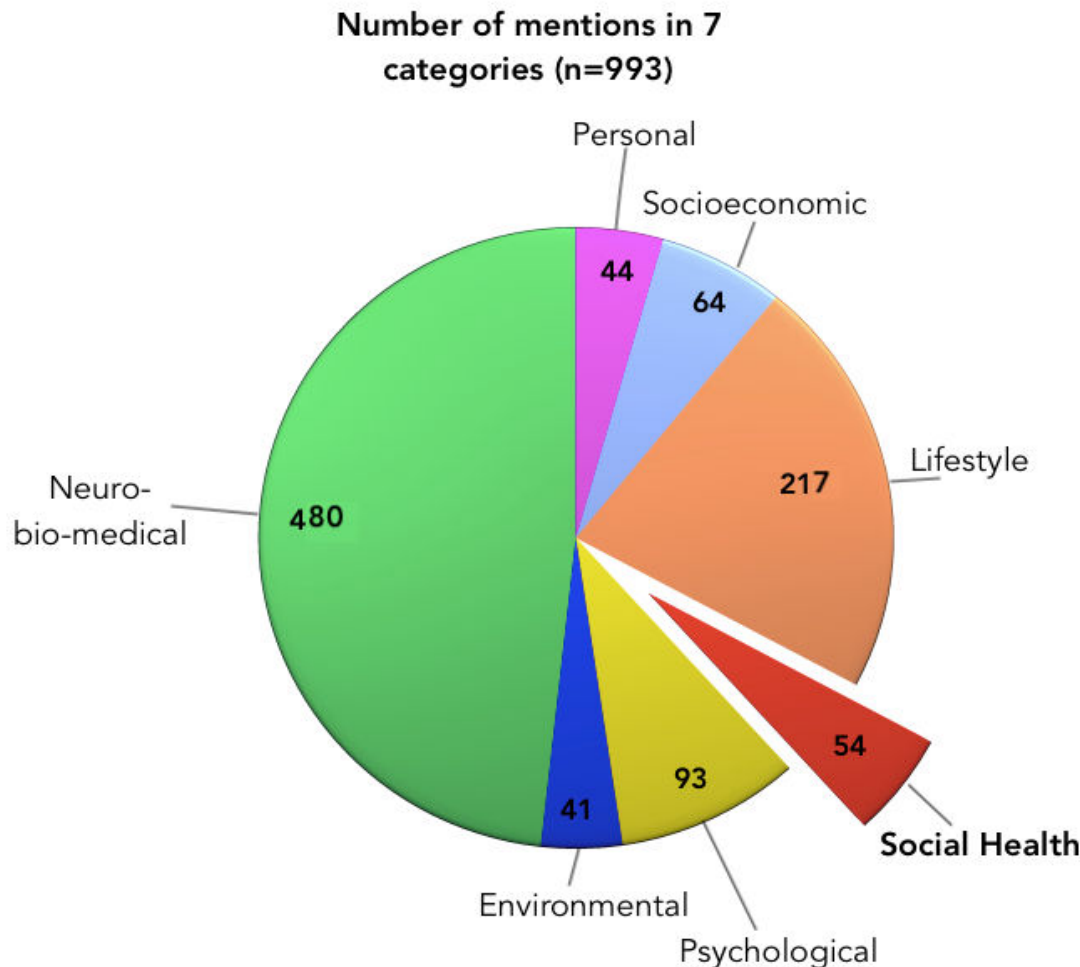
- >40 studies including more than 150.000 individuals that together capture the whole life course and the entire population from cognitively healthy to severe dementia
- Cognitive and brain reserve, social, environmental, clinical, mental and physical factors

SHARED: exploration social health

- Literature study (concepts, operationalisations, associations)
- Toolbox of concepts and operationalisations
- Diaries people with dementia
- Qualitative in-depth studies
- Epidemiological research
- Model building

Main 7 categories analysis

Frequency of mentioning the category in the literature

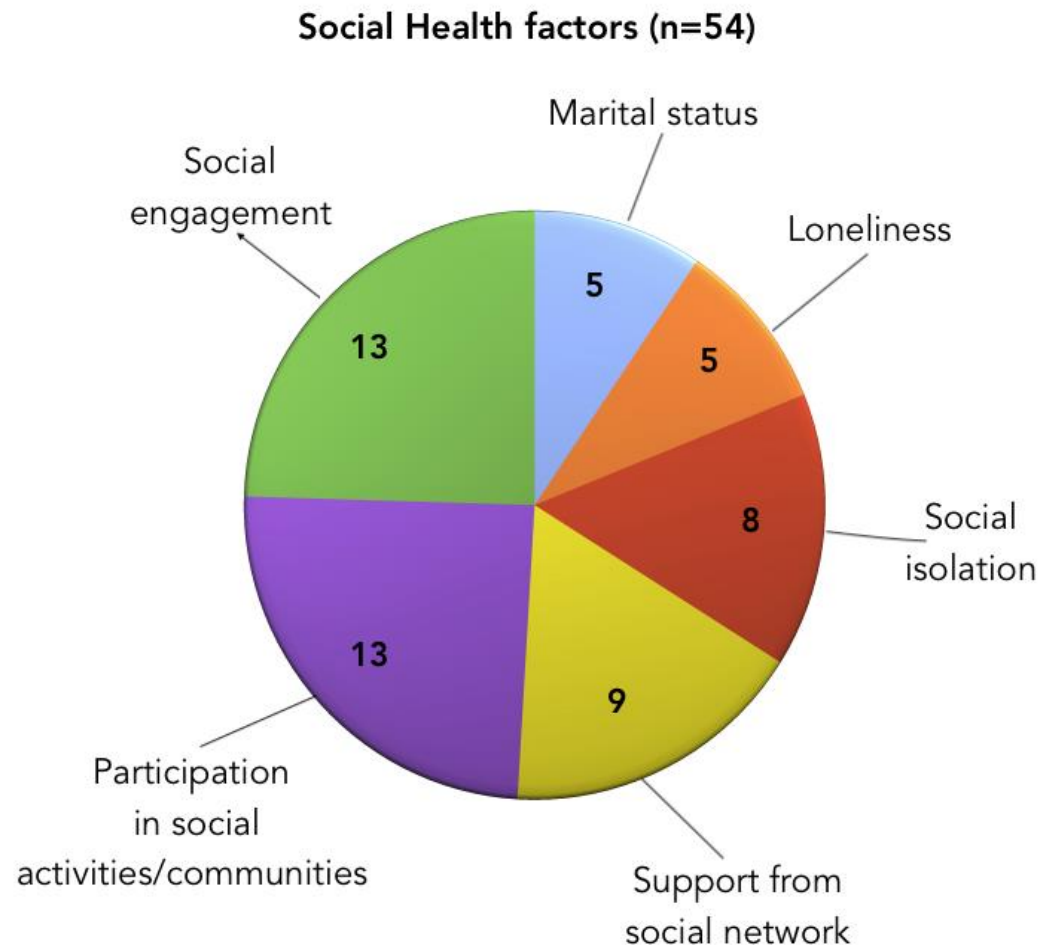


Report on Systematic
Overview of factors impacting
cognition with an emphasis on
social health concept

Marta Lenart¹, Mateusz Łuc¹,
Marcin Pawłowski¹, Dorota
Szczęśniak¹, Imke Seifert²,
Henrik Wiegelmann², Ansgar
Gerhardus², Karin Wolf-
Ostermann², Etienne
Rouwette³, Joanna
Rymaszewska¹

Social Health category analysis

Frequency of mentioning *social health* subcategories
in the literature



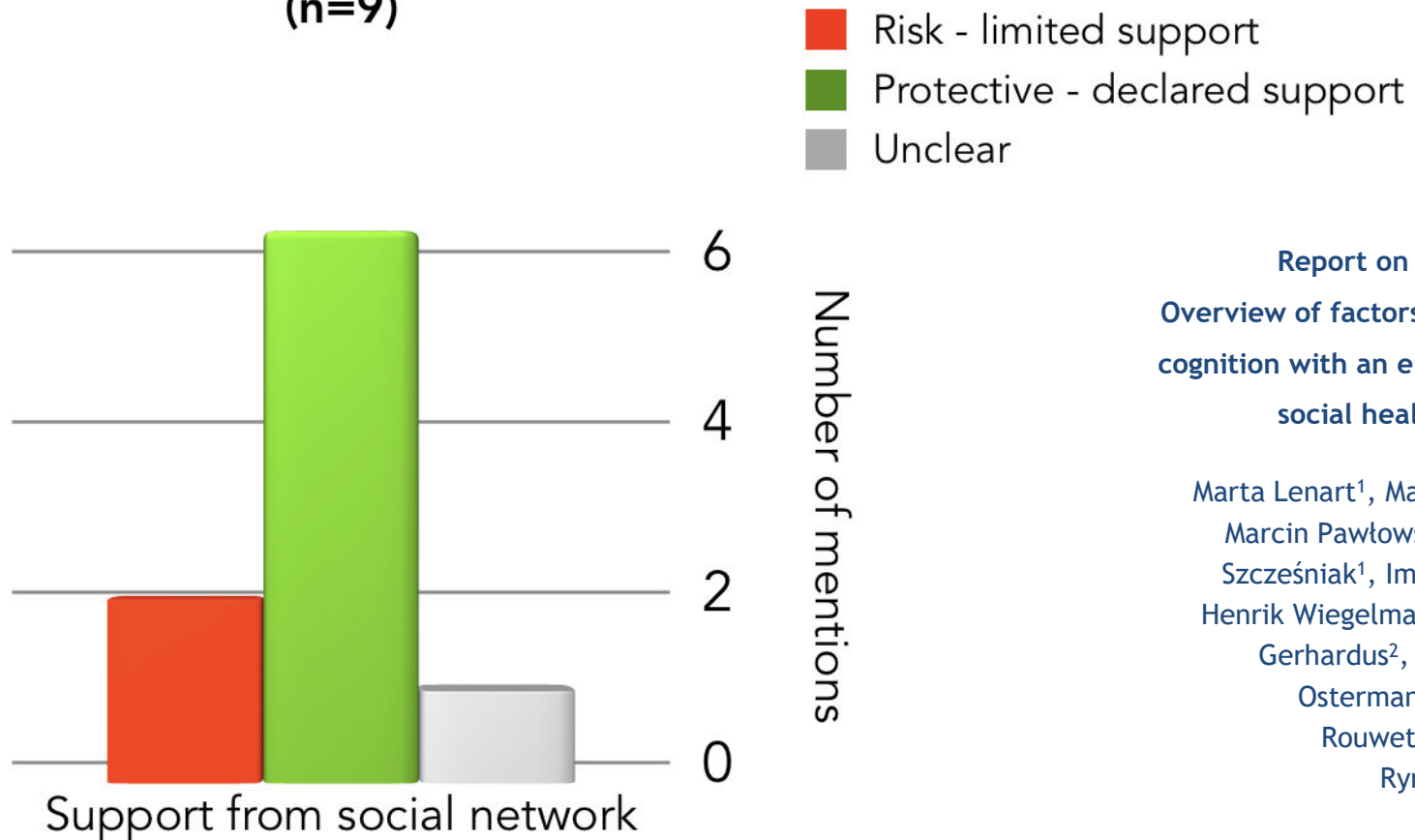
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Social Health category analysis

Type of influence of factors in *support from social network* subcategory

Support from social network
(n=9)



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Life-course model Lancet: key modifying risk factors to dementia and targets for interventions

1. Increasing education in early life
2. Increasing physical activity
3. Increasing social engagement
4. Reducing smoking
5. Treating hypertension
6. Treating diabetes
7. Treating hearing impairment

(Livingston et al. Lancet 2017; Orgeta et al, Ir J Psychol Med, 2019)

Edited by Jill Manthorpe and Esme Moniz-Cook

Timely Psychosocial Interventions in Dementia Care

Evidence-Based Practice

A watercolor illustration of waves in shades of teal and blue, with black ink outlines, occupying the bottom half of the cover.

Foreword by Helen Rochford-Brennan, Chairperson of
the European Working Group of People with Dementia

Potential social health

- Lifelong development and use
- No defectology, but attention for capacities
(Oliver Sacks)
- Connection with normal life
- Potential for prevention and treatment
(Vernooij-Dassen, Jeon, 2016)

Final aim

Interventions using the the potential of social health to prevent dementia or facilitate living well with dementia

Interdem manifesto

call to action

- *Work on approaches and concepts at the interface of biomedical and psychosocial approaches*
- *Recognition of social health as a specific area for development.*
- *Development of models of co-production in dementia research*
- *Harnessing the power of new technology to the benefit of people with dementia.*
- *Greater attention to implementation of research findings*

Vernooij-Dassen M, Moniz-Cook ED, Verhey F, Chattat R, Woods R, Meiland F, Franco, M, Holmerova I, Orrell M, de Vugt M. Bridging the divide between biomedical and psychosocial approaches in dementia research: the 2019 INTERDEM Manifesto. *Aging & Mental Health*, in press