

**Introduction:** The interpersonal circumplex model measures interpersonal dysfunction along two axes (community and agency), resulting in eight unhealthy patterns: Domineering, Vindictive, Cold, Socially Avoidant, Nonassertive, Exploitable, Overly Nurturant, and Intrusive. It is unclear how the circumplex model applies to older adults and their unique biopsychosocial contexts. This study examined relationships between the circumplex and personality disorder features, using the Alternative Model of Personality Disorder's (AMPD) personality functioning and pathological personality trait constructs. **Method:** Older adults (N = 202) completed the Inventory of Interpersonal Problems-Short Circumplex (IIP-SC), the Levels of Personality Functioning Scale-Self-Report (LPFS-SR), and the Personality Inventory for DSM-5 (PID-5) to measure pathological personality traits. **Results:** Correlations were computed between the IIP-SC's eight circumplex scales with the LPFS-SR's four personality functioning domains and with the PID-5's five domains. All circumplex scales significantly ( $p < .001$ ) and positively correlated with all LPFS-SR and PID-5 domains, with large effect sizes ( $> .45$ ). Next, regressions were conducted, with the LPFS-SR and PID-5 domains predicting each IIP-SC scale. Across the eight regressions, the AMPD constructs accounted for significant variance in the IIP-SC scales, ranging from 38% (Nonassertive) to 64% (Domineering and Cold). **Discussion:** Significant overlap between the interpersonal circumplex and the AMPD was demonstrated, but patterns are distinct from previous research among younger adults. The circumplex was limited in its relation to the AMPD's personality functioning, but the pathological personality trait model was well represented through the circumplex. Results indicate that the circumplex may have some validity among older adults and warrants further investigation.

## Session 9420 (Poster)

### Physical Activity and Exercise

#### ACTIGRAPHY MEASURED PHYSICAL ACTIVITY ON COGNITIVE FUNCTIONING IN OLDER ADULTS

Pilar Thangwaritorn, and Amber Watts, *University of Kansas, Lawrence, Kansas, United States*

Physical activity may preserve cognitive functioning in older adults. This study examined associations between objectively measured physical activity and cognitive functioning. We recruited participants (Mage = 75.38 years, SD = 5.99) with (N=26) and without (N=181) cognitive impairment from the University of Kansas Alzheimer's Disease Center (KU-ADC). We collected cognitive data representing verbal memory, attention, and executive function. Accelerometers (Actigraph GT9X) were used to measure physical activity 24 hours a day for 7 days in a free-living environment. Physical activity was categorized as moderate to vigorous physical activity (MVPA) based on the Freedson (2011) Adult Vector Magnitude cut points. The association between cognitive functioning and total MVPA was evaluated by using multiple regression. We used factor analysis to create three composite scores (verbal memory, attention, executive function) from 11 individual cognitive tests. Compared to verbal memory and attention, results indicate that total MVPA was

more strongly associated with executive function ( $\beta = 0.001$ ,  $p = .024$ ). These findings are consistent with the literature suggesting that executive function in older adults may benefit from physical activity. Future research should investigate the physiological mechanisms by which MVPA benefits executive function in contrast to types of activity that might benefit verbal memory and attention.

#### AGE AND GENDER DIFFERENCES IN LONG-TERM EXERCISE BEHAVIOR FOR OLDER ADULTS WITH HEART DISEASE

Helen Graham,<sup>1</sup> Yuki Asakura,<sup>2</sup> and Kathy Prue-Owens,<sup>1</sup> *1. University of Colorado Colorado Springs, Colorado Springs, Colorado, United States, 2. Centura Health Penrose - St. Francis, Colorado Springs, Colorado, United States*

Exercise decreases mortality and hospital admissions. Exercise adherence is challenging, and little is known about exercise adherence especially in older adults with heart disease. To gain an understanding of long-term exercise behaviors in older adults we conducted a cross-sectional study of individuals diagnosed between 2016-2020 with myocardial infarction (MI)/angina. Emails were sent in 2020 to recruit participants. Exercise adherence was measured using the Exercise Adherence Rating Scale (EARS), Godin's Leisure-Time Activity Scale (GLTEQ) for exercise intensity, and self-report for impact of COVID-19. Descriptive statistics and t-tests were used to analyze data. Eight-hundred and seven individuals ( $\bar{x}$  age 67.3) responded to the on-line survey. The majority were males (68.8%), married, (68.9%), and retired (59.3%). Co-morbidities included hypertension (32%), hyperlipidemia (21%), diabetes (12%), and depression (6.2%). Long-term exercise behaviors were independently observed in participants  $\geq 65$ yr (n=526) and  $< 65$ yr (n=281). Females  $\geq 65$ yo demonstrated higher exercise adherence scores compared with males  $\geq 65$ yo ( $1.66 \pm 1.1$  vs.  $1.30 \pm 21.7$ ;  $t = -2.59$ ,  $p=.010$ ). Conversely, males scored higher in exercise intensity ( $34.4 \pm 24.7$  vs.  $22.6 \pm 21.7$ ;  $t = 3.84$ ,  $p=.000$ ). Gender related exercise adherence and exercise intensity did not differ significantly in  $< 65$ yo ( $p=.278$  &  $p=.282$ , respectively). Exercise frequency decreased in both age groups after COVID-19 Pandemic started, however the decrease was significant only in older adults ( $p=.014$ ) indicating they were at greater risk for exercise problems when faced with environmental barriers. Additional research is recommended as to the impact of environmental factors on exercise adherence in older adults and potential interventions.

#### BIOMECHANISM AND EXERCISE EFFECT OF FITNESS WALKING USING TWIN WALKING STICKS

Ken Yamauchi,<sup>1</sup> Tsutomu Ichikawa,<sup>2</sup> Akira Ogita,<sup>3</sup> Hironori Yoshida,<sup>4</sup> Hiromichi Hasagawa,<sup>5</sup> Hiroshi Matsui,<sup>6</sup> and Shota Kagawa,<sup>7</sup> *1. Keio University, Yokohama, Kanagawa, Japan, 2. Department of Early Childhood Education and Care, Matsuyama, Ehime, Japan, 3. Osaka City University, Osaka, Osaka, Japan, 4. Liberal Arts Education Center, Ashikaga, Tochigi, Japan, 5. Fitness center, Nagakute, Aichi, Japan, 6. Kyoto Medical Center, Kyoto, Kyoto, Japan, 7. Makuhari Human Care, Chiba, Chiba, Japan*

In Japan, walking poles with pairs of sticks developed exclusively for fitness walking have been designed. A new

concept of walking style (WS) has been conceived using these walking sticks to “effectively” walk around the city, comprehensive sports parks, or at rehabilitation hospitals. Stick manufacturers are promoting its health benefits; however, evidence supporting these claims is lacking. Hence, this study aimed to measure the influence of walking sticks and evaluate the exercise effect based on functional physical fitness related to WS characteristics. The participants were 12 WS instructors. They engaged in WS at a comfortable speed after walking normally at the same speed (WN) for ~5 m (seven times), followed by WS again. The walking speed, step length, stride width, walk ratio, one-leg support time, and trajectory of the center of gravity (CG) (in the horizontal and vertical directions of one walking cycle) calculated from the whole-body skeleton model were analyzed. The gait of WS increased the step length, step width, and walking ratio as compared with that of WN ( $p < 0.05$ ). WS likely reduce cadence and one-leg support time ( $p < 0.05$ ). The CG locus in the left-right direction showed no significant differences between WS and WN. The maximum value of the CG locus in the vertical direction was high in WS ( $p < 0.05$ ). WS can be used as a navigation training tool that improves a walker's exercise efficiency and left-right leg coordination, thereby improving walking posture. This may help reduce the anxiety due to injuries and pain that may occur while walking.

#### CAREGIVERS' PERCEPTION ABOUT THEIR PARTICIPATION IN A COMMUNITY-BASED EXERCISE INTERVENTION - BODY & BRAIN PROJECT

Oscar Ribeiro,<sup>1</sup> Pedro Marques,<sup>2</sup> Duarte Barros,<sup>3</sup> Paula Silva,<sup>3</sup> Joana Carvalho,<sup>3</sup> and

Flávia Borges-Machado,<sup>3</sup> 1. *University of Aveiro, University of Aveiro, Aveiro, Portugal*, 2. *Department of Education and Psychology, University of Aveiro, University of Aveiro, Aveiro, Portugal*, 3. *Research Centre in Physical Activity, Health and Leisure (CIAFEL), Faculty of Sports, University of Porto, University of Porto, Porto, Portugal*

Evidence is scarce on caregivers' perception regarding their participation in exercise interventions targeting individuals with neurocognitive disorder (NCD). This study aims to investigate the views of family caregivers of people with NCD about taking part in a community-based physical exercise intervention with their care-recipients. Twenty caregivers (N Male: 13;  $66.5 \pm 14.39$  years old; age range: 36-88) answered to a semi-structured interview conducted by telephone about their perception on participating or not as class members of a 6-month multicomponent training intervention. Transcribed data from the interview were analyzed through thematic analysis. Main themes regard their perceived key-role in the care recipients' participation, which included knowing their limitations, making them feel accompanied and motivated, and the possibility of providing comfort and tranquility throughout the intervention. Caregivers also mentioned the possibility of fulfilling own needs for physical activity and being engaged in new experiences. Disturbing the care recipients' involvement and performance, the opportunity for respite during the sessions' time, and being enrolled in the program only in specific moments or by telephone were also mentioned. Findings highlight the inclusive perspective of caregivers to take part of exercise programs designed for people with NCD, not only due to

their decisive role on care-recipients engagement but also due to the associated (in-/)direct personal benefits. This data may be useful for planning and prescribing future community-based exercise interventions for NCD caregiving dyads. Trial registration: ClinicalTrials.gov - NCT04095962. Supported by FCT: “Body and Brain” (POCI-01-0145-FEDER-031808), CIAFEL (FCT/UIDB/00617/2020), and Ph.D. Grants (SFRH/BD/136635/2018) to FM (2020.05911.BD) to DB.

#### CREATION AND PILOT TESTING OF THE CONFIDENCE TO ENGAGE IN PHYSICAL THERAPY IN OLDER ADULTS (CEPT) MEASURE

Patricia Bamonti,<sup>1</sup> Rebekah Harris,<sup>2</sup> Jennifer Moye,<sup>1</sup> and Jonathan Bean,<sup>2</sup> 1. *VA Boston Healthcare System, Boston, Massachusetts, United States*, 2. *VA Boston Healthcare System, VA Boston Healthcare System, Massachusetts, United States*

The measurement of self-efficacy is important in physical therapy (PT) settings where patients face barriers and adoption of new behavior is critical for recovery. However, existing measures of exercise self-efficacy do not account for the internal (i.e., fatigue) and external (i.e., scheduling) barriers to self-efficacy observed in older adults. We developed a self-report measure assessing an individual's confidence to engage in PT despite barriers. Qualitative ratings from patients (N = 75; age M =  $78.26 \pm 11.2$ ; 80% white; 20% African American) enrolled in PT at a Veterans Affairs Medical Center (VAMC) and their physical therapist were used to create a 21-item pool for the Confidence to Engage in Physical Therapy in Older Adults (CEPT). We next evaluated item characteristics and scale reliability and validity of the CEPT in a new sample of patients (N = 19; age M =  $81.11 \pm 8.93$ ; 88.8% white, 11.1% African American) enrolled in an outpatient PT program who also received the Geriatric Depression Scale-15 (GDS-15), and the Activities-specific Balance (ABC) Scale. Response choice ranged from 0% (not confident at all) to 100% (highly confident) with higher scores indicating greater self-efficacy. Item analyses indicated adequate response variability across items (M =  $55.9 \pm 24.80$ , range 10-85). The scale demonstrated evidence of internal consistency reliability (Cronbach's alpha) = 0.98. Construct validity was demonstrated by positive association between CEPT and the ABC ( $r = .74$ ,  $p < .001$ ) and negative association with GDS-15 ( $r = -.64$ ,  $p < .01$ ). The CEPT requires further evaluation with larger sample sizes.

#### DOES A 6-MONTH MULTICOMPONENT TRAINING IMPROVE FUNCTIONAL CAPACITY OF INDIVIDUALS WITH A NEUROCOGNITIVE DISORDER?

Oscar Ribeiro,<sup>1</sup> Flávia Borges-Machado,<sup>2</sup> Duarte Barros,<sup>2</sup> Laetitia Teixeira,<sup>3</sup> and Joana Carvalho,<sup>2</sup> 1. *University of Aveiro, University of Aveiro, Aveiro, Portugal*, 2. *Research Centre in Physical Activity, Health and Leisure (CIAFEL), Faculty of Sports, University of Porto, University of Porto, Porto, Portugal*, 3. *ICBAS.UP, ICBAS.UP, Porto, Portugal*

Regular physical activity and exercise have been proposed as non-pharmacological therapeutic approaches to prevent and manage neurocognitive disorders (NCD). Multicomponent training (MT) combining aerobics, strength, postural and balance exercises seem to be effective at improving individuals with NCD in their ability to