**Results:** Analyses revealed 'creating a safe environment' as a core phenomenon. This relates to encouragement and the created anchor points of the environment to compensate for the inevitable feelings of loss of control that persons with dementia experience. The ways safety is created include active acts of involvement and participation, trust, humor, reciprocity, appreciation and shared experiences. Suspicion, loss of initiative by the person with dementia and the inability to act and correcting by the environment were identified as major challenges to creating a safe environment.

**Conclusions:** A safe and supporting environment enables persons with dementia to use their remaining capacities. Active participation, trust, humor and reciprocity are key elements to create such a safe environment. These findings show that basic needs of persons with dementia for daily functioning and well-being are similar to these of all humans.

# S2: Social functioning in people with dementia and its cognitive and psychiatric consequences

## Symposium Overview:

**Authors:** Andrew Sommerlad, Gill Livingston (University College London, UK), Hideki Kanemoto (Osaka University, Japan), Jennifer Bethell (University Health Network, Toronto, Canada)

Social functioning is fundamental to human experience. The profound social functioning impairments affecting people with dementia are distressing to them and their families and account for significant individual, family and societal burden. There are no effective treatments that improve this major aspect of dementia, so there is urgent need to characterise social functioning decline in dementia and its consequences to inform future therapeutic approaches. In this symposium, an international panel will present perspectives on social functioning in dementia from across the disease course.

### Social participation and dementia risk

Authors: Professor Gill Livingston, University College London

In this presentation, we will summarise the observational and interventional evidence linking social participation with dementia risk, the potential mechanisms, and consider what this evidence means for future clinical and policy interventions.

Social participation encompasses several concepts including social activity, contact and support. International observational study evidence finds people who participate less socially in mid or late-life have increased risk of developing dementia. More social contact and less loneliness are consistently associated with less dementia risk in studies with long and short follow-up. However, this is not true of perceived social support.

People who participate socially in late life may be able to do so because they are cognitively intact, so some studies limit their analyses to those without dementia over 10 years before follow-up or consider social participation trajectories. Within social activities, studies use heterogenous definitions, some including individual activities such as crosswords as social activity, and others requiring group activities and some cognitively stimulating activities. Those with shorter follow-up periods find social activity is more protective, suggesting part of the effect is reverse causality.

The postulated mechanisms for social participation's effects include increasing cognitive reserve, which provides resilience to neuropathological damage, and improved brain maintenance related to a healthier lifestyle, lower stress response, reduced cellular ageing and inflammatory response. The relationship between social participation, depression and hearing is complex with each reinforcing the other and each being associated with dementia.

It is difficult to trial the effect of increasing social participation which might need unacceptable, impractical and long-term interventions (in line with findings that married compared to single people have lower dementia risk). Facilitator-led social group interventions have been small and short with inconsistent effects on cognition.

Overall, the increasing, consistent and biologically plausible evidence that social participation reduces dementia risk means that interventions should begin to be included within dementia prevention guidelines and considered in policy. Public health policy should be an important component through promoting participation in those at risk and improving the accessibility of buildings and cities. This should be targeted at those who are more isolated, and this is closely linked with socio-economic deprivation.

## Impact of loneliness and social isolation in older people in Japan

**Authors**: Hideki Kanemoto, Sumiyo Umeda, Yuto Satake, Yuma Nagata, Takashi Suehiro, Maki Suzuki, Manabu Ikeda Osaka University, Japan

A decline in social functioning is a hallmark of dementia and is associated with worsening cognitive impairment, various behavioral and psychological symptoms, and caregiver burden. Since the feeling of loneliness is related to social function decline in people with mild cognitive impairment (MCI) and dementia, care for the social isolation that can cause loneliness is considered important in Japan, where the number of older people living alone is increasing.

In addition to dementia, late-onset psychosis is also known to be affected by loneliness and social isolation. Psychosis that develops after age 60 and does not involve organic or affective disorders is defined as very late-onset schizophrenia-like psychosis (VLOSLP) and is known to be different in quality from psychosis that develops at a younger age. Social isolation has been reported as one of risk factors of VLOSLP, and although people with VLOSLP are independent in daily life, their social functioning is impaired in a way that is different from dementia due to their abnormalities in the content of thinking. Therefore, social isolation and decline of social functioning are also major problems for VLOSLP. Longitudinally, people with VLOSLP are more likely than the general older population to progress to dementia including Lewy body disease and Alzheimer's disease subtypes. With the increasing importance of early diagnosis and intervention of these neurodegenerative diseases, identification and intervention of people with VLOSLP is a challenging but important topic.

We are now investigating the use of robots with communication capabilities aiming to improve loneliness and social isolation of older people living alone with MCI, mild dementia and VLOSLP. On the other hand, we have found that loneliness in MCI and mild dementia does not necessarily correlate with social isolation status, such as living alone, indicating that loneliness and social isolation among older people requires further research.

#### Insight into impaired social functioning in dementia

**Authors**: Andrew Sommerlad <sup>1,2</sup>, Jessica Grothe <sup>3</sup>, Sumiyo Umeda <sup>4,5</sup>, Manabu Ikeda <sup>4</sup>, Hideki Kanemoto <sup>4</sup>, Gill Livingston <sup>1,2</sup>, Melanie Luppa <sup>3</sup>, Katherine P. Rankin <sup>6</sup>, Steffi G. Riedel-Heller <sup>3</sup>, Susanne Röhr <sup>3,7,8</sup>, Maki Suzuki <sup>9</sup>, Jonathan Huntley <sup>1,2</sup>

## **Affiliations**

- 1) Division of Psychiatry, University College London, Gower Street, London WC1E 6BT, UK.
- 2) Camden and Islington NHS Foundation Trust, St Pancras Hospital, London, UK.
- 3) Institute of Social Medicine, Occupational Health and Public Health (ISAP), Medical Faculty, University of Leipzig, Germany.
- 4) Department of Psychiatry, Osaka University Graduate School of Medicine, Osaka, Japan.