

social context, activities and obstacles, as well as managing obstacles. Preliminary analyses using a subset of participants with complete data ($N = 93$) indicate that participants reported more physical activity obstacles when they were in solitude. This only applied to participants low in self-acceptance. Furthermore, self-acceptance was also positively associated with the extent to which individuals who had experienced an obstacle ($N = 71$) managed to overcome it. Further analyses will examine accelerometry-based movement information as well as the role of additional resources (e.g. living with others) and vulnerability factors (loneliness, anxiety).

MITOCHONDRIAL DNA VARIANT C2639T IS AN APOE4 RESILIENCE FACTOR

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The APOE4 allele is the greatest genetic risk factor for sporadic Alzheimer's disease, yet select APOE4 carriers remain cognitively intact and become centenarians due to unclear reasons. In order to identify resilience genes for APOE4 carriers, we (1) sequenced whole mitochondrial DNA in a centenarian cohort, (2) searched for differentially expressed genes in the temporal cortex of APOE4 carriers, and (3) experimentally simulated the effects of a novel mitochondrial DNA variant that confers APOE4 resilience. The mitochondrial DNA variant, C2639T, is highly enriched in centenarians and APOE4 carriers, which changes the third amino acid of the mitochondrial-derived peptide humanin from proline to serine (humanin P3S). In addition, APOE4 carriers differentially expressed 127 genes in the humanin genetic network that map back to mitochondrial function. Therefore, we experimentally characterized the relationship between humanin, centenarian-enriched humanin P3S, and APOE. We found that humanin is a novel APOE binding partner, humanin P3S binds APOE nearly 15 times greater than wild type humanin, and humanin P3S modifies the APOE4 metabolic profile.

USE IT TOO MUCH AND LOSE EVERYTHING? THE EFFECTS OF HOURS OF WORK ON HEALTH

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We examine the causal impact of working hours on various health outcomes of Australian men aged 40 and over. To capture the potential non-linear dependence of health status on working hours, the models for health outcomes include working hours and its square. We deal with the potential endogeneity of working hours by using the instrumental variable estimation technique using instruments based on the age for pension eligibility. A non-linear causal effect of working hours on health is confirmed. For males working relatively moderate hours (up to 20–24 hours for a week), an increase in working hours has a positive impact on health, but thereafter an increase in working hours has a negative impact on health. The results also indicate that there is a non-linear dependence of working hours on the pension

eligibility age, and also a non-linear dependence of health outcomes on the pension eligibility when this last relationship is treated as a "reduced form" relationship.

EXPOSURE TO FINE PARTICULATE MATTER, GLOBAL COGNITIVE PERFORMANCE, AND EMOTIONAL DISTRESS IN OLDER WOMEN

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Among older adults, exposure to ambient PM_{2.5} (particulate matter with aerodynamic diameter $<2.5 \mu\text{m}$) has been associated with more rapid decline in cognitive performance and greater emotional distress. However, the inter-relationship between PM_{2.5} exposure, emotional distress, and global cognitive decline is unexamined. We examined whether long-term PM_{2.5} exposure affects global cognitive ability and emotional distress in 5,982 older women (baseline age 70.6 ± 3.8 years) from the Women's Health Initiative Memory Study. PM_{2.5} exposure for the three-years prior to baseline was estimated at each participant's residence via a national kriging model. Using structural equation models (SEM), a z-score standardized latent factor consisting of items from the 6-item CESD and the SF-36 Emotional Well-Being scale was constructed to estimate emotional distress at baseline and one-year follow-up. Individual-specific trajectories of global cognitive performance (Modified-Mini Mental State Examination; 3MS) were also estimated. All effects reported were adjusted for multiple demographic, lifestyle, and clinical variables. Higher PM_{2.5} exposure was associated with lower baseline 3MS performance ($\beta = -.159$ per IQR= $3.38 \mu\text{g}/\text{m}^3$; 95% CI = $-.276$ to $-.042$), which was associated with increased emotional distress over the subsequent year ($\beta = -.011$; 95% CI = $-.017$ to $-.004$). A statistically significant indirect association of PM_{2.5} on changes in emotional distress via worse baseline 3MS performance ($\beta = .002$; 95% CI = $.001$ to $.004$) was present. In contrast, no statistically significant association between PM_{2.5} on baseline emotional distress occurring prior to declines in 3MS performance was present. PM_{2.5} neurotoxicity may contribute to global cognitive decline, which precedes increased emotional distress.

THE INFLUENCE OF HUMOR AND SPIRITUALITY ON THE RESILIENCY OF COMMUNITY-DWELLING OLDER ADULTS

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Older adults are confronted with many distinct challenges, which require the use of various coping mechanisms to maintain psychological balance, including humor and spirituality (Bonanno et al., 2012; Koenig, 2012). This study