sociodemographic factors, depression, chronic conditions, and chronic pain). Among HRS respondents, people in the highest purpose quartile had 65% decreased odds (95% CI: 0.14-0.89) of misusing drugs to cope with stress in the fully-adjusted model. A growing number of intervention studies show that purpose in life can be raised. With additional research, these data suggest that sensitively tailored and administered purpose in life may reduce the likelihood of drug misuse and help stem the tide of our nation's growing drug epidemic.

SESSION 1430 (SYMPOSIUM)

INTEREST GROUP SESSION—EPIDEMIOLOGY OF AGING: BIOSOCIAL RESEARCH ON BRAIN AGING AND BIOLOGICAL AGING

Chair: Daniel W. Belsky, *Columbia University Mailman School of Public Health, New York, New York, United States*

Our aging global population presents a new set of challenges for public health. Individual-disease focused models are becoming outmoded as geriatricians recognize multimorbidity and frailty as the central challenges in preserving health for older adults. Evidence from research into the biology of aging suggests that a set of common cellular-level processes underpin decline in system integrity that induces vulnerability to disease across multiple organ systems, including the brain. In parallel, research in life-course gerontology indicates that the roots of aging-related decline in system integrity extend from early life and encompass histories of social, psychological, and biochemical exposures. The research presented in this symposium aims to integrate these emerging paradigms in aging research by mapping connections among measures of aging in the brain and body and social, psychological, and nutrition exposures. Our symposium focuses on (1) links between social-psychological determinants of health and biological aging in the brain and body; and (2) social and behavioral protective factors that may buffer emerging biological risk in aging. The overarching goal of this symposium is to introduce an approach to gerontology that integrates geroscience with life-course social and psychiatric epidemiology to advance understanding of cognitive aging and functional decline, and ultimately identify novel interventions to extend healthy lifespan.

MENTAL AND PHYSICAL HEALTH SEQUELAE OF BEREAVEMENT IN OLDER ADULTS: U.S. HEATH AND RETIREMENT STUDY ANALYSIS

Benjamin Domingue,[1] Laramie Duncan,[2] Amal Harrati,[3] and Daniel Belsky[4], *1. Stanford University Graduate School of Education, Stanford, California, United States, 2. Psychiatry and Behavioral Sciences, Stanford, California, United States, 3. Primary Care & Population Health, Stanford, California, United States, 4. Epidemiology, New York, New York, United States*

Death of a spouse (bereavement) is associated with poor mental and physical health outcomes in older adults. But it is unknown how mental- and physical-health sequelae of bereavement are related and the clinical significance of bereavement-related depression has been questioned. We analyzed US Health and Retirement Study (HRS) data tracking mental and physical health of 36,034 older adults during 1992-2016. Post-bereavement data were available for N=4,985 participants with recorded date of spousal death. We analyzed longitudinal repeated-measures data on survivors' depression, disease, disability, and mortality. Bereavement effects on depression were immediate, but short-lived, attenuating within the year. In contrast, bereavement effects on physical health and mortality persisted over follow-up. Critically, the magnitude of short-lived effects on depression correlated with the magnitude of longer-lasting effects on disease, disability, and mortality. Results reveal connections between mental and physical health and aging and suggest bereavement-related depression as a biomarker of enduring health risk.

PREDICTING TRANSDIAGNOSTIC PSYCHOPATHOLOGY FROM INDICES OF AGING IN THE HUMAN STRUCTURAL CONNECTOME

James Madole,[1] James W. Madole,[1] Simon R. Cox,[2] Colin R. Buchanan,[2] Stuart J. Ritchie,[3] Mark E. Bastin,[2] Ian J. Deary,[2] and Elliot M. Tucker-Drob[1], *1. The University of Texas at Austin, Austin, Texas, United States, 2. The University of Edinburgh, Edinburgh, Scotland, United Kingdom, 3. King's College London, London, England, United Kingdom*

Imaging-derived indices of brain structure and white-matter connectivity evince steep declines with adult age and are robustly linked to neurological disease and a wide range of psychopathologies. Risk for psychopathology may be related to rapid structural brain aging, but the specific patterns of relations are not well documented. Using structural and diffusion MRI data from UK Biobank, we estimated a structural connectome for each participant (N = 3155), and used empirically-driven machine-learning algorithms to identify features of the connectome most susceptible to brain aging. In an age-homogenous hold-out sample of older adults, we score participants' "connectome age" using the coefficients saved from the training sample. We examine associations between connectome age and both psychiatric symptom counts and polygenic risk scores for a range of psychiatric disease traits. This will be amongst the first and most comprehensive investigation of the extent to which psychopathology relates to signatures of structural connectome aging.

INTEGRATIVE ANALYSIS OF ALZHEIMER'S DISEASE GWAS TO DEVELOP A NEW POLYGENIC PREDICTOR AND TEST BIOSOCIAL ETIOLOGY

Amal Harrati[1], *1. Stanford School of Medicine, Stanford, California, United States*

Alzheimer's disease (AD) has genetic and environmental causes and etiology is thought to reflect interplay among these factors. A barrier to integration of genetic and environmental etiologic factors in research to inform prevention and intervention is poor understanding of AD genetics beyond APOE4. We used the new Genomic SEM methodology to conduct integrative analysis of results from several AD genome-wide association studies (GWAS), including brain-imaging and autopsy AD GWAS, to derive a novel, polygenic genetic predictor of AD. We applied this polygenic predictor

in the US Health and Retirement Study to test associations with (1) cognitive aging measured from repeated-measures longitudinal cognitive-test data; and (2) blood-chemistry-based biological age algorithms. In further exploratory analysis, we tested if risk measured by the novel AD polygenic predictor was correlated with and/or buffered by a known environmental factor influencing AD etiology, life-course socioeconomic position. Results map new directions for bio-social AD research.

REVERSE TRANSLATION OF HUMAN BIO-AGING MEASURES TO CYNOMOLGUS MONKEYS TO TEST ASSOCIATIONS WITH DOMINANCE RANK

Noah Snyder-Mackler,[1] Carol Shively,[2] Tom Register,[2] and Daniel W. Belsky[3], *1. University of Washington, Seattle, Washington, United States, 2. Wake Forest University, Winston-Salem, North Carolina, United States, 3. Columbia University Mailman School of Public Health, New York, New York, United States*

Social status is a powerful correlate of aging-related health decline. Observational data in humans suggest that disadvantaged social status may be associated with accelerated biological aging. But establishing causality in this relationship poses challenges; experimental manipulation of human social status is not possible. In contrast, social status can be experimentally manipulated non-human primates (e.g. Snyder-Mackler 2016 Science). We conducted analysis to reverse-translate blood-chemistry of biological aging to cynomolgus monkeys using data from several hundred animals in the Wake Primate Center breeding colony. We are applying these measures in an independent sample of monkeys with ascertained dominance rank to test replication in the non-human primate model of the human social gradient in biological aging. Parallel analysis of DNA methylation-based measures of biological aging are ongoing and should be available to present by Fall 2019. Results will inform potential to use this non-human primate model to study social determinants of biological aging.

IS SELF-RATED HEALTH A WINDOW ONTO THE BIOLOGY OF HEALTH AND AGING?

Daniel W. Belsky[1], *1. Columbia University Mailman School of Public Health, New York, New York, United States*

Self-ratings of health predict survival in older adults, suggesting that they capture important information about system integrity. We analyzed epigenetic clock, blood biochemistry, and functional test data alongside participant reports of disability, morbidity, and self-rated health in population-based cross-sectional and longitudinal datasets from the US and UK (total N>50,000) and in a randomized trial of caloric restriction (N=220). We (1) profiled cross-sectional biomarker correlates of self-rated health; (2) quantified residual biomarker associations with self-rated health after accounting for research-participant reports of morbidity and disability and evaluated variation in associations across strata of age, birth-cohort cohort, socioeconomic status, and cognitive functioning; and (3) tested coordinated change in biomarker indices of system integrity and self-ratings of health in response to caloric restriction. Results develop an understanding of self-rated health as a window onto biological processes of aging and highlight important design

considerations for future research to illuminate the biological basis of health.

SESSION 1435 (SYMPOSIUM)

INTEREST GROUP SESSION—ORAL HEALTH: COGNITIVE FUNCTION, SOCIAL SUPPORT, AND ORAL HEALTH STATUS AMONG OLDER ADULTS IN THE U.S. AND ABROAD

Chair: Bei Wu, *New York University, New York, New York, United States*
Co-Chair: Stephen K. Shuman, *University of Minnesota School of Dentistry, Minneapolis, Minnesota, United States*
Discussant: Michele Saunders, *Div of Aging Research & Geriatric Psychiatry, UT Health-San Antonio, San Antonio, Texas, United States*

There is an increasing awareness of the importance of oral health and its associated risk factors among older adults. This symposium includes four papers that address cognitive function, social support and oral health problems and symptoms among older adults in the U.S. and China. Lu and his colleagues examined the reciprocal relationship between cognitive function and complete tooth loss Chinese adults age 50+ using the China Health and Retirement Longitudinal study. The results show that there is a reciprocal relationship between these two indicators. The second paper used the Population Study of Chinese Elderly in Chicago (PINE) and examined the associations between tooth/gums symptoms and changes in cognitive function in Chinese older immigrants. The results reveal that having teeth symptoms was associated with a decline in cognitive function. Using the same PINE data, the third paper examined the association between different characteristics of social relationships and the number of oral health problems among U.S. older Chinese adults. Wu and her colleagues conducted a partner-assisted pilot intervention to improve oral health for community-dwelling older adults with either mild cognitive impairment or mild dementia. The results of this 6-month intervention show that persons in the treatment group had more improvement in oral hygiene than those in the control group. Findings from these four papers illustrate that cognitive function, social support, and oral health are interrelated. This symposium highlights the importance of improving cognitive health, social support, and oral health for middle-aged and older adults.

CARE PARTNER-ASSISTED PILOT ORAL HEALTH INTERVENTION FOR PERSONS WITH COGNITIVE IMPAIRMENT

Bei Wu,[1] Brenda L. Plassman,[2] Kathleen Nye,[2] Patricia Poole,[2] Melanie Bunn,[2] Hanzhang Xu,[2] Christine Downey,[3] and Ruth Anderson[3], *1. New York University, New York, New York, United States, 2. Duke University, Durham, North Carolina, United States, 3. University of North Carolina-Chapel Hill, Chapel Hill, North Carolina, United States*

This study pilot tested effectiveness of a care partner-assisted intervention on improving oral health among community-dwelling older adults with cognitive impairment. Twenty five participants (15 with mild cognitive impairment