self-report of any difficulty walking ¼ mile or up a flight of stairs, assessed annually. We considered 46 predictors for modeling, including demographic, lifestyle, chronic condition and physical function variables. We developed three models with Binary Mixed Model Forest, using: 1) all 46 predictors, 2) an automated variable selection algorithm, and 3) the top five most important predictors. Area under the receiver operating curve ranged from 0.78 to 0.84 for the models for two validation datasets (with and without previous annual visit data for participants). Across the three models, the most important predictors of mobility limitation were ease of getting up from chair, gait speed, self-reported health status, body mass index and depression. Longitudinal, machine learning models predicting mobility limitation had good performance for identifying at-risk older adults based on current and previous annual visit data. Future studies should evaluate the utility and efficiency of the prediction models as a tool in a clinical setting for identifying at-risk older adults who may benefit from interventions aimed to prevent mobility limitation.

PHYSICAL AND COGNITIVE CORRELATES OF GPS-DERIVED LIFE-SPACE CHARACTERISTICS IN OLDER ADULTS

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Life-space mobility, movement within one’s living environment, is important for functional independence in later life. It is unclear which life-space characteristics (i.e., space, duration, shape) are most affected by physical and cognitive limitations. GPS-derived measures mitigate recall bias and offer novel ways to characterize life-space. We examined associations between physical and cognitive performance and GPS-derived life-space characteristics. Participants were 164 community-dwelling adults (Age: M=77.3±6.5) from baseline data of a clinical trial to improve walking in older adults. Participants carried a portable GPS for 7 days, which passively collected real-time location. Standard deviational ellipses (SDEs) and minimum convex polygons (MCPs) were derived for each day. Area and compactness of these measures quantified activity space and shape, respectively. For each measure, 7-day medians and median absolute deviations (MAD) were computed to capture both central tendency and variability of weekly activity. Activity duration was quantified as percentage of time outside home. Adjusting for age and sex, percent time outside home was associated with lower mobility performance (i.e., 6-minute walk (6MWT), figure 8 walk, ρ’s=.17-.18, p’s<.05) and executive functioning (i.e., Trail Making Test, Part A: p=.16, p=.04, Part B: p=.19, p=.01). Median MCP and SDE areas, but not compactness, were associated with 6MWT performance (ρ’s=.18-.20, p’s<.05). MCP area MAD was associated with greater global cognition (3MSE, ρ=.15, p=.05). Life-space characteristics were differentially associated with performance measures, suggesting physical and cognitive limitations may constrain life-space mobility via different mechanisms. Variation in these associations by neighborhood walkability and active versus passive travel will also be examined.

Session 1100 (Symposium)

MOBILITY, PHYSICAL ACTIVITY, AND SOCIAL ENGAGEMENT OF COMMUNITY-LIVING OLDER ADULTS

Chair: Wenjun Li Discussant: Lien Quach

Mobility, physical activity and social engagement are important to healthy aging and independent living among older adults. This symposium includes four related studies on these issues. Dr. Lien Quach and her team examined racial and ethnic disparities in social engagement among community-living older adults using data from the national Health and Retirement Study. The analysis found that Asians and Hispanics had significantly lower social engagement score compared with non-Hispanic Whites, advocating for further investigations of the causes of racial disparities in social engagement. Dr. Su-l Hou’s study examined the impact of physical activity and social relationship on social engagement. The study found positive impacts of more physical activity, better social relationships and volunteers on social engagement. The results have important implications to promotion of social engagement among older adults participating in aging-in-community programs. Dr. Ladda Thiamwong’s study demonstrated the benefits of using assistive health technology (AHT) to assess the relationships between fall risks, body compositions and objectively measured physical activity in older adults. Dr. Thiamwong will discuss the research protocol and preliminary results. Dr. Li’s Health Aging and Neighborhood Study examined variations of older adults’ driving behaviors by sex, age, race, income, health status and housing density of the neighborhoods. The study found substantial differences in mobility and driving patterns by both personal characteristics and neighborhood living environment. The findings have important implications to community programs that support older adults aging in place.

DRIVING HABITS OF OLDER ADULTS IN MASSACHUSETTS: VARIATIONS BY SEX, AGE, RACE, INCOME, HOUSING DENSITY, AND HEALTH

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Maintaining ability to drive is critical to independent living among older adults residing in suburban and rural communities. We administered structured questionnaire about driving behaviors to 370 persons age 65 and older living in Central Massachusetts between 2018 and 2020. Of them, 307 were active drivers. Driving in the past year was strongly associated with being male, White race, higher income, non-urban resident, and good-to-excellent health. Advancing age was associated with lower frequency of driving, less miles driven, lower percentage of the day spent in transportation. Men and women drove with nearly equal frequency (~26 days/month), but men drove significantly more miles. Non-White drivers were significantly more likely to avoid driving out of town or in difficult conditions, even after controlling for age,
sex, income, and density of residential area. In conclusion, driving behaviors differed significantly by age, sex, income, race, and housing density. Further investigation is warranted.

RACE, ETHNICITY, AND SOCIAL ENGAGEMENT AMONG COMMUNITY-DWELLING OLDER ADULTS: THE HEALTH AND RETIREMENT STUDY
Lien Quach, University of Massachusetts Boston, Newton, Massachusetts, United States

Social engagement is crucial for older adults. This study examines the relationship between race, ethnicity, and social engagement among community-dwelling older adults using data came from the Health and Retirement Study (2014) (n=6221). Results has implications on promoting social engagement among community-dwelling older adults. Members from two Florida aging-in-village programs participated. Three five-Likert scales were used: A 5-item FITNESS (weight, endurance, strength, flexibility, health), 4-item FRIEND (family, friends, neighbors, communication), and a 3-item social engagement scales (social-leisure activities, stay involved, healthy independent) (Cronbach alphas: .82-.92). Among the 96 participants, 79% were females, 91% were whites, 56% were married, and other races had a lower SE score compared with NHW (b=-0.29, p<.0001; b=-0.27, p=.04). Understanding racial and ethnic disparities in SE can help target appropriate social intervention.

PHYSICAL ACTIVITY AND SOCIAL RELATIONSHIPS ON SOCIAL ENGAGEMENT AMONG COMMUNITY-DWELLING OLDER ADULTS
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This study examined physical activity (FITNESS) and social relationships (FRIENDS) on social engagement among community older adults. Members from two Florida aging-in-village programs participated. Three five-Likert scales were used: A 5-item FITNESS (weight, endurance, strength, flexibility, health), 4-item FRIEND (family, friends, neighbors, communication), and a 3-item social engagement scales (social-leisure activities, stay involved, healthy independent) (Cronbach alphas: .82-.92). Among the 96 participants, 79% were females, 91% were whites, 56% were married, 86% had college education, and 46% living alone. Mean age was 70.7 (SD=10.10). Participants reported at least 30-min. physical activity about 4.2 days per week. Overall social engagement was high (mean=3.46), and FRINED was high (mean=4.19). FITNESS engagement was high (mean=4.38), FITNESS was median (mean=3.46), and FRINED was high (mean=4.19). FITNESS was significant to more 30-min. physical activity. Yet, higher physical activity led to social engagement. Results has implications on promoting social engagement among older adults participating in aging-in-community programs.

USING ASSISTIVE HEALTH TECHNOLOGY TO ASSESS FALL RISK APPRAISAL, BODY COMPOSITION, AND PHYSICAL ACTIVITY
Ladda Thiamwong, Joon-Hyuk Park, Renoa Choudhury, Oscar Garcia, Maxine Furtado, Nicole Stallworth, and Jeffrey Stout. 1. College of Nursing, University of Central Florida, Orlando, Florida, United States, 2. University of Central Florida, Orlando, Florida, United States

One-third of older adults have a discrepancy between perceived and physiological fall risks or maladaptive fall risk appraisal (FRA). Older adults who report high fear of falling and overestimate their physiological fall risk are less likely to participate in physical activity (PA). Limited data suggest the interrelation between fall risk appraisal, body composition, and objective measured PA. This cross-sectional study examines the feasibility of recruitment and acceptability of Assistive Health Technology (AHT), including the BTrackS Balance System (BBS), Bioelectrical Impedance Analysis (InBody s10), and ActiGraph GT9X Link wireless activity monitor. This study demonstrates the benefits of using AHT to study the associations among FRA, body composition, and PA in older adults. We hypothesize that rational FRA is associated with higher levels of PA and skeletal muscle mass and lower levels of percent of body fat and body mass index. Topics presentation included research protocol and preliminary results.

Session 1105 (Symposium)

NEW ISSUES IN LIFE COURSE RESEARCH: WHICH EARLY-LIFE FACTORS MATTER FOR LATE-LIFE OUTCOMES?
Chair: Jacqui Smith Discussant: Katrina Walsemann
The increased availability of retrospective information about the lives of participants in population panel studies has expanded the range of precursors to include in life course research. However, this also challenges researchers to select among many potential precursors to a late-life outcome and to determine the relative role of factors from different periods in the life course. Each paper in this symposium uses life course information from the Health and Retirement Study (HRS) to examine different late-life outcomes. Speakers will discuss what guided the particular selection of factors and outcome to examine in their study. Sonnega, Helppie-McFall, and Lee focus on indicators of childhood financial and social adversity as potential predictors of early retirement due to poor health. Park, Larkina, and Smith ask if decisions taken in early adulthood about how to balance work-and-family-life by individuals and their partners are related to the categories of important life accomplishments older adults report in their life review. Two papers examine precursors of late-life health outcomes. Williams-Farrelly and Smith identified different profiles of physical activity in early- and mid-adulthood. They discuss associations between these profiles and cognitive aging. Whereas social losses, relocation, and multimorbidity are well-documented predictors of Major Depression in old age, Bergmans and Smith asked if poor health in childhood played a distal role. The session concludes with an integrative discussion of issues by Walsemann.

LIFE COURSE ADVERSITY AND EARLY RETIREMENT DUE TO POOR HEALTH
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GSA 2021 Annual Scientific Meeting