

STRESS MEDIATING GENES IN AGING, HEALTH, AND LONGEVITY TRAITS: EFFECTS OF MULTIPLE INTERACTIONS

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Persistent stress of external or internal origin accelerates aging, increases risk of aging related health disorders, and shortens lifespan. Stressors activate stress response genes, and their products collectively influence traits. The variability of stressors and responses to them contribute to trait heterogeneity, which may cause the failure of clinical trials for drug candidates. The objectives of this paper are: to address the heterogeneity issue; to evaluate collective interaction effects of genetic factors on Alzheimer's disease (AD) and longevity using HRS data; to identify differences and similarities in patterns of genetic interactions within two genders; and to compare AD related genetic interaction patterns in HRS and LOADFS data. To reach these objectives we: selected candidate genes from stress related pathways affecting AD/longevity; implemented logistic regression model with interaction term to evaluate effects of SNP-pairs on these traits for males and females; constructed the novel interaction polygenic risk scores for SNPs, which showed strong interaction potential, and evaluated effects of these scores on AD/longevity; and compared patterns of genetic interactions within the two genders and within two datasets. We found there were many genes involved in highly significant interactions that were the same and that were different within the two genders. The effects of interaction polygenic risk scores on AD were strong and highly statistically significant. These conclusions were confirmed in analyses of interaction effects on longevity trait using HRS data. Comparison of HRS to LOADFS data showed that many genes had strong interaction effects on AD in both data sets.

THE EFFECTS OF DEMENTIA KNOWLEDGE ON DEMENTIA WORRY, ATTITUDES, SOCIAL COMFORT, AND AFFECT

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Previous work has demonstrated that personhood-based knowledge of dementia is associated with less fear of dementia and greater social comfort with persons with dementia. Nonetheless, a causal link has not been tested. We examined the effects of types of dementia knowledge on dementia worry, fear, and social comfort, as well as affect more broadly and attitudes toward dementia, which have not previously been examined. Participants (N = 338) aged 19-78 (M = 44.82, SD = 16.66) were randomized into one of five experimental conditions: biomedical-knowledge (BK; read biological and medical facts about dementia); personhood-based knowledge (PBK; read accounts written by persons living with dementia); both BK and PBK; baseline control; and active control. Participants then completed outcome measures. Significant effects of knowledge on dementia

worry ($p < .05$) as well as personal distress, empathic concern, and negative affect ($ps < .001$) emerged; groups did not significantly differ in attitudes, comfort, or dementia fear. Specifically, participants in the BK and PBK conditions exhibited significantly higher levels of personal distress than those in the control conditions. Similarly, participants in the PBK condition had significantly higher levels of negative affect than those in the control conditions and significantly higher levels of dementia worry than those in the baseline control condition. Participants in the PBK condition also had significantly higher levels of empathic concern than those in the biomedical knowledge and control conditions. Results suggest that although reading about dementia induces negative affect, it also induces empathic concern.

TRAJECTORIES OF PURPOSE IN LIFE FOLLOWING A DEMENTIA DIAGNOSTIC APPOINTMENT

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Purpose in life has been linked with better well-being and reduced risk for major illness. As such, work has focused on understanding what leads to changes in sense of purpose during adulthood, with a focus on major life events. Receiving a dementia diagnosis is a major life event that could affect purpose in life both for older adults with dementia and their potential caregivers. To examine this issue participants answered questions at two timepoints, before their diagnostic appointment at a specialized memory clinic, and between two days and two weeks after the appointment. Participants provided self-report ratings of sense of purpose and as well as open-ended answers regarding their purpose in life. Data is available from both caregivers and patients and qualitative coding was performed on participants' open-ended responses. While there was no significant, mean-level change in purpose in life for patients ($t = -.14$, $p = .88$) or caregivers ($t = .73$, $p = .46$), some participants exhibited reliable change in sense of purpose. Factors underlying individual increases and decreases in sense of purpose following a dementia diagnostic appointment are explored and discussed.

UNDERSTANDING ALZHEIMER'S DISEASE KNOWLEDGE IN LOW-INCOME, RACIALLY DIVERSE OLDER ADULTS

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Individuals demonstrate varying levels of Alzheimer's disease (AD) knowledge, as well as commonly held misconceptions about the risk factors and nature of the disease. Older adults often demonstrate low scores on AD knowledge scales and African Americans are often specifically not aware of their higher AD risk status compared to other racial groups. We measured the Alzheimer's knowledge in 60+ community-dwelling adults, as part of a larger study on AD health coaching. Participants (n=20) were recruited from low-income communities within the Richmond, Virginia area. The study sample was 85% African American (n=17) and 55% male (n=11). Participants completed a behavioral psychosocial test battery, including the Alzheimer's Disease