

# Sensory Loss and Healthy Aging: The Association between CLSA Sensory and Social Measures

Kathy Pichora-Fuller, University of Toronto

Paul Mick, UBC

Walter Wittich, U of Montreal

Dawn Guthrie, Wilfrid Laurier University

Natalie Phillips, Concordia University

# Health is...



*“...the capacity of people to adapt to, respond to, or control life’s challenges and changes.”*

*(Frankish et al., 1997)*

*“Man is by nature a social animal.”*

*(Aristotle, 384-382 BCE)*

**Social interaction  
communication**

# Social Relationships and Mortality Risk: A Meta-analytic Review

Julianne Holt-Lunstad<sup>1,3\*</sup>, Timothy B. Smith<sup>2,3</sup>, J. Bradley Layton<sup>3</sup> 2010

“Across 148 studies (308,849 participants), the random effects weighted average effect size was OR = 1.50 (95% CI 1.42 to 1.59), indicating **a 50% increased likelihood of survival for participants with stronger social relationships.**”

# Words of an older woman who is hard of hearing...

*“When you are hard of hearing you struggle to hear;*

*When you struggle to hear you get tired;*

*When you get tired you get frustrated;*

*When you get frustrated you get bored;*

*When you get bored you quit.*

*-- I didn't quit today.”*



**Avoid by withdrawal from social interaction!**

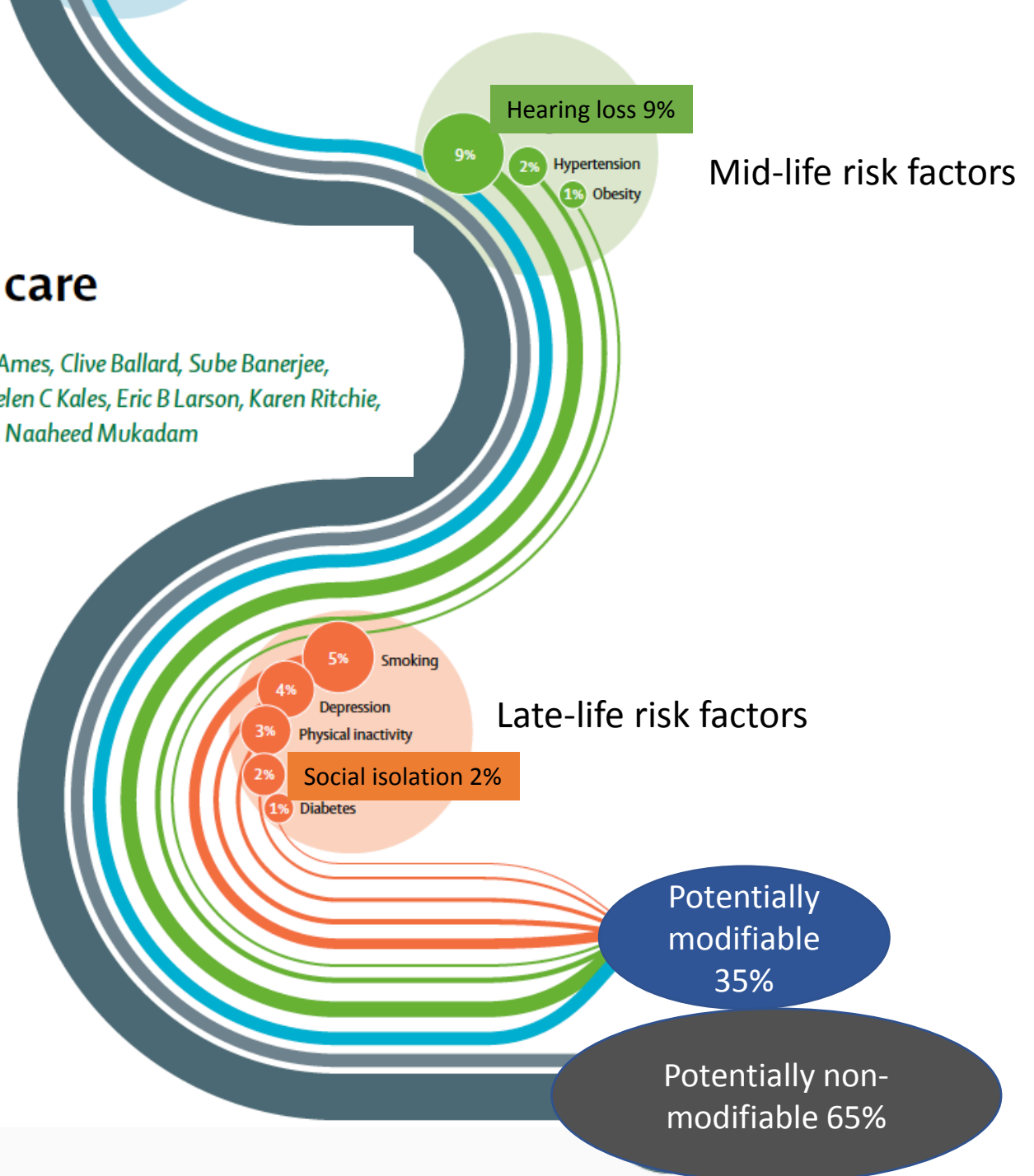
# Hearing loss increases many health risks

- Health states associated with hearing loss in cross sectional or longitudinal observational studies:
  - Mortality
  - Dementia
  - Cognitive decline
  - Depression
  - Falls
  - Injuries
  - Frailty
  - Social isolation

# Dementia prevention, intervention, and care

*Gill Livingston, Andrew Sommerlad, Vasiliki Orgeta, Sergi G Costafreda, Jonathan Huntley, David Ames, Clive Ballard, Sube Banerjee, Alistair Burns, Jiska Cohen-Mansfield, Claudia Cooper, Nick Fox, Laura N Gitlin, Robert Howard, Helen C Kales, Eric B Larson, Karen Ritchie, Kenneth Rockwood, Elizabeth L Sampson, Quincy Samus, Lon S Schneider, Geir Selbæk, Linda Teri, Naaheed Mukadam*

Risk factors for dementia: A life course model  
Numbers indicate population attributable fractions



## A CLSA Tracking Cohort Study

Accepted for publication in the *Canadian Family Physician Journal* (in press)

Paul Mick, MD, MPH. Division of Otolaryngology-Head and Neck Surgery, UBC.

Maksim Parfyonov MD, Natalie Phillips PhD, Walter Wittich PhD, Kathy Pichora-Fuller PhD

### Research questions:

- Are hearing loss, vision loss or dual sensory loss associated with
  - smaller social networks,
  - lower social participation,
  - reduced availability of social support, and
  - loneliness
- Does age (45-64 years vs. 65-85 years) or sex modify the associations?

# Subjective sensory loss

- Hearing

- “Is your hearing, using a hearing aid if you have one...”
  - Excellent, very good, good; VERSUS
  - Fair, poor/non-existent or deaf



- Vision

- “Is your eyesight, using corrective lenses if you have them...”
  - Excellent, very good, good; VERSUS
  - Fair, poor/non-existent or blind



**NOTE: OBJECTIVE MEASURES (e.g., AUDIOMETRY AND VISUAL ACUITY) ARE NOW AVAILABLE FOR ANALYSIS FOR THE COMPREHENSIVE COHORT**



# Outcomes

- Social network diversity
- Social participation
- Availability of social support
- Loneliness



# Outcomes

- Social Network Diversity was measured using a slightly modified version of the Social Network Index (/10)
  - 1 point for being married or in a domestic partnership
  - 1 point (each) for interaction at least every 1-2 weeks (over the past year) with:
    1. Children
    2. Other close family members
    3. Friends
    4. Neighbours
    5. Work colleagues
    6. School mates
    7. Fellow volunteers
    8. Members of non-religious community groups
    9. Members of religious groups



# Outcomes

- Social Participation was measured using items developed for the Canadian Community Health Survey 4.2
  - Participants were classified as having low social participation if they did not participate in any of the following social activities at least once per week:
    1. Family/friendship activities outside the house
    2. Church or religious activities
    3. Sports/physical activities with others
    4. Education/cultural activities with others
    5. Service club activities
    6. Community/professional association activities
    7. Volunteer work
    8. Any other recreational activity with others



# Outcomes



- Social support:
  - *“Verbal and nonverbal communication between recipients and providers that helps manage uncertainty about the situation, the self, the other or the relationship and functions to enhance a perception of personal control.”*
- Availability of Social Support was measured using the MOS Social Support Survey
  - Participants were classified as having low social support if their scores were less than the median
  - Scores for overall social support and 4 domains of social support were used
    - Tangible, emotional/informational, affectionate, positive social interactions

# Outcomes

- Loneliness: The subjective sense of being alone, regardless of objective network size
- Measured using a single survey item:
  - “In the past week, how often did you feel lonely?”
  - Participants were classified as lonely if they responded:
    - “Some of the time (1-2 days)”
    - “Occasionally (3-4 days)”
    - “All of the time (5-7 days)”
  - They were considered not lonely if they responded:
    - “Rarely or never” (< 1 day)



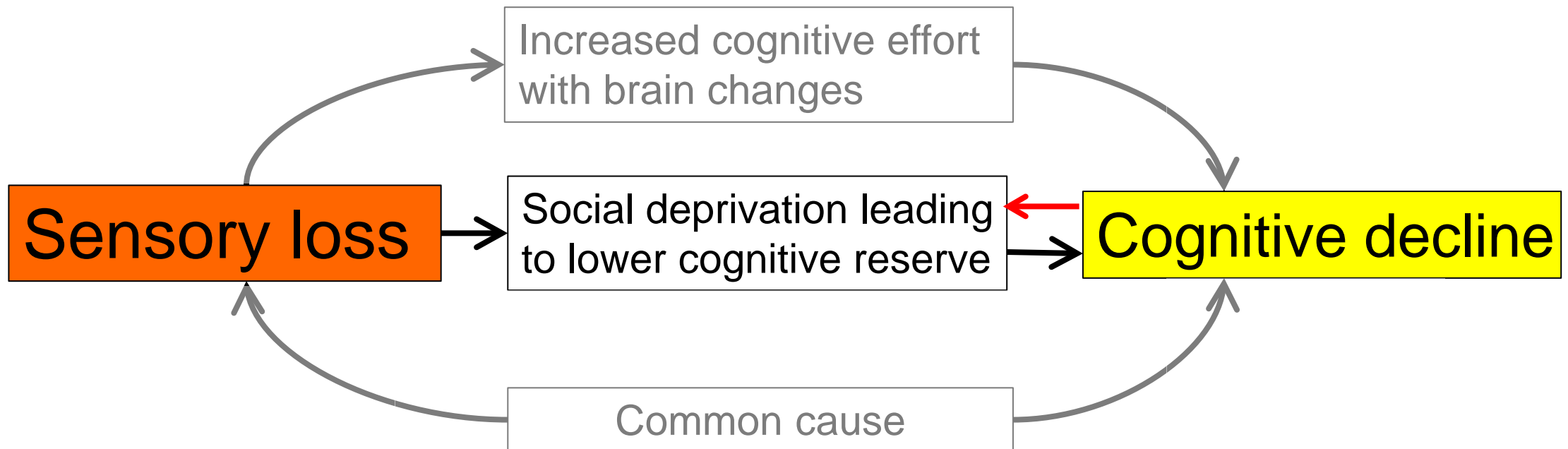
# Summary of significant results

	Hearing loss	Vision loss	Dual loss
Low social network diversity		X (men)	X (age 65-85)
Low social participation		X	X (age 65-85)
Low availability of social support	X	X	X
Loneliness	X	X	X

# Implications

- Sensory loss is common and may be an important risk factor for diminished social lives in older adults.
- Social support helps people cope with sensory loss and chronic disease; a lack may magnify the negative effects of those conditions
- *A more comprehensive approach to health care for sensory loss that includes communication counselling or interventions that increase social engagement may be helpful*

Future CLSA Studies – Add cognition to the model in longitudinal studies. Does social deprivation mediate associations between hearing loss (or vision loss??) and cognitive decline?





Thank you!

