similar levels of loneliness regardless of sexual orientation. However, significant differences between heterosexuals and LGBT participants were found in their communication and time usage when they are lonely. For example, heterosexual individuals socialize with friends in person more than homosexuals ($t=2.393$, $p<.05$), whereas LGBT older adults use technology more to socialize with friends ($t=3.749$, $p<.001$). Further, findings revealed that older LGBT adults tend to engage in more risky or unhealthy behaviors when lonely than do heterosexual older adults ($t=3.907$, $p<.001$). Overall, the results indicate that while LGBT older adults may spend more time alone ($t=7.350$, $p<.001$), they are engaging in different types of activities, particularly involving technology to communicate with friends, suggesting compensation for their lack of in-person contact. By understanding how LGBT older adults cope with loneliness along with the risks and resources that have influences on their health disparities can be useful for developing interventions to improve the health and well-being in these communities.

**DOES SEXUAL ORIENTATION INFLUENCE TRAJECTORIES OF CHANGE IN HEALTH? A 20-YEAR FOLLOW-UP STUDY**

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We examined the differences in physical health outcomes over a 20-year period between lesbian, gay, and bisexual (LGB) and heterosexual middle-aged and older adults. We also examined whether the associations were moderated by social support and affect. The analytical sample included 168 LGB adults and 336 propensity-matched heterosexual adults from the Midlife in the United States (MIDUS) study, ranging in age from 25 to 74 years (mean age=42.83) at baseline. Using negative binomial generalized estimating equations and mixed-effects analyses, data from three waves of MIDUS, spanning approximately 20 years from 1993 to 2014, were used to examine the associations between sexual orientation and the health outcomes (number of chronic conditions and functional limitations). Social support and affect were added to the models to test for moderation. The results found that LGB participants reported one more chronic condition at baseline and scored significantly higher for functional limitations. However, LGB participants increased less over time for number of chronic conditions than heterosexual participants, and there were no significant differences in terms of changes in functional limitation over time. Positive affect reduced the strength of the relationship between sexual orientation and functional limitations for LGB participants. No other moderating effects were significant. The results found that LGB participants reported by the presence of mothers’ functional limitations, nor were there any moderating effects of race or gender. In contrast, adult children who perceived that their mothers had limitations reported higher tension with them. Further, daughters were more likely than sons to report greater tension when they perceived that their mothers had limitations (differences between coefficients $p < .10$). White adult children reported lower levels of closeness and higher levels of tension when they perceived that their mothers had health limitations (differences between coefficients $p < .05$; $p < .10$ respectively). However, limitations did not predict Black children’s reports

**MOTHERS’ HEALTH AND RELATIONSHIPS WITH ADULT CHILDREN: THE MODERATING ROLE OF GENDER AND RACE**

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Consistent with theories of the life course and intergenerational solidarity, families are generally closely tied groups in which one family member’s event affects other members as well. Although the literature has documented that parents and adult children affect one another’s well-being, less is known about how parents’ health shapes relationship quality between family members. In this paper, we utilize data from the Within-Family Difference Study (WFDS) II to explore how mothers’ functional limitations affect relationship quality between mothers and their adult children, as reported by both family members. We hypothesized that the association between mothers’ health and intergenerational relationship quality would be moderated by gender and race. Using multi-level regression modeling, we found that mothers’ reports of relationship quality were not predicted by the presence of mothers’ functional limitations, nor were there any moderating effects of race or gender. In contrast, adult children who perceived that their mothers had limitations reported higher tension with them. Further, daughters were more likely than sons to report greater tension when they perceived that their mothers had limitations (differences between coefficients $p < .10$). White adult children reported lower levels of closeness and higher levels of tension when they perceived that their mothers had health limitations (differences between coefficients $p < .05$; $p < .10$ respectively). However, limitations did not predict Black children’s reports.
of closeness or conflict with mothers. This study sheds new light on the complex ways in which race and gender moderate the role of mothers’ limitations in intergenerational relationship quality.

SESSION 3018 (SYMPOSIUM)

ESPO/ BIOLOGICAL SCIENCES SECTION SYMPOSIUM: UNDERSTANDING THE COMPLEX AND INTERCONNECTED PATHWAYS OF AGING

CIRCULATING CELL-FREE DNA IS ASSOCIATED WITH COGNITIVE OUTCOMES

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Cell death is a mechanism by which aging tissues are able to maintain homeostasis. DNA of nuclear and mitochondrial origin is released into circulation following apoptosis or necroptosis and can be quantified in the blood as circulating cell-free DNA (ccf-DNA). We hypothesized that higher levels of ccf-DNA would be associated with worse cognitive function. Ultra-sensitive digital PCR was used to measure ccf-DNA in participants from the Rush Alzheimer’s Disease Center Religious Orders Study/Memory and Aging Project. Global cognitive function was derived from a composite of 19 tests on a neuropsychiatric battery. A total of 885 ccf-DNA samples were analyzed from N=624 participants. Generalized estimating equations were used to estimate the cross-sectional association between ccf-DNA and global cognition scores, while latent growth models were used to estimate the longitudinal association between ccf-DNA and global cognition scores. Multinomial regression was used to estimate the odds of having mild cognitive impairment (MCI) or dementia at last study visit relative to normal cognition, based on levels of ccf-DNA. Higher ccf-DNA levels were associated with lower global cognition score (-0.10, [-0.18, -0.02]) cross-sectionally. Each 1-standard deviation increase in ccf-DNA was associated with more rapidly declining global cognitive function over time (-0.11, [-0.19, -0.03]). A dose-response relationship was observed between increasing levels of ccf-DNA and odds of MCI (odds ratio [OR] = 1.08, [0.83, 1.41]) and dementia (OR = 1.29, [1.06, 1.57]). Our results suggest that ccf-DNA may serve as a biomarker of global cognitive decline and dementia risk.

DIFFERENCES IN LONGITUDINAL FASTING BLOOD GLUCOSE AND MORTALITY RISK ACROSS THE LIFESPAN BETWEEN MICE AND HUMANS

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Aging profoundly affects metabolism where trajectories of metabolic indices serve as strong predictors of health, disease and mortality. Mice and non-human primates are widely used to model all aspects of human biology, including metabolism. However, there is limited knowledge on how different species metabolically age during their life course. Here, we compare longitudinal predictors of health and mortality of three major metabolic indices among mice, non-human primates and humans. Longitudinal fasting blood glucose, body weight and body composition over the lifespan were compared across species in mice (Study of Longitudinal Aging in Mice), Rhesus monkeys (NIA and Wisconsin colonies) and humans (Baltimore Longitudinal Study on Aging). Survival analysis was conducted to calculate the risk of death for subjects with highest and lowest quartiles of fasting blood glucose. We will present data highlighting species-specific mechanisms of glucose homeostasis over the lifespan and its association with mortality.

SESSION 3020 (PAPER)

ACUTE CARE AND HOSPITALIZATION (PAPER)

ASSOCIATION BETWEEN LIVING ARRANGEMENT AND ACUTE CARE USE IN OLDER MEDICARE HOME HEALTH PATIENTS

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This secondary analysis used a 10% random sample from the national Outcome and Assessment Information Set (OASIS) of Medicare beneficiaries ≥ 65 years old who