

concerns. Our work provides a basis to understand older adults' perceptions and usage of current voice technologies. We also identify opportunities for customizing voice technologies to better support aging in place.

## SESSION 2938 (POSTER)

### ISOLATION AND LONELINESS

#### A LONGITUDINAL STUDY OF THE IMPACT OF LONELINESS ON PERSONAL MASTERY AMONG OLDER ADULTS IN SINGAPORE

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This study uses longitudinal data to examine the association between older adults' sense of mastery and loneliness. We examined the data of a nationally representative sample of adults 60 years and older in Singapore (Wave1, n=4,990) from the Panel of Health and Aging among Older Singaporeans Survey. The initial participants were followed up in 2011 (Wave2, n=3,103) and in 2015 (Wave3, n=1,572). At each wave, emotional loneliness was assessed using the UCLA three-item loneliness scale and sense of mastery was measured with the five items from the Pearlin Mastery Scale. We conducted cross-lagged regression analyses where loneliness and personal mastery scores in each wave were treated as endogenous variables along with covariates including demographic characteristics, health conditions, and the overall strength of social network measured by Lubben Social Network Scale. The results showed that loneliness in wave 1 and wave 2 respectively predicted a lower level of personal sense of mastery in subsequent waves. However, the other direction, the influence of personal mastery in wave 1 and wave 2 on loneliness at subsequent waves, was not significant. Furthermore, the analysis showed that older adults' relatively strong social network was related to a lower level of loneliness and a higher sense of mastery at Wave 3. The finding suggests that loneliness plays a critical role in influencing older adults' personal sense of mastery and that the strength of social network is an important mediator of loneliness and personal sense of mastery amongst older adults and a potential area for intervention.

#### ASSOCIATIONS BETWEEN HEARING LOSS, LONELINESS, AND SOCIAL ISOLATION: A SYSTEMATIC REVIEW

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Hearing loss is highly prevalent among older adults, as is occurrences of loneliness and social isolation. Both loneliness and social isolation are also associated with insidious outcomes such as earlier mortality from all-causes and higher prevalence of chronic comorbidities. The purpose of this review is to synthesize published investigations that report on

the associations between hearing loss with loneliness and social isolation. A systematic search through PubMed, Embase, CINAHL Plus, PsycINFO, and the Cochrane Library identified an initial total of 2495 references. Two independent reviewers screened articles for inclusion, with a third reviewer adjudicating. Studies published in English of older adults with hearing loss that also assessed loneliness and/or social isolation using a validated measure were included. Investigators used a modified Newcastle-Ottawa Scale (NOS) to appraise study quality. A final total of 14 articles were included in the review. The majority (12/14) were cross-sectional in design. Assessment methods were varied across hearing status, loneliness, and social isolation. Despite this heterogeneity, most multivariable adjusted investigations revealed that hearing loss was significantly associated with higher risks for both phenomena. Several studies also revealed this association to vary across gender, with women showing a stronger association than men. Our findings indicate that hearing loss is associated with both loneliness and social isolation, which have important implications for the cognitive and psychosocial health of older adults. Future investigations should examine possible underlying mechanisms of these relationships, as well as the efficacy of interventions through aural rehabilitation programs in addressing loneliness and social isolation.

#### ASSOCIATIONS OF DEPRESSION AND SOCIAL ISOLATION RISK AMONG ADULTS AGE 60 AND OLDER

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Background. Depression and social isolation are believed to be strongly interrelated. Social isolation can lead to depression because of reduced human contact and connectivity. Depression can cause withdrawal from interpersonal encounters and fuel feelings of social isolation. Despite causality, this study aimed to examine the relationship between depression and social isolation risk among older adults. Methods. Using an internet-delivered survey, data were analyzed from a national sample of 4,082 adults age 60 years and older. The survey intended to validate the Upstream Social Isolation Risk Screener (U-SIRS), a 13-item screener (Cronbach's alpha=0.80) to assesses physical, emotional, and social support aspects of social isolation. Theta scores for the U-SIRS served as the primary independent variable, which were generated using Item Response Theory. Depression was the dependent variable for this study, which was identified using the PHQ-2 (scores of 3+ indicated risk for depression). Binary logistic regression was used to identify factors associated with depression. Results. Participants' average age was 69.6(±5.2) years, 59% of participants were female, and 9% met depression criterion. Depressive symptomology and U-SIRS theta scores were positively significantly correlated ( $r=0.56$ ,  $P<0.001$ ). Participants with higher U-SIRS theta scores (OR=3.52,  $P<0.001$ ), with more chronic conditions (OR=1.16,  $P<0.001$ ), and without people they felt close to and could call for help (OR=1.76,  $P=0.004$ ) were more likely to report depression. Conclusion. Given the strong interrelation

of depression and social isolation risk, coordinated efforts are needed to both treat depressive symptomology and link older adults to resources and services that facilitate meaningful interactions with others.

#### BEST PRACTICES AND POLICIES FOR ADDRESSING SOCIAL ISOLATION AMONG OLDER ADULTS

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Isolation has been flagged as a major health and social problem for seniors. Yet, many seniors themselves, their friends/family, and carers for seniors may not recognize risk factors for isolation or know what to do if a senior is isolated. Results from the 2016 General Social Survey noted that 27% of seniors reported they were not socially connected with others, with 20% reporting that they lacked support to carry out chores, and 17% reported feeling isolated. However, there has yet to be a comprehensive review of the evidence to suggest what has emerged as best practices and key policy enablers. To address this, seniors and other key stakeholders (n=200) in the community were interviewed on their perspectives and experiences of social isolation. Additionally, three focus groups (n=24) were conducted, along with a consensus meeting, to identify top priorities, best practices and develop implementation strategies. The priority areas identified were: 1) opportunities for seniors to network and be part of the social fabric; 2) initiatives promoting inclusive community development; 3) programs that promote education related to social isolation; 4) develop services that place an emphasis on partnerships/collaborations; 5) services that are sustainable over the longer term. By mapping the best, emerging practices and policies for social isolation, the ability to synthesize the evidence on social isolation and co-create knowledge translation tools with seniors and other stakeholders will be possible. This will help identify solutions and policies that can be used by governments, health systems, and individuals to comprehensively target social isolation.

#### DETERMINANTS OF SOCIAL INCLUSION AND THEIR EFFECT ON THE WELLBEING OF OLDER ADULTS

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Social inclusion fosters interpersonal relationships that reduce social isolation and enhance wellbeing in older adults. This study finds that socially engaged older adults are less likely to decline in health and have more wellbeing than those less engaged. The connection between wellbeing and social engagement is examined with hypotheses that there is a significant linear relationship between wellbeing and age, ethnicity, gender, the involvement and perception of participatory activities, community dwelling and the use

of technology among older adults. A multiple linear regression on 4621 samples obtained from National Health and Aging Trend Study, Round 8 shows that social engagement explained a unique variance in wellbeing (34.5%) suggesting that more social connections, via social activities, community-dwelling, mobility, and use of technology, there is enhanced health and fewer chances of cognitive decline in older adults. The use of text messaging and emails had a moderating effect on cognition and wellbeing of older adults. It is suggested that existing low-cost community programs targeting the so-called social determinants of health can be reworked to address social isolation and foster knowledge and technology skills in the older population. Directions for future research include examining human behaviors and perceptions to stay connected.

#### DUAL TRAJECTORIES OF SOCIAL ISOLATION AND DEMENTIA IN OLDER ADULTS: A POPULATION-BASED LONGITUDINAL STUDY

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The purpose of this study was to identify patterns of changes in social isolation and dementia and the interrelations between these developmental trajectories. The study sample included 7,609 Medicare beneficiaries age 65 and older from the National Health and Aging Trends Study 2011 through 2018 surveys. A group-based dual trajectory modeling approach was used to identify distinct groups of developmental trajectories for social isolation and dementia status over the 8-year period. The dual model provided estimates of conditional and joint probabilities linking the two sets of trajectory groups. Changes in social isolation over an 8-year period followed four trajectories: rarely isolated (62.2%), steady increase (13.5%), steady decrease (7.4%), and persistently isolated (16.9%). Changes in dementia risk also followed four trajectories: persistently low risk (80.4%), increasing with early onset (3.9%), increasing with late onset (4.5%), and persistently high risk (11.2%). Over two-third (68%) of the persistently low dementia group were also in the rarely isolated group. Both increasing dementia groups were composed mainly of individuals from the increasing social isolation group (40-43%) and persistently isolated group (24-29%). The persistently high dementia group had the most overlap with the decreasing social isolation group (47%), followed by the persistently isolated group (28%). For the most part, social isolation and dementia evolve in the same direction for older adults over an 8-year period. However, the pattern of associations between these developmental trajectories is complex and may be reversed among long-term dementia survivors.

#### FAMILY SOLIDARITY, SOCIAL SUPPORT, LONELINESS, AND WELL-BEING AMONG OLDER ADULTS IN RURAL CHINA

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China is experiencing a large increase in elderly population. In 2019, China's population aged 60 and above had reached 253 million, accounting for 18.1% of the