reported increased levels of the oxidized tryptophan metabolite, kynurenine (Kyn), in bone marrow mesenchymal stem cells (BMSCs) and interstitial fluid. Here, we report that Kyn significantly inhibits osteogenic differentiation of BMSCs likely via activating aryl hydrocarbon receptor (AhR). KYN significantly downregulated mRNA levels of pro-osteogenic CXCL12 axis, including CXCL12, and its two main receptors CXCR4 and ACKR3. Secreted protein levels of CXCL12 were significantly reduced with KYN, and were rescued upon the use of AhR antagonist 3',4'-dimethoxyflavone (DMF). Moreover, KYN upregulated levels of pro-aging and CXCL12-targeting miRNAs miR-29b-1-5p and miR-141-3p. Additionally, KYN significantly inhibited mRNA and protein levels of the epigenetic enzyme Hdac3 which is responsible for activating osteogenesis and inhibiting adipogenesis in BMSCs. Using mutagenesis and luciferase assays, we show evidence that miR-141-3p and miR-29b-1-5p directly target CXCL12 3'-UTR. We also show that miR-29b-1-5p directly targets Hdac3 explaining the significantly increased acetylation levels of H4 with KYN treatment. Finally, we show that mRNA levels of both KYN receptor AhR, and KYN-producing enzyme IDO-1 are regulated by CXCL12. We believe this data explains a novel mechanism of the bone aging phenotype and provides multiple potential clinical intervention targets for controlling osteoporosis.

LATENT DYADIC CHANGE MODEL OF SPOUSAL SIMILARITY IN PHYSIOLOGICAL MARKERS OF AGING

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Older adult populations are known for their diversity in health. Within couples, however, population studies have documented exceptional levels of spousal similarity in health and health behaviors. The presence of spousal similarity in health among older adults suggests a process of convergence, yet few studies have examined this phenomenon longitudinally. We present a latent dyadic change model to estimate the extent to which couples' similarity in grip strength, Cystatin C, and lung function--indicators of frailty/physiologic reserve. The model is a longitudinal extension of the latent dyadic model, where husbands' and wives' markers of health are parsed into variance that is attributed to the couple and individual levels. Change in the biomarkers of aging is then estimated at the couple and individual levels, resulting in estimates of husbands' change, wives' change, and shared change. We illustrate our model using physiological data from the Health and Retirement Study, a nationally representative panel study of individuals aged 51+ in the United States (3,500+ eligible couples). At the individual level, grip strength and lung function decreased, whereas Cystatin C increased for both husbands and wives. The shared change parameter estimated 16% to 25% of the change in markers of aging existed at the couple level. This suggests, consistent with convergence, that similarities in markers of aging at T2 were due to shared processes of change. Shared processes held after adjusting for indicators of partner selection. The latent dyadic change model offers a methodology to examine change in couples' shared processes over time.

SPOUSAL DRIVING CESSATION AND VOLUNTEERING: MODERATING ROLE OF CAREGIVING AND DEPRESSION

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Driving cessation is a normative transition in later adulthood, yet previous research shows that having a spouse who ceases to drive, even when you are still able to, negatively impacts one's own engagement (i.e., formal and informal volunteering). Little is known about the conditions under which volunteer engagement might vary after a spouse stops driving. We used longitudinal data from 10 waves (1998–2016) of the Health and Retirement Study (HRS) to examine whether depressive symptoms and caregiving demands moderate the association between a spouse's driving cessation and one's own formal and informal volunteering. Respondents were included if, at baseline, both spouses participated in HRS, both were age 65+, and both were still driving. Respondents were dropped at the time of their own driving cessation, to focus specifically on the impact of spousal driving cessation. Multilevel model results for 1,370 husbands and 1,368 wives show that moderation occurred only for wives who were still driving. After controlling for sociodemographic factors, physical health, and cognitive ability, husbands' driving cessation negatively impacted formal volunteering but only for wives who were primary ADL and IADL caregivers for their spouses. Further, husbands' driving cessation negatively impacted informal volunteering for wives who reported relatively high levels of depressive symptoms. Results suggest the importance of contextual factors like caregiving engagement/needs and psychological wellbeing, especially for wives, when examining the role of spousal driving cessation in partners' volunteer engagement, and highlight the need for additional research on the relationship between spousal driving cessation and volunteering for husbands.

GENETIC PREDISPOSITION TO ACCELERATED BIOLOGICAL AGES PREDICTED BY BIOCHEMICAL MARKERS

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Biological ages predicted by biochemical markers (biomarkers) outperform other measures in predicting a variety of aging outcomes. Several have been developed in recent studies, and there is evidence that each may independently predict mortality. While the included biomarkers are disease-associated, it is unclear what aspects of aging are captured. We aimed to understand and quantify genetic predisposition to accelerated biological ages, determined based on two measures, PhenoAge (9 biomarkers plus chronological age, Levine et al. 2018) and BioAge (7 biomarkers plus chronological age, Levine 2013). We performed genome-wide scans using the

UK Biobank data (n=107,460 for PhenoAge, n=98,446 for BioAge). The SNP-based (single nucleotide polymorphism) heritability estimates were 14.45% and 12.39% for PhenoAge and BioAge, respectively. Both shared the strongest signal in the APOE region, with opposite associations with e2 and e4 alleles. e2 was associated with younger BioAge but older PhenoAge. e4 was associated with older BioAge but younger PhenoAge. BioAge was highly genetically correlated with its element of systolic blood pressure (rg=0.84) and the genetic correlation between PhenoAge and red blood cell distribution width was 0.65. Previous genome-wide association study findings of the top hits suggest that BioAge mostly captures cardiac aging but PhenoAge has more to do with inflammatory aging. The results are consistent with SNP clusters by associations with a broad range of aging traits, including an independent cluster with SNPs near the APOE. Genetic risk scores will be created to quantify the genetic predisposition and will be tested for associations with numerous aging traits.

EVERYDAY ETHICS AND THE UNSEEN MORAL LANDSCAPE OF ASSISTED LIVING

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Assisted living (AL) communities are increasingly popular long-term care settings where people live, work and visit, and where social relationships and care, including end-of-life care, are negotiated. In the context of daily life, residents, their family members and friends, AL care workers and other staff, external care providers, and volunteers, continually encounter one another and make choices about a range of matters. AL is fraught with uncertainty and conflict about values, especially given residents' cognitive and physical frailty. These value-laden issues have important implications for both resident and care partners' quality of life. Yet, almost no research has examined ethics in this dynamic and complex care environment. We seek to address this important knowledge gap by examining AL through an ethical lens. Drawing on our research and practice experiences, we present a conceptual model that situates everyday ethics within multiple multi-levels of moral decision-making factors and systems involving individuals, the care setting and surrounding community, social norms, and the broader regulatory context. We provide an overview of AL's moral landscape and present examples of three everyday ethical issues. We first examine informed consent as it pertains to sexual encounters involving residents with dementia. Next, we consider boundary and role issues inherent in care process and relationships. Finally, we discuss resident privacy as an area for value uncertainty in everyday life within AL. We conclude by emphasizing the need for in-depth and systematic identification of ethical issues in AL and development of management strategies for applied practice.

AFFORDABLE SENIOR HOUSING AND HEALTH AMONG LOW-INCOME OLDER IMMIGRANTS: THE ROLE OF SERVICE USES

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Older immigrants in affordable senior housing face a unique set of challenges due to their demographic, social, economic, and cultural diversity. Existing knowledge about health among this unique but increasing aging subgroup population is extremely limited. Focusing on older immigrants subgroups (Asian and Russian older adults) in affordable senior housing in St.Louis, MO, this study aimed to examine to what extent different ethnic minority elders' health varies by their uses of services available in the housing. Data came from the survey interviews at a subsidized independent senior housing in St. Louis (n=136). Hierarchical multiple regressions were used to examine ethnic differences in self-rated health and the role of services for the health of low-income ethnic minor elders in senior housing. Compared to the non-immigrants (White/African older adults), Asian (b=0.67, p<.05) and Russian residents (b=0.89, p<.05) were likely to have lower self-rated health. Interestingly, for both ethnic groups, they report a better self-rated health when they use supportive daily service (i.e. e.g. meal delivery, transportation, housekeeping and others) (b= -0.84, p<.05 for Asian, b=- 0.90, p<.05.for Russian) and social service (e.g. recreational, wellness, and exercise programs) (b= -0.73, p<.05 for Asian, b=- 0.83, p<.05.for Russian). Our findings point to an important role of services for the health of low-income ethnic minor elders in senior housing. As the first attempt to examine services that explicitly focus on ethnic minority elders, our study provides meaningful implications for future research on the health and service needs for older immigrant populations in senior housing.

MEN WITH PARKINSON'S MAY HAVE GREATER DISEASE BURDEN IN ASPECTS OF COGNITIVE AND PSYCHOSOCIAL FUNCTION THAN WOMEN

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Early in PD, women may experience a more benign disease course than man. Limited research has examined differences between men and women with moderate, treated PD with a mean duration >5 y. Retrospective analyses were performed on data collected from studies, conducted 2011–2019, that assessed motor, cognitive and psychosocial function in 199 people with PD (women=72). We compared performance using univariate analyses, adjusting for age, housing type and education. Men and women patients were not different in PD stage (Stage Mdn= 2, IQR=.5), age (mean±SD; 69.1± 8.9 y), education (16.4 ± 2.3 y), number of medications (5.9±4.1), comorbidities (3.4±1.8), physical function, nor time with PD (6.6±4.6 y). Women were more likely to live in assisted living or senior residences (p=.005). Men gave more correct answers in subtraction, (8.8 ± 4.0 vs. 6.4±3.7; p<.001) but sexes did not differ in percent correct. On the MDS-UPDRS, Men exhibited more burden in subjectively rated non-motor (13.4 ±