

**Associations between loneliness, social isolation and mortality in older twins: familial confounding?**

Miriam Mosing, Karolinska Institutet; Victor Dahlstrom, Karolinska Institutet; Kelli Lehto, Karolinska Institutet; Nancy Pedersen, Karolinska Institute; The IGEMS Consortium, University of Southern California

Loneliness and social isolation are established risk factors for mortality among older adults. It is however poorly understood whether loneliness and social isolation have differential predictive value on mortality and whether these observed associations are causal or due to confounding familial factors. The aim of the present study was to: (1) replicate previous findings of a relationship between loneliness, social isolation and mortality in a large genetically informative sample of aging twins; (2) establish potential differential associations between loneliness and social isolation, respectively, with mortality; and (3) establish whether such relationships are consistent with a causal hypothesis utilizing the co-twin control design. Data on more than 40,000 twin individuals from the IGEMS consortium were used including participants aged 41–108 years at baseline. Information about perceived feelings of loneliness, social isolation (i.e. living alone), as well as on relevant covariates including self-rated health, multimorbidity, smoking status, alcohol use, depression, and education was used. Data were linked to the respective Cause of Death registry to get information about date and cause of death with a follow-up time of more than 16 years. Survival analysis and the co-twin control design were applied to address the three aims. Findings and implications will be discussed.

This work is supported by the NIH grant AG037985.