

HEALTH PERSONALITY, HEALTH ACTIVATION, AND GENERAL HEALTH

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The purpose of this investigation was to examine associations between health personality and health activation as predictors of general health. Participants from the study included 3907 individuals 65 years of age and older from AARP® Medicare Supplement Plans insured by UnitedHealthcare Insurance Company. The participants completed a survey including the Health Personality Assessment, the Consumer Health Activation Index, and a single-item assessment of self-rated health. Structural equation modeling determined how health personality predicted health activation, and health activation in turn predicted general health. The hypothesized model fit without direct paths from health personality to general health was not optimal. In a second step, we added direct paths from health openness, health neuroticism, and health conscientiousness to general health. The final model fit was then excellent, χ^2 (df=2) = 18.26, $p < .01$, RMSEA = .05, CFI = .99. Health neuroticism and health openness were negatively related to health activation, which indicated participants with high health neuroticism and health openness scores were less health activated. Conversely, higher health agreeableness and conscientiousness were associated with more activation. Pathways from health personality via health activation to general health were tested for mediation. Health activation significantly mediated relationships between health neuroticism, health openness, health agreeableness and health conscientiousness to general health. These findings support health activation accounting for some of the associations between health personality and general health. Health neuroticism, health openness, health agreeableness, and health conscientiousness were more closely connected to health activation than health extraversion.

AFFECTIVE NEUROPSYCHIATRIC SYMPTOMS MAY BE EARLY SIGNS OF ALZHEIMER'S DISEASE IN NON-DEMENTED OLDER ADULTS

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The current study sought to investigate the association between affective neuropsychiatric symptoms (aNPS: depression, anxiety, apathy, irritability), Alzheimer's disease (AD) cerebrospinal fluid (CSF) biomarkers profiles, and the risk of progression to dementia in non-demented older adults. Participants consisted of 763 individuals with normal cognition (CN) (mean age = 73.73 ± 6.68) and 617 with mild cognitive impairment (MCI) (mean age = 73.19 ± 7.40) at baseline, who were enrolled in the Alzheimer's Disease Neuroimaging Initiative (ADNI). Latent class analyses (LCA) identified three subgroups of older adults within CN and MCI, respectively, showing distinct patterns of the neuropsychiatric inventory (NPI) domains. Results indicated that the subgroup with higher probabilities of aNPS had elevated risk of progression to dementia (HR = 3.18, 95% CI [1.70, 5.94] in CN, HR = 1.79, 95% CI [1.01, 3.16] in MCI), adjusting for age, sex, and Apolipoprotein E e4 (APOE4) carrier status. Subgroups did not differ in their profiles of AD

CSF biomarkers. Findings suggest that aNPS might be symptoms of secondary disease processes in the brain, lowering the threshold for AD pathophysiology to manifest clinically in CN and MCI. The current study highlights the importance of assessment and interventions for emotional and behavioral symptoms in non-demented older adults.

HOW THE IMPACT OF CHRONIC PAIN ON COGNITION VARIES BY POLYGENIC RISK SCORE (PRS)

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While prior research has found associations between chronic pain and cognition and genetic risk of cognitive decline, little research examined moderating effects of genetic risk on the association between chronic pain and cognition. This study investigate whether genetic risk of accelerated cognitive decline, assessed by polygenic risk score (PRS) of Alzheimer disease (AD), moderates the association between severe chronic pain and cognitive decline. The data are drawn from Midlife in the US (MIDUS), a survey of a nationally representative sample of US adults. The analytic sample consists of two groups: 201 individuals who reported severe chronic pain (116 women, 85 men) and 404 individuals without severe chronic pain (215 women, 189 men) who completed MIDUS 2 (2004-06) and MIDUS 3 (2013-14) surveys and participated in biomarker data collection. The findings showed that men who suffered from severe chronic pain were more vulnerable to genetic risk of cognitive decline than men who did not experience severe chronic pain. Specifically, men who suffered from severe chronic pain and had higher level of PRS of AD experienced a greater decline of episodic memory than men who experienced chronic pain with lower level of PRS of AD. This association was not found in women sufferers. For both men and women who did not have chronic pain, cognitive change was not a function of the level of genetic risk of cognitive decline. Findings suggest that genetic risk of cognitive decline would be manifested contingent on life circumstances as well as gender of individuals.

RECRUITING COMMUNITY-DWELLING LIVE-ALONE PERSONS WITH DEMENTIA: AN EXPLORATION OF FIVE GATEKEEPER DOMAINS

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Although recruiting persons with dementia into research is challenging enough, finding those who live-alone in the community is even more difficult. Consequently, live-alone persons with dementia are often overlooked and/or deliberately excluded from inquiry despite calls for more inclusive approaches to dementia research. Based on enrollment strategies from an interview-based protocol recruiting 120 live-alone persons with dementia, our National Institute on Aging- funded study identified five domains of gatekeepers imperative to gaining access to community-dwelling, live-alone persons with dementia: 1) housing (e.g., service coordinators), 2) data proprietors (e.g., regulatory specialists), 3) institutional (e.g., review boards), 4) kin (including fictive

kin), 5) clinical (e.g., medical providers, clinician practices). In addition, gatekeeper domains are multilayered and serve distinct roles in both facilitating and hindering access to and enrollment of this under-researched vulnerable population. Analysis of our recruitment efforts contribute significant insights into how the dementia research community may engage the various domains of community gatekeepers, providing direction for current and future social science research.

VIDEODINING IN OLDER ADULTS AGING IN PLACE: A FEASIBILITY AND ACCEPTABILITY STUDY

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Loneliness and a loss of commensality contribute to the decline in nutritional status observed in older adults. The use of video chatting while dining, i.e. "VideoDining", provides an opportunity for older adults to eat with another person virtually while dining at home. We tested the acceptability and feasibility of VideoDining in older adults receiving Meals on Wheels (MOW) and explored whether it changed meal intake. Participants were recruited from a rural county in NY and ate their MOW meal while VideoDining with a companion diner at a different location. To assess acceptability, we conducted semi-structured qualitative interviews with each participant and companion diners completed a written survey. The amount of the VideoDining meal consumed was compared to usual intake from three days of food records. 140 MOW clients were contacted, 13 agreed to participate and 10 completed the VideoDining experience. Barriers to participation included being uncomfortable with the technology, lack of internet service and illness. Participants were 80% female, 100% white, and all lived alone. Average meal length was 39 minutes and 40% ate more than usual, 30% ate the same, and 30% ate less. Reasons for eating less included being nervous and eating when not their usual mealtime. All participants reported they would VideoDine again and companion diners rated the overall experience a 9.2 out of 10. Older adults are able to VideoDine with a new acquaintance and have a positive experience. Further study is needed to determine if VideoDining can increase dietary intake and decrease loneliness in older adults.

MISSING VALUE IMPUTATION VIA GRAPH COMPLETION IN QUESTIONNAIRE SCORES FROM PERSONS WITH DEMENTIA

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Background: Questionnaires are widely used to evaluate cognitive functions, depression, and loneliness of persons with dementia (PWDs). Successful assessment and treatment of dementia hinge on effective analysis of PWDs' answers. However, many studies, especially pilot ones, are with small sample sizes. Further, most of them contain missing data as PWDs skip some study sessions due to their clinical conditions. Conventional imputation strategies are not well-suited as bias will be introduced because of insufficient samples. Method: A novel machine learning framework was developed based on harmonic analysis on graphs to robustly handle missing values. Participants were first embedded as nodes in the graph with edges derived by their

similarities based on demographic information, activities of daily living, etc. Then, questionnaire scores with missing values were regarded as a function on the nodes, and they were estimated based on spectral analysis of the graph with a smoothness constraint. The proposed approach was evaluated using data from our pilot study of dementia subjects (N=15) with 15% data missing. Result: A few complete variables (binary or ordinal) were available for all participants. For each variable, we randomly removed 5 scores to mimic missing values. With our approach, we could recover all missing values with 90% accuracy on average. We were also able to impute the actual missing values in the dataset within reasonable ranges. Conclusion: Our proposed approach imputes missing values with high accuracy despite the small sample size. The proposed approach will significantly boost statistical power of various small-scale studies with missing data.

PHYSICAL THERAPY STUDENTS' ATTITUDES TOWARDS WORKING WITH PEOPLE WITH DEMENTIA AFTER VARIOUS LEARNING EXPERIENCES

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Working with people with dementia (PWD) can be challenging even for the most seasoned health professionals. Hence, teaching health professional students how to effectively work with this patient population is of importance. Two cohorts (n=43; aged 23-36 years) of Graduate Physical Therapy students participated in multi-modal learning experiences geared towards working with PWD within a geriatrics course. Modules included: 1) online lectures and readings followed by a team based learning activity, 2) 3 hours of 'positive approaches to care' along with a simulated experience of performing Activities of Daily living and Instrumental Activities of Daily Living of PWD, and 3) one-on-one interactions during both lunch and dinnertime with at least three PWD residing in a state veteran's home. The Dementia Attitudes Scale (DAS) was used to measure attitudes of students at baseline and following each activity. Repeated measures analysis of variance revealed a significant increase in positive attitudes of students working with PWD across each activity (98.2 +/- 10.5 baseline) with the most positive attitudes noted after interactions with PWD in a state veteran's home (111.2 +/- 15.0), [F (2.0, 83.8) = 19.4, p < .01, partial eta² = .32]. However, this difference was not significant when controlling for students who had previous experience interacting with PWD. In conclusion, Doctor of Physical Therapy students' attitudes towards PWD improve with different learning experiences, with the greatest improvements after one on one interactions with PWD if the student did not have prior experience interacting with PWD.

SOCIAL RELATIONS AND FRAILTY TRAJECTORY IN LATER ADULTHOOD: EVIDENCE FROM HEALTH AND RETIREMENT STUDY

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