their non-dominant wrist for 7 days in a free-living environment. Activity counts were estimated both with and without the LFE filter. Paired samples t-tests revealed that the LFE estimated significantly higher number of counts than non-LFE calculated counts per minute on all three axes (p < .001). Step count estimates were higher with \( M = 20,780.09, SD = 5300.85 \) vs. without \( M = 10,896.54, SD = 3489.45 \) the LFE filter, \( t(20) = -22.21, p < .001 \). These differences have implications for calculations based on axis counts (e.g., Axis-1 calculated steps, intensity level classifications) that rely on waist-worn standards. For example, even without the filter, the GT9X calculated an average of 10,897 steps, which is likely an overestimate in this population. This suggests that axes-based variables should be interpreted with caution when generated with wrist-worn data, and future studies should aim to develop separate wrist and waist-worn standard estimates of these variables in older adult populations.

**INCREASING PHYSICAL ACTIVITY POST-KIDNEY TRANSPLANT: A PILOT RANDOMIZED CONTROLLED TRIAL**

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Older kidney transplant recipients are at risk for graft failure and death due to lack of physical activity. Physical activity after transplant is the most modifiable non-pharmacological factor for improving physical function. One personal system intervention called, SystemCHANGE™ in combination with activity trackers, holds promise for increasing physical activity among this population. The purpose of this pilot randomized controlled trial was to evaluate the efficacy of SystemCHANGE™ on increasing average daily steps in older (age 60 and over) kidney transplant recipients from baseline to 6 months. The intervention group met monthly to implement a successful personal system solution based on their daily routines and step-data collected from the activity tracker. The control group received monthly educational information on healthy living with a transplant. Participants were randomized 1:1 to the intervention or control group. The sample consisted of 31 participants (n = 15 intervention, and n = 16 control). No significant differences were found at baseline among the groups for demographics, self-efficacy and health outcomes (blood pressure, weight, waist circumference, 6 minute Walk Test). However, the intervention group had greater increase in the average daily steps from baseline to 6 months (mean ± SD: 1511 ± 2320) as compared to the control group (181 ± 2419). The between-group difference was of medium effect size (\( d = .56 \)). The data suggests SystemCHANGE™ in combination with activity trackers may be feasible for older kidney transplant recipients to enhance daily steps.

**INDEX OF RELATIVE RURALITY AS A PREDICTOR OF PHYSICAL ACTIVITY CORRELATES FOR OLDER ADULTS**

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According to the ecological model, physical activity (PA) results from interactions between personal (e.g., intentions), social (e.g., autonomy support), and environmental factors (e.g., walkability, rurality). However, past research has commonly used dichotomous measures of rurality (i.e., rural versus urban), which has limited our understanding of the relationship between rurality and other PA correlates. Therefore, the purpose of this study was to investigate the associations between rurality and known correlates of PA among older adults. Ninety-one older adults aged ≥ 60 years, without severe cognitive impairment, completed a questionnaire assessing PA intentions (\( \alpha = .89 \)), autonomy support for PA (\( \alpha = .91 \)), and walkability (\( \alpha = .76 \)). The Index of Relative Rurality, a continuous, multidimensional measure of rurality, was used to evaluate the degree of rurality based on residential zip-code. Regression analyses revealed that the rurality-autonomy support association followed an inverted-U shape function (\( p = .01 \)), whereas rurality was negatively associated with walkability (\( p = .02 \)). Rurality was not associated with PA intentions; however, autonomy support was positively associated with PA intentions (\( p = .01 \)). The use of non-dichotomous measures of rurality appears essential in our understanding of its association with other PA correlates. Failure to use such measures may result in incomplete portrayals of relationships.

**EFFECTS OF A SITTING REDUCTION INTERVENTION FOR OBESE OLDER ADULTS WITH DEPRESSION**

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Background: Little is known about the impact of sedentary behavior (SB) reduction interventions on older adults with obesity and depressed mood. An exploratory analysis examined behavioral and mental health effects of a SB reduction among participants with depressed moods. Methods: Participants were obese older adults (n=30, mean age=66, 77% female, 23% male, mean PHQ-8-Score=13.67) that were randomized to receive a sitting reduction intervention (I-STAND; N=16) or a control condition (N=14) as part of a larger trial. Participants wore activPAL devices to assess sitting time at baseline and 12-weeks; they also completed the Patient-Health Questionnaire-8 (PHQ-8) to assess depressive symptoms. Linear regression models compared baseline and 12-week measures between groups adjusting for baseline values. A post-hoc qualitative analysis assessed I-STAND participant interview data. Results: I-STAND participants had greater reductions in sitting time than control participants by 57-minutes (\( p=0.04 \)), as well as greater reductions in percent sitting time by 5.89-percent (\( p=0.03 \)). Mean PHQ-8 scores were decreased by 0.14-points among the I-STAND group compared to the control (\( P=0.90 \)). Qualitative themes included physical and social barriers to standing; varying perceptions of the presence of depression; physical health improvements (i.e. mood improvement) and perceptions of physical activity (i.e. feasibility to exercise). Conclusion: We found significant associations between sitting reduction and a SB intervention among older adults with obesity and
depression, however this did not impact depressive symptoms. Further research should examine whether sitting reduction can improve mood or standing time among older adults with obesity and depressed mood.

THE RELATIONSHIP OF DAILY STEPS TO MOOD AND ENERGY: APPLICATION OF STEPMATE (MOBILE APP FOR TRACKING EXERCISE)

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Physical activity is one of the most promising and accessible strategies to promote healthy aging. Yet, the majority of middle-aged and older adults do not engage in the recommended amount of exercise despite awareness of its widespread benefits. Smartphone apps have the potential to be valuable tools in tracking and encouraging physical activity; however, few apps incorporate successful behavior change strategies. Drawing from interviews with older adults, we created a new smartphone app to encourage and track daily walking, StepMATE (Mobile app for Tracking Exercise). StepMATE uses behavior change strategies including action planning and social support to help users determine where, when, and with whom they will walk. The app records steps and also uses experience sampling to assess mood and energy levels twice a day. Adults ages 50 and over (N=58) participated in a one-month study where they used the app to set their own walking goals and track their daily walking. Using multilevel modeling, we found that on days in which adults take more steps than their average, they report higher mood and energy. We also found that on days in which participants achieve their step goal, they report higher mood and energy than on days when they do not achieve their goal. Discussion will center on motivational approaches to behavior change among sedentary older adults.

RELATIONSHIP OF AGING EXPECTATIONS, GOAL CONGRUENCE, AND ACTIVITY TO MUSCLE FUNCTION IN OLDER ADULTS

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Poor muscle function is a major source of disability among older adults and leads to negative health outcomes including falls and fractures, exacerbating healthcare cost. This study was undertaken to understand: a) the characteristics of muscle function; and b) the relationship of self-management process variables (expectations regarding aging, goal congruence, and self-efficacy for physical activity) and physical activity self-management behavior to muscle function in a sample of older adults (N = 65) 75-93 years of age living in Continuing Care Retirement Communities. Using a descriptive correlational design, muscle function was measured with the Short Physical Performance Battery (SPPB) test and physical activity level with ActiGraph GT3X. Questionnaires included Expectations Regarding Aging and goal congruence scales and Physical Activity Assessment Inventory to assess self-efficacy. Pain was assessed by the PROMIS Pain Intensity 3a. Most participants (77%) performed poorly on the SPPB test. Controlling for pain, expectations regarding aging, goal congruence, self-efficacy and physical activity explained 46% of the variance in SPPB score. The model demonstrated that self-efficacy and light-intensity physical activity significantly explained 24.6 % of the variance in SPPB score; suggesting that low self-efficacy and decreased levels of light-intensity physical activity were significant predictors of low SPPB score. The findings demonstrate the need for more research documenting the underlying processes and risk factors for reduced muscle function. The potential benefits of this approach provide a basis for designing interventions to improve muscle function and delay the transfer to more restrictive living environments.

INCIDENT DIFFICULTY IN INSTRUMENTAL ACTIVITIES OF DAILY LIVING: WHICH COMES FIRST?

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Background: Instrumental activities of daily living (IADLs) are necessary for successful independent living. Older adults may develop difficulty completing IADLs as they become physically and/or cognitively frail. The relative ordering in which IADLs deteriorate, and the importance of this ordering, is not well understood. Methods: Participants from the Advanced Cognitive Training for Independent and Vital Elderly (ACTIVE) study who reported no difficulty with IADLs at baseline were included. Individuals were followed up to 10 years for incidence of self-reported difficulty in 19 specific IADLs. The outcome of interest was time to any incident difficulty. We used Cox proportional hazards regression to estimate the hazard ratio (HR) of incident IADL difficulty for each IADL. Results: Of N=1,273 participants who contributed 6,144 person-years to the analysis, 887 developed difficulty with at least 1 IADL during the study period. The tasks in which participants reported difficulty earliest included giving self-injections (HR=5.69, [4.77, 6.79]), balancing checkbooks (HR=5.56, [4.32-7.16]), remembering often called numbers without having to look them up (HR=5.47, [4.55-6.59]), and household chores (HR=4.18, [3.43-5.11]). The last tasks to become difficult included keeping household expenses balanced (HR=0.07, [0.04-0.14]) and hanging up at the end of a phone call (HR=0.23, [0.09-0.56]). Conclusion: Independent older adults reported earlier difficulty with balancing checkbooks, remembering often called phone numbers, and doing household cleaning. Recognizing these early difficult tasks may facilitate early planning for family members and adoption of compensatory strategies.

ASSOCIATION OF RESTRICTED LIFE SPACE MOBILITY WITH COGNITIVE FUNCTION WITHIN OLDER BLACKS AND WHITES WITH DIABETES

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