

Social isolation and loneliness

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Social isolation

Loneliness

- Objective measure
- Relates to aspects of social network and diversity, frequency of contact participation in social activities, social engagement

- Subjective measure
- Relates to (dis)satisfaction with existing relationships

 Measured using one of these dimensions or by an index Measured using standard questionnaires

Measuring isolation

Social isolation was measured as an index incorporating

--Marital status

-- At least monthly contact with family, friends and children (face-to-face, telephone or email)

-- Participation in religious activities, clubs, political groups, etc.

Measuring loneliness

Loneliness was measured using the Revised UCLA loneliness scale

The next questions are about how you feel about different aspects of your life. For each one, please say how often you feel that way.	Tick <u>one</u> box on each line		
	Hardly ever or never	Some of the time	Often
How often do you feel you lack companionship?	1	2	3
How often do you feel left out?	1	2	3
How often do you feel isolated from others?	1	2	3

Social isolation and loneliness in ELSA

 At the latest wave of ELSA, 5% of participants were very isolated, while just under a quarter of participants reported very high levels of integration

 Just over 2% of participants reported the highest possible scores on loneliness, while about half of the participants reported never feeling lonely

Relationship between isolation and loneliness

• Studies typically report a weak to moderate association

• For example, in ELSA wave 5 over a quarter of participants who reported the highest possible scores on loneliness were among the least isolated

Work at UCL has focussed on

- Examining effects of isolation and loneliness on physical and cognitive function, individually as well as simultaneously
- Examining pathways through which isolation and loneliness affect health

Cognitive function



Association with cognitive function

• Previous findings on the effects of social isolation and loneliness on cognitive function are mixed

 We examined the effects of isolation and loneliness on change in cognitive function in ELSA over a 4-year period

Methods

 Baseline data from wave 2 (2004/5), follow-up from wave 4 (2008/9)

Isolation and loneliness measured at wave 2

- Cognitive function measured at baseline and follow-up
 - -- Verbal fluency: animal naming

-- Immediate recall and delayed recall: 10word list

Loneliness, isolation and change in cognitive function

- Social isolation was associated with poor scores on all measures of cognitive function at followup, irrespective of baseline scores
- Loneliness was associated with poorer recall scores at follow-up, irrespective of baseline scores

Social isolation, loneliness and change in recall



--- Low isolation --· Medium isolation --· High isolation

Mortality



Year

Associations with mortality

 Previous studies show that isolation and loneliness are associated with a higher risk of mortality

Most studies, however, fail to consider both measures simultaneously

 We examined the relationship between isolation, loneliness and mortality over a mean follow-up period of 7.25 years (<u>+</u> 2.8 months).

Social isolation and mortality



Age + gender HR(95%CI): **1.41 (1.23 – 1.60)**

Age + gender + demographic factors HR (95%CI): **1.32 (1.16 – 1.51)**

Age + gender + demographic factors + health indicators HR (95%CI): **1.23 (1.07 – 1.41)**

Age + gender + demographic factors + health indicators + loneliness HR (95%Cl): **1.23 (1.08 - 1.41)**

Loneliness and mortality



Age + gender HR(95%CI): **1.34 (1.17 – 1.53)**

Age + gender + demographic factors HR (95%CI): **1.23 (1.08 – 1.42)**

Age + gender + demographic factors + health indicators HR (95%CI): **1.05 (0.91 – 1.21)**

Age + gender + demographic factors + health indicators + isolation HR (95%CI): **1.04 (0.90 - 1.19)**

Pathways to health



Mechanisms

 Behavioural mechanisms, through social support or cues for behavioural choices

--Studies show some support for the effect of isolation on health behaviours, but the evidence for loneliness is mixed.

Biological mechanisms, through susceptibility and reactivity to stress

-- Some evidence for effects on blood pressure and blood cholesterol

-- Mixed findings on association with inflammatory markers

Methods

- Data from wave 2 of ELSA (2004/5)
- Health behaviours: smoking, physical activity
- Blood pressure, cholesterol
- Inflammatory markers: C-reactive protein, fibrinogen

Risky health behaviours and social isolation



- One standard deviation increase in social isolation was associated with
 - -- 32% increase in the odds of being a smoker
 - -- 23% increase in the odds of being inactive and
 - -- 56% increase in odds of
 - reporting both low levels of activity and smoking
- Analyses were adjusted for age, gender, wealth, health indicators, depression and loneliness

Risky health behaviours and loneliness



- One standard deviation increase in the loneliness score was associated with
 -- 10% increase in the odds of being a smoker
 -- 13% increase in the odds of being inactive and
 -- 16% increase in odds of reporting both low levels of activity and smoking
- Analyses were adjusted for age, gender, wealth, health indicators, depression and isolation.

Blood pressure and social isolation



High isolation

Low isolation

- Higher levels of social isolation were associated with increases in both systolic and diastolic blood pressure
- Effects persisted after adjustment for age, gender, wealth, health indicators, depression and loneliness

Blood pressure and loneliness



 Levels of loneliness showed no significant association with either systolic or diastolic blood pressure

Low loneliness 🚦 High loneliness

Cholesterol and isolation



 Levels of isolation showed no significant association with total cholesterol levels or the total cholesterol: HDL cholesterol ratio

Low isolation

Cholesterol and loneliness



 Levels of loneliness showed no significant association with total cholesterol levels or the total cholesterol: HDL cholesterol ratio

Low loneliness 🚦 High loneliness

Inflammatory markers and isolation



- Increased social isolation was associated with higher levels of Creactive protein
- Isolation showed a significant association with levels fibrinogen, such that greater isolation was associated with increased levels of fibrinogen
- Effects persisted after adjustment for age, gender, wealth, health indicators, depression and loneliness

Inflammatory markers and loneliness



High loneliness

Low loneliness

• Loneliness showed no significant associations with either Creactive protein or fibrinogen

Conclusions

- Social isolation and loneliness are distinct, though related, concepts
- Health effects of isolation and loneliness differ and mechanisms of action may also differ
- Need to develop interventions to support older adults who are isolated or lonely



www.ifs.org.uk/ELSA