average levels and rates of change in painful conditions, pain severity, and pain interference over 13-year (LLLH) and 8-year (HRS) intervals. Participants’ within-person stressor levels declined somewhat, whereas their number of painful conditions, pain severity, pain interference, and prescription painkiller use increased steadily, over these intervals. In both the LLLH and HRS samples, participants who experienced higher average stressor levels over the 13- and 8-year intervals had more numerous painful conditions and higher pain severity over these intervals. In the HRS sample, they also experienced higher levels of pain interference. These effects occurred independent of the demographic characteristics of age, gender, and race. In general, participants’ stressor levels did not influence rates of increase in their pain. Gender and race had some moderating effects on associations between stressors and pain, but these occurred only within certain specific stressor and pain domains. These findings demonstrate an association between stressors and pain across the late-life course. Further research is needed to determine the mediating mechanisms that account for this association and the moderating factors that affect its strength.

THE IMPORTANCE OF PERSON CENTERED COACHING ON PHYSICAL ACTIVITY IN OLDER ADULTS
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Osteoarthritis (OA) is the most common form of arthritis and imposes a substantial social and economic burden on American society. Evidence suggests that physical exercise provides health-related benefits to reduced osteoarthritis pain, stress and depression. However, exercise alone may not be sufficient to make necessary lifestyle changes to reduce OA pain. This study aimed to determine the effectiveness of Person Centered Coaching (PCC) and Health Education (HE) on physical activity of exercising older adults with OA pain. 14 exercising older adults were included in this experimental, randomized, pre and posttest study. Age ranged from 69 -88 years (mean = 77) with most participants identifying as non-Hispanic whites, all currently retired and 71% female. Participants completed OA Diary, 3 PROMIS short-form instruments (Pain Interference, Perceived Stress and Instrumental Support) and Personal Growth Initiative Scale. Data was collected over six weeks to include baseline and post-intervention measurements using repeated measures analysis. The result indicated the PCC treatment group had lower scores on pain interference and perceived stress compared to the HE group. The PCC group also had increased higher level on personal growth and instrumental support compared to the HE group. The results suggest that additional interventions are needed to enhance exercise effectiveness in reducing pain, inflammation and stress. The intervention (PCC), has the potential to provide a positive impact on OA outcomes for exercising older adults by increasing self-knowledge and self-monitoring of OA pain, as well as facilitating persistence with exercise.

THE SUNDAY EFFECT: HOW CHURCH ATTENDANCE IS RELATED TO DAILY PAIN AND AFFECT IN OLDER ADULTS WITH OSTEOARTHRITIS
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Attending church is related to elevated mood (Law & Sbarra, 2009), greater social connectivity (Obst & Tham, 2009), and purpose in life (Robbins & Francis, 2000). More research is needed on how these relationships function among older adults, especially those living with chronic pain. The current study aimed to explore the effects of attending church on Sunday on the daily pain and affect of older adults with arthritis pain. Using a subset of 185 participants living in Alabama from the Everyday Quality of Life (EQUAL) project, the current study utilized multilevel modeling to examine (1) the main effects of church attendance and day of week (Sunday vs other) on daily pain and affect (positive and negative), and (2) the interaction [Sunday] effect of church attendance and day of week on those outcomes, controlling for sociodemographic variables (i.e., employment status, sex, race, and age). Preliminary covariate analyses revealed that church attendance was higher among participants who were unemployed, female, African American, and older. For the multilevel models predicting daily positive and negative affect, significant main effects were found for day of week and church attendance; however, the interaction effect was not significant. Interestingly, no main or interaction effects were found for the models predicting daily pain. Thus, while church attendance and day of week significantly predicted daily ratings of positive and negative affect, there was no support for the Sunday Effect on those outcomes. Implications and ideas for future research are discussed. (R01-AG041655, P. Parmelee & D. Smith, Co-PIs).

SESSION 10360 (LATE BREAKING POSTER)

RESEARCH METHODS AND ISSUES: QUANTITATIVE

EMOTIONAL COMPLEXITY IN DAILY LIFE: ON THE ROLE OF EMOTIONAL DYNAMICS, AGE, & CULTURE
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Emotional complexity is a construct that has attracted significant interest in the aging literature. It often refers to two aspects — the co-occurrence of positive and negative emotions and emotion differentiation (experiencing emotions with specificity). Emotional complexity is thought to increase with aging. However, recent research points to inconsistent results showing a positive relationship between age and emotional complexity, non-significant associations
and even negative relationships. The present study seeks to address this inconsistency in findings by examining three possible sources: 1) different indicators of emotional complexity, 2) age differences in emotional dynamics (individual differences in means & variability of momentary positive & negative emotions), and 3) differences in cultural backgrounds. Community-dwelling adults from Vancouver (96 older adults, 51 young adults; 56% of Asian heritage, 30% of Caucasian heritage, and others 14%) and in Hong Kong (56 older adults, 59 young adults; 100% Asian heritage) completed approximately 30 ecological momentary assessments over a 10-day period assessing their current emotional experiences. When the mean and variability of emotional experiences were controlled for, most emotional complexity measures showed a negative relationship with age indicating that older adults displayed lower emotional complexity compared to young adults. This pattern was consistent across participants of Asian and Caucasian heritage. Additional analyses will explore the link between different emotional complexity measures and well-being indicators. Our findings point to the need to provide a more nuanced perspective on the correlates and consequences of emotional complexity in old age.

FORECASTING INDIVIDUAL AGING TRAJECTORIES AND SURVIVAL WITH AN INTERPRETABLE NETWORK MODEL
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We have built a computational model of individual aging trajectories of health and survival, containing physical, functional, and biological variables, conditioned on demographic, lifestyle, and medical background information. We combine techniques of modern machine learning with a network approach, where the health variables are coupled by an interaction network within a stochastic dynamical system. The resulting model is scalable to large longitudinal data sets, is predictive of individual high-dimensional health trajectories and survival, and infers an interpretable network of interactions between the health variables. The interaction network gives us the ability to identify which interactions between variables are used by the model, demonstrating that realistic physiological connections are inferred. We use English Longitudinal Study of Aging (ELSA) data to train our model and show that it performs better than standard linear models for health outcomes and survival, while also revealing the relevant interactions. Our model can be used to generate synthetic individuals that age realistically from input data at baseline, as well as the ability to probe future aging outcomes given an arbitrary initial health state.

SOCIAL CHARACTERISTICS, HEALTH AND MORTALITY AMONG MALE CENTENARIANS USING VETERANS AFFAIRS (VA) HEALTHCARE
Lien Quach David Gagnon,1 Elizabeth Dugan,2 Kelly Cho,3 Michael Gaziano,3 Avron Spiro,1 Rachel Ward,1 and Jane Driver,1 1. Boston University School of Public Health, Boston, Massachusetts, United States, 2. University of Massachusetts Boston, Boston, Massachusetts, United States, 3. VA Boston Healthcare System, Boston, Massachusetts, United States

Studying health and mortality among centenarian Veterans is critical to understanding the limit of the male human life span and Veterans’ extraordinary model of successful aging. The majority of VA users are male, but little is known about social characteristics and health among male centenarians in general. We investigated the annual mortality rate of male centenarian Veterans seeking care from the VA and identified social characteristics and health conditions that influenced the risk of mortality. This longitudinal study used VA Electronic Health Record (EHR) data from 1997 – 2012 (n=1858). Dates of death were obtained from the EHR, aggregated by the Corporate Data Warehouse from multiple sources. Independent variables included age, race, marital status, and periods of military service. Health conditions consisted of cancer, congestive heart failure (CHF), diabetes, chronic renal disease, chronic pulmonary disease, peripheral vascular disease, dementia, myocardial infarction, liver diseases. The mean age was 100.4 (range: 100-115), 76% were white and 49% married. The average annual mortality rate was 32 per 100 person-years. The annual mortality rate was stable and not affected by race, but did differ by marital status. Divorced or separated centenarians had a 21% higher rate of death than married centenarians [Hazard Ratio (HR):1.21, 95% CI 1.07 - 1.36]. A diagnosis of dementia increased the mortality risk by 37% (HR: 1.37, 95% CI: 1.04 - 1.81) and CHF by 37% (HR: 1.37; 95% CI: 1.13 - 1.66). Providers should consider prevalent health conditions, as well as marital status, in managing care of centenarian veterans.

THE FRAGILITY INDEX, MISSING DATA, AND IMPUTATION
Glen Pridham, and Andrew Rutenberg, Dalhousie University, Halifax, Nova Scotia, Canada

The frailty index (FI) is a summary measure of health during aging that is defined by the average number of 'things wrong', i.e. health deficits, across a sundry of lab, clinical, and questionnaire measurements. Missing data are ubiquitous in aging studies. Although the FI appears to have robust predictive power—even when ignoring missing data, there has not been a systematic study of the consequences of imputation when used in the principle investigation. We investigated the standard imputation methodology, multiple imputation using chained equations (MICE), and other missing data methods, in terms of prediction of mortality and statistical power using the 2003/04 and 2005/06 NHANES datasets. When we masked known data completely at random, we observed that available case analysis incorrectly estimated the true variance of the FI leading to potential problems in hypothesis testing, whereas imputation helped mitigate this effect. We also observed that the default imputation methods from MICE showed a significant increase in FI relative to the ground truth together with a decrease in predictive power, hence we suggest other options when performing imputation with NHANES. The underlying missing mechanism in NHANES is not random and appears to be important, for example survival curve analysis showed that the top half of patients with the most missing data died significantly younger than the bottom half.