and fall circumstances were recorded using monthly calendar postcards and fall follow-up interviews during a 4-year follow-up. Descriptive analyses summarized frequencies of fall circumstances. Generalized estimating equation (GEE) models examined the relation between monthly pain ratings and circumstances of the first fall in the subsequent month. Among 1,829 falls, 965 (52.8%) falls occurred indoors and 804 (44.0%) falls occurred outdoors, 60 (3.2%) falls with missing location information. Commonly reported activities and causes of falls were walking (915, 50.0%), slips/trips (943, 51.6%), and inappropriate footwear (444, 24.3%). GEE models suggested that compared to fallers without pain, fallers with moderate-to-severe pain had around twice the likelihood of reporting indoor falls (adj. OR=1.93, 95%CI:1.32-2.83), falls in living/dining rooms (adj. OR=2.06, 95%CI:1.27-3.36), and falls due to health problems (adj. OR=2.08, 95%CI:1.16-3.74) or feeling dizzy/faint (adj. OR=2.10, 95%CI:1.08-4.11), but they were less likely to report falls while going down stairs (adj. OR=0.48, 95%CI:0.27-0.87) or falls due to slips/trips (adj. OR=0.67, 95%CI:0.47-0.95) in the subsequent month. Future studies may investigate whether better pain management and tailored fall prevention in elders with chronic pain could lead to fewer falls.

**DOES PERTURBATION-BASED BALANCE TRAINING ON COMMERCIAL TREADMILLS IMPROVE BALANCE RECOVERY IN OLDER ADULTS?**

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**Background:** Perturbation-based training (PBT) is a balance training method that causes a trip-like event requiring a rapid step response to regain balance. There are numerous examples in the literature demonstrating the effectiveness of PBT but the need to use an expensive treadmill in a scientific laboratory limits the general applicability of PBT as a community-based intervention. A possible solution is to rapidly stop the treadmill belt during walking using the e-brake as the perturbation event. Importantly this could be performed on a commercially available, lower cost treadmill. Therefore, the purpose of this study was to evaluate the effectiveness of a commercial treadmill during PBT.

**Methods:** Seventeen participants completed either 9 weeks of PBT or conventional balance training based on ACSM guidelines. During an initial and final testing session participants balance recovery performance was evaluated. Participants were released from a forward static lean angle and asked to recover with a single step, during this test their movement was recorded and subsequently used to determine the Margin or Stability pre- and post-training. Participants were tracked for 6 months following the intervention and falls were recorded on a weekly basis. Results and Summary: There was no difference in balance recovery performance between groups following the training intervention and there was no difference in fall rate between groups in the 6-month follow-up period. We conclude that overall using the e-brake of a commercial treadmill is ineffective as a PBT strategy as it elicits no greater benefit than conventional exercise training.

**PREVENTING FALLS WITH PERTURBATION-BASED BALANCE TRAINING: HOW LARGE ARE THE HIP JOINT CONTACT LOADS, AND ARE THEY SAFE?**

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Perturbation-based training (PBT) is a balance training method presenting a high-challenge to balance which is extremely effective when compared to conventional training approaches. Common PBT methods use rapid treadmill belt translations with varying numbers of perturbations (20-1400 perturbations over 1-8wks). Importantly, the joint loads experienced during a stumble may be high enough to feasibly fracture bone (up to 12.7 BodyWeights). However, the contact loads experienced during PBT are unknown. Because of increasing the prevalence of PBT it is necessary to specifically evaluate the range of joint loads experienced during PBT. Twelve participants completed a single PBT session of 24 perturbations. During both training and testing, participants movements were measured using a motion capture system which tracks body movements and records the forces under the feet. Hip joint contact loads were determined using Computational Musculoskeletal Modelling utilizing open-source software OpenSim. These techniques estimate the magnitude and pattern of force development of individual muscles and subsequently estimate the internal loads experienced by the hip joint. Hip joint contact loads were $4.90 \pm 1.27$ BW which is substantially lower than those previously reported by Graham et al. (2016) and Bergman et al. (2004) and is lower than the 5.5BW spontaneous fracture load boundary estimated by Schileo et al. (2014). Comparing the initial perturbation to the final perturbation revealed a 22% reduction in contact loads. We conclude that PBT performed using rapid translations on a treadmill are likely safe but suggest caution for individuals with poor bone mineral density or reduced neuromuscular function.

**PREVIOUS FALLS AND FEAR OF FALLING ON FUNCTIONAL LIMITATIONS: A LONGITUDINAL STUDY**

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Previous falls and fear of falling (FoF) are risk factors that affect older adults’ daily activities. However, it remains unclear about their combined effects on functional limitations. Using Round 1 (R1) and Round 2 (R2) data from the National Health and Aging Trends Study, we examined whether falls and FoF in R1 independently and jointly predict functional limitations in R2 and the moderating role of demographic factors in this relationship among community-dwelling older adults aged 65 years and older. Previous falls and FoF were ascertained by asking participants whether they had fallen down in the last year and worried about falling in the last month. Functional limitations included any difficulties with mobility, self-care, or household activities. Poisson
regression models were used to analyze data. Of 5,956 participants, 16.4% had falls only, 14.3% had FoF only, 14.5% had both, and 54.8% had neither. In the full adjusted model, those who experienced concurrent falls and FoF had a higher risk of functional limitations than those without falls and FoF (Mobility: Incidence risk ratio, IRR=1.44, 95% CI: 1.33-1.57; Self-care: IRR=1.29, 95% CI: 1.20-1.38; Household tasks: IRR=1.32, 95% CI: 1.21-1.44), as well as those with falls only (Mobility: IRR=1.32, 95% CI: 1.21-1.44; Self-care: IRR=1.26, 95% CI: 1.17-1.35; Household tasks: IRR=1.18, 95% CI: 1.08-1.29) and FoF only (Mobility: IRR=1.38, 95% CI: 1.27-1.51; Self-care: IRR=1.26, 95% CI: 1.17-1.35; Household tasks: IRR=1.31, 95% CI: 1.20-1.43). The findings suggest that strategies to improve falls and FoF together could potentially help prevent functional limitations.

THE VALUE OF BALANCE CONFIDENCE IN OLDER ADULT FALL RISK ASSESSMENT

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Fall risk assessment traditionally focuses on objective physical performance. Balance confidence, a subjective measure of physical function, may provide important information to better predict fall risk and guide assessment and intervention strategies. This study examines the associations of balance confidence congruency with physical performance measures and fall occurrence. One-hundred-fifty-five community-dwelling adults aged 60 and over completed a comprehensive fall risk assessment including physical performance tests (timed up and go, 4-stage balance, 30-second chair stand, and 4-M gait speed), activities-specific balance confidence (ABC) scale, and self-reported falls in the past year. Four groups were created based on congruency between balance confidence (low vs. high) and each physical performance measure or overall fall risk category (at fall risk vs. not at fall risk, based on the STEADI tool kit). Poisson regression analyses, adjusted for age and gender, tested the association between group membership and number of falls in the past year. Participants with high balance confidence and at fall risk based on 4-stage balance performance (Estimate=0.88, p < 0.001), or high balance confidence and at fall risk following the STEADI screening algorithm (Estimate=0.69, p = 0.003) were at increased risk of more falls compared to participants in the group with high balance confidence and not at fall risk. These results suggest that older adults who overestimate their balance relative to their physical performance may be at increased fall risk, and that participant subjective reporting of physical performance should be paired with objective physical performance measures to better identify older adults at fall risk.

SESSION 1290 (SYMPOSIUM)

GENERATIONAL TRANSMISSION OF SOCIAL RELATIONS: FINDINGS FROM MULTIPLE US LONGITUDINAL STUDIES

Chair: Rita Hu Co-Chair: Toni Antonucci Discussant: Shevaun Neupert

This symposium provides diverse findings documenting the long reach of social relations over generations. Ali and Rohner examine data from 41 adult offspring showing that recalled perception of rejection of parents during childhood are associated with fewer positive caregiving behaviors and social interactions with their now aging parents. Using three waves of longitudinal data over 23 years, Manalel, Cleary & Antonucci examine changes in composition, proximity, and contact frequency in social relations among 193 participants who were 8-12 years old at wave 1 (1992). Findings indicate increased diversity from wave 1 to 2 and increased stability from Wave 2 to 3, reflecting normative life transitions. Gender and race differences were also evident. Suito, Gilligan, Frase & Stepniak examine 725 adult (aged 30-60) children's experience of their mother's advice concerning experienced depression and whether these differ by race, age, and gender. While there were no age differences, men, regardless of race and black daughters receiving advice had higher levels of depression but this had little effect white daughters. Finally, Hu and Antonucci use the Social Relations Study to examine the longitudinal association between social ties and self-esteem. They examined 553 people who were 13-77 at Wave 1 in 1992. Findings indicate that network closeness matters with increases in weak and close, but not closest network size related to increase in self-esteem 23 years later. In sum, this symposium offers multiple and diverse perspectives of generations in social relations and their association with well-being over the life span.

THE LONGITUDINAL ASSOCIATIONS BETWEEN SOCIAL NETWORK STRUCTURE AND SELF-ESTEEM

Rita Hu, and Toni Antonucci, University of Michigan, Ann Arbor, Michigan, United States

Based on the convoy model of social relations, the current study used Latent Growth Curve Modeling to examine the associations between overall network, closest, close and weak social tie trajectories across the lifespan and self-esteem later in life. Participants (N = 553) aged 13 to 77 in Wave 1 (1992) were surveyed again in 2005 (Wave 2) and 2015 (Wave 3). The overall network size increased significantly across the lifespan (β = 0.56, SE = 0.01, p < 0.001). The closet tie size trajectories were not significantly associated with self-esteem 23 years later. The growth of the close tie size was not significantly associated with self-esteem later. Weak-tie size growth was also significantly associated with higher self-esteem later (β = 0.14, SE = 0.00, p < 0.05). The findings highlight social network's effects on self-esteem across the lifespan, as well as the critical role weak social ties play in development.

AS YOU SOW, SO SHALL YOU REAP: ADULTS' MEMORIES' EFFECT OF PARENTAL ACCEPTANCE REJECTION IN CHILDHOOD ON AGING PARENTS

Sumbleen Ali, and Ronald Rohner, University of Connecticut, Storrs, Connecticut, United States

Little is known how adults’ memories of parental acceptance-rejection in childhood influence their behavior toward their aging parents. Grounded in interpersonal acceptance-rejection theory (IPARTheory), this study attempts to better understand how early parent-child relationships affect adult offspring who provide care to their parents in later life. Data were collected from 41