life course as a mechanism generating growing intracohort inequality with age. However, adult health reflects the accumulation of exposures to advantages and disadvantages across the individual life course as well as the transmission of resources and practices across generations within one's family of origin, which forms the foundation from which children are launched and inequality is reproduced. In analyses using two panel studies (PSID and Add Health), we integrate literature on the early-life origins of health with the concept of linked lives and the intergenerational transmission of resources to examine the relationship between parents' health and the health of their children in adulthood. Results indicate an intergenerational persistence in health and demonstrate the importance of looking beyond the individual life course to better understand cumulative dis/advantage in health as a process operating across generations within families.

SESSION 2210 (SYMPOSIUM)

CURRENT EFFORTS TO UNDERSTAND AND IMPROVE OLDER ADULTS' FUNCTIONAL RECOVERY AFTER HIP FRACTURE

Chair: Richard H. Fortinsky, University of Connecticut School of Medicine, Farmington, Connecticut, United States
Discussant: Nancy Latham, Brigham and Women's Hospital, Boston, Massachusetts, United States

The annual number of hip fractures in the US is projected to increase from 258,000 in 2010 to 458,000 by 2050. Globally, annual hip fractures are projected to reach 4.5 million by 2050. Yet the majority of older adults experience long-term mobility disability following hip fracture and do not return to pre-fracture functional capacity. Published reviews have concluded there is insufficient evidence regarding effectiveness of interventions designed to reduce residual disability and enhance mobility post-hip fracture. This Symposium features current efforts to understand and improve functional recovery post-hip fracture. Dr. Magaziner will present results from the recently-completed Community Ambulation Project (CAP), a multi-site randomized trial in which two in-home physical therapy interventions were compared: PUSH, which included aerobic conditioning, strengthening, balance and functional training; and PULSE, which included transcutaneous electrical nerve stimulation, flexibility and active range of motion exercises. Dr. Fortinsky will present CAP data examining the role of psychological resilience, optimism, depression, and balance confidence on mobility measures. Dr. Gruber-Baldini will present CAP data examining differences between PUSH and PULSE on study participants' cognition and the impact of cognition on community ambulation. Dr. Binder will present the study design and early results from the STEP-HI study, a multi-site randomized trial evaluating whether structured exercise and topical testosterone therapy can improve function post-hip fracture among older women. Discussant Dr. Latham will comment on design, results, and implications of these two studies for research, policy, and practice intended to improve older adults' recovery after hip fracture.

A MULTI-COMPONENT HOME-BASED PHYSICAL THERAPY INTERVENTION FOR IMPROVING COMMUNITY AMBULATION AFTER HIP FRACTURE

Jay S. Magaziner1, 1. University of Maryland Baltimore School of Medicine, Baltimore, Maryland, United States

Presented is a two-group RCT evaluating a multi-component exercise program for hip fracture patients to determine if it is effective in improving the ability to walk independently in the community. Hip fracture patients age 60 years (N=210) were assessed and randomized within 26 weeks of hospitalization, and reassessed 16 and 40 weeks later. The primary outcome was ability to walk 300m in six minutes. PUSH (active treatment) included aerobic conditioning, strengthening, balance and functional training. PULSE (attention control) included transcutaneous electrical nerve stimulation, flexibility and active range of motion exercises. Both groups received 2-3 visits per week for 16 weeks in their residences from a physical therapist. 22/96 in PUSH (22.9%) and 18/101 in PULSE (17.8%) (difference 5.1%; 95% CI: -1.1%, 16.3%; P=.37) became community ambulators. We conclude that advancing substantial proportions of hip fracture patients to community ambulation will require more than the intervention evaluated in this study.

PSYCHOLOGICAL FACTORS ASSOCIATED WITH AMBULATION PERFORMANCE AFTER HIP FRACTURE AMONG HOME-DWELLING OLDER ADULTS

Richard H. Fortinsky1, 1. University of Connecticut School of Medicine, Farmington, Connecticut, United States

Many older adults fail to resume optimal community living after hip fracture due to sustained limitations in ambulation capacity, yet reasons remain poorly understood. Roles of psychological factors in affecting ambulation performance post-hip fracture remain particularly understudied; depression has been associated with poorer self-reported functional status, and little is known about self-perceived balance confidence, resilience, and optimism. This presentation reports associations between each psychological factor, measured at CAP baseline, and gait speed and walking endurance, measured at baseline and 16 weeks later. In the CAP cohort (N=210), baseline mean/sd 4-meter gait speed (gs), 50-foot walk gs, and 6-minute walk distance were: 0.60/0.19 meters per second (mps); 0.67/0.20 mps; and 186.9/55.4 meters, respectively. In multivariate models, balance confidence was positively associated with all baseline ambulation measures (p<0.001 in all models), and resilience was positively associated with all 16-week follow-up ambulation measures (p>0.05 in all models). Implications of results will be discussed.

IMPACT OF THE MULTI-COMPONENT HOME-BASED PHYSICAL THERAPY INTERVENTION ON COGNITIVE OUTCOMES IN THE CAP TRIAL

Ann Gruber-Baldini1, 1. University of Maryland Baltimore School of Medicine, Baltimore, Maryland, United States

Cognitive impairment after hip fracture influences recovery and some RCTs suggest aerobic and resistance exercise may improve cognition. This presentation examines differences in PUSH versus PULSE on cognition and the impact of cognition on community ambulation. In CAP, the
Modified Mini-Mental State Examination (3MS) was pre-specified for subgroup (3MS<91 versus 3MS≥91) evaluation and as a tertiary outcome. The CAP Mechanistic Pathways ancillary study (subgroup n=40) included Hooper Visual Organization Test and Trails A&B as additional outcomes. At baseline, PUSH did not differ from PULSE on cognitive measures. Over 16 weeks, PUSH became faster on Trails A (Δ=6.7(29.9)) while PULSE became slower (Δ=-4.2(24.2)) (p<.05). Those with higher baseline cognition were more likely to become community ambulators (28.3% 3MS<91 versus 8.8% 3MS≥91), but PUSH versus PULSE effects didn’t differ by 3MS (no effect modification). Results suggest potential differences in recovery by cognition, but no treatment effect differences by level of cognition.

STARTING A TESTOSTERONE AND EXERCISE PROGRAM AFTER HIP INJURY (STEP-HI) TRIAL: RATIONALE, METHODS, AND FIDELITY
Ellen Binder1, 1. Washington University School of Medicine, St. Louis, Missouri, United States

The STEP-HI study is an ongoing multi-center, randomized, controlled, double-blinded clinical trial that is evaluating whether six months of topical testosterone therapy combined with a supervised center-based exercise-training program can improve mobility, functional performance, and quality of life after hip fracture, compared to exercise training alone or Enhanced Usual Care. Female hip fracture patients ≥ 65 yrs. old who are living in the community or assisted living are being randomized within 16 weeks of surgical repair for the fracture, and re-evaluated 24 weeks later. Three hundred patients will be recruited from six clinical centers in the USA. This presentation discusses the rationale and study design, including innovative methods for fidelity monitoring of exercise procedures across the clinical sites. Strategies for recruitment and related challenges will be discussed. Preliminary enrollment and fidelity data will be presented.

SESSION 2215 (PAPER)

DEMENTIA AND COGNITIVE IMPAIRMENT

BRAIN FUNCTIONAL CONNECTIVITY IN OLDER ADULTS WITH MCI: DO FALLS MATTER?
Anna R. Egbert,1 Chun Liang Hsu,1 Rachel Crockett,1 and Teresa Liu-Ambrose1, 1. University of British Columbia, Vancouver, British Columbia, Canada

Older adults with mild cognitive impairment (MCI) are at an elevated risk of falls. We conducted a pilot longitudinal observational study to examine the natural course of brain intrinsic functional connectivity (FC) and cognitive function changes in association to falling history in older adults with MCI. 15 MCI participants (mean age 75.9, range 67-86) included 10 non-fallers and 5 fallers (minimum two falls in the previous 12 months with one in the last 6 months) from Metro Vancouver, BC, Canada. At study entry and 1-year follow-up, participants completed brain scanning session of structural MRI and resting state (RS) functional MRI, the Montreal Cognitive Assessment (MoCA), and the Mini Mental State Examination (MMSE). Results indicated an interaction between time (baseline vs. follow-up) and falls history on RS-FC in individuals with MCI (p<0.001). At 1-year follow-up, MCI non-fallers showed increased FC between frontal, parietal and occipital cortex (from baseline R=0.141 to follow-up R=0.321) and lack of decline on cognitive measures. Meanwhile, MCI fallers showed weakening of FC between those brain regions (from baseline R=0.314 to follow-up R=0.201) with simultaneous cognitive deterioration. Significant relationships between FC strength and cognitive status existed only at follow-up (R=0.525, p<0.05), suggesting that the triggered functional compensatory brain mechanisms in MCI non-fallers are not successfully executed in MCI fallers. Together, our pilot data suggest that older adults with MCI who fall show more advanced brain functional degradation with adjacent cognitive decline as compared to MCI individuals who do not fall.

EVENT-SPECIFIC EMOTIONAL EXPRESSION OF PERSONS WITH DEMENTIA IN LONG-TERM CARE: PRELIMINARY RESULTS
Kyung Hee Lee,1 Ji Yeon Lee,2 Bora Kim,1 and Marie Boltz3, 1. Yonsei University College of Nursing, Seoul, Korea, Republic of, 2. Yonsei University, Seoul, Korea, Republic of, 3. Pennsylvania State University, University Park, Pennsylvania, United States

Although dementia-related language, comprehension, and memory deficits occur fairly early stage in dementia, persons with dementia retain the ability to express their emotion even in the late stage of disease. However, health care providers do not know how to interpret emotional expressions that could be utilized as important signals of underlying needs and care preferences in persons with dementia. The purpose of this study was to explore the event-specific emotional expressions of persons with dementia in long-term care over a 6-month period. This was a longitudinal study using repeated observations. Emotional expressions were videotaped when three specific events (personal care, meal time, and activity) occurred at baseline, month 3 and month 6. A total of nine observations was made for each participant. We enrolled 13 participants so far; ten participants were completed 6 month follow up. The mean score of MMSE at baseline was 4.38; that of ADL was 16.62. On average, persons with dementia showed 9.93 episodes of positive emotional expression (PEE) per minute and 1.81 episodes of negative emotional expression (NEE) per minute. We found between person variations for both PEE and NEE. PEE and NEE were different by three types of events. Specifically, persons with dementia showed more PEE with activity than personal care and meal time and more NEE with personal care than the other two events. This study will provide better understanding of event-specific emotional expressions, and inform the development of emotion-oriented interventions programs to improve the psychological well-being of persons with dementia.

SATISFACTION WITH OUTDOOR ACTIVITIES AMONG LONG-TERM SERVICES AND SUPPORTS RECIPIENTS
Justine S. Sefcik,1 Karen Hirschman,2 Darina V. Petrovsky,2 Nancy Hodgson,2 and Mary Naylor2, 1. University of Pennsylvania School of Nursing, Philadelphia, Pennsylvania, United States, 2. University of Pennsylvania, Philadelphia, Pennsylvania, United States