DEVELOPMENT AND VALIDATION OF THE FAMILIAL AGEISM SCALE
Ruth Walker1, Emily Kinkade2, and Alexandra Zelin1, 1. The University of Tennessee at Chattanooga, Chattanooga, Tennessee, United States, 2. North Dakota State University, Fargo, North Dakota, United States

Researchers have found a tie between family relationships and the physical and mental health outcomes of older adults (Kelly et al., 2017; Silverstein & Giarrusso, 2010). Researchers have also established the negative impact of ageism on the physical and mental health of older adults (Chang et al., 2020; Lyons et al., 2018). However, studies studying the impact of ageism perpetuated by family members is relatively unexplored. This may be due to a lack of measures to assess ageism perpetuated by family members specifically. To address this gap, the goal of the current study was to design a tool to measure experiences with familial ageism. Scale items were created based on the review and analysis of qualitative data on this topic (Walker & Kinkade, in prep). Items were reviewed by scholars for content and clarity. Two studies were then conducted to develop and validate our measure to assess experiences with ageism within the family context. In the first study, 151 participants completed the familial ageism items. The factor structure, convergent and divergent validity of the items were examined. We found evidence of strong psychometric properties for five related, but unique, factors in the retained items: Benevolent Ageism, Technological Competency, Out of Touch, Aging Appearance, and General Competence. Construct, convergent, and divergent validity was supported with small to large correlations with scales measuring general ageism, depression, and ego integrity. A second study with 282 participants confirmed the five-factor structure. Implications and recommendations for scale utilization will be discussed.

CULTURAL VARIATION OF AGE DIFFERENCES IN DEVELOPMENTAL TRANSITIONS AND ATTITUDES
William Chopik1, Alejandro Carrillo1, and Hannah Giasson2, 1. Michigan State University, East Lansing, Michigan, United States, 2. Arizona State University, Tempe, Arizona, United States

The age-group dissociation effect posits that, as negative age stereotypes become more salient, older adults will psychologically distance themselves from their own age group. This phenomenon is also seen in various attitudes about development and older adulthood, such as how relatively old or young individuals feel and the point at which older adulthood starts. Previous research has shown that people push older adulthood further into the future with every year of life—placing it perpetually on the horizon. However, most research on age attitudes and age-group dissociation have been conducted within one culture, and variation across settings is rarely examined. A sample of 1,007,956 participants ranging in age from 10 to 89 (M = 27.45, SD = 12.45; 67.1% women) from 13 different countries completed attitudinal measures about aging and developmental transitions. Across all countries and attitudinal measures, we replicated the age-group dissociation effect (βs > .36). However, culture moderated many of the effects. For example, relative to the U.S., Chinese and Korean participants reported a younger age at which older adulthood started but showed a more dramatic age-group dissociation effect. In contrast, other countries reached an asymptote where older adults did not push the transition into the future as dramatically as middle-aged adults. Relative to the U.S. (and controlling for age), most countries showed a younger subjective age, and countries varied according to cultural values. The current project sheds light on how age-related attitudes and perceptual processes vary (and don’t) across cultural contexts.

AGEISM IN ARTIFICIAL INTELLIGENCE: A REVIEW
Charlene Chu1, Kathleen Leslie1, Shehroz Khan1, Rune Nyrup1, and Amanda Grenier1, 1. University of Toronto, Toronto, Ontario, Canada, 2. Athabasca University, Athabasca, Alberta, Canada, 3. KITE-Toronto Rehab, Toronto, Ontario, Canada, 4. University of Cambridge, Cambridge, England, United Kingdom

Background: Artificial intelligence (AI) has emerged as a major driver of technological development in the 21st century, yet little attention has been paid to algorithmic biases towards older adults. "Digital ageism" is a new form of ageism that is embedded into technology and AI systems. Aim: This review aimed to explore how age-related bias is encoded in AI systems to better understand digital ageism.

Methods: The scoping review follows a six-stage methodology framework developed by Arksey and O’Malley. The search strategy has been established in six databases and we will investigate grey literature databases, targeted websites, popular search engines. An iterative search strategy was used. Studies meet the inclusion criteria if they are in English, peer-reviewed, available electronically in full-text, and included the concepts ‘bias’ and old age. At least two reviewers independently conducted title/abstract screening and full-text screening.

Results: Our database searches resulted in 7,595 manuscripts that underwent title and abstract screening. Of these 49 papers, were included in the study. The word “ageism” was explicitly mentioned only in about half of these papers. Approximately half the papers mentioned how age-related bias could be encoded into AI systems. The most commonly used AI application was computer vision.

Conclusions: Our preliminary findings contribute foundational knowledge about the age-related biases that were encoded or amplified in AI systems. This work advances how AI can be developed in a manner consistent with ethical values and human rights legislation, particularly as it relates to an older and aging population.

SESSION 6641 (POSTER)

DISEASES, AGING, AND GEROSCIENCE

KNEE OA AS A SYSTEMIC MODEL OF AGING
Dennis Lox, Clearwater Fl, Clearwater, Florida, United States

Knee osteoarthritis (OA) and aging, may be viewed differently by various patients and health care providers. Aging is now considered as a systemic interplay of molecular,
cellular, tissue, hormonal, and body dysfunctions. Important drivers of these factors lead to osteoarthritis, coronary artery disease, cancer and dementia. An understanding of each as its progresses can alter morbidity. The proposed theories of aging hold true for knee OA. A simple joint compartment model, such as the knee, may help this understanding. A degenerative knee OA joint is a progressive disorder, just like aging. Knee OA may be accelerated by trauma, aging, decreased autophagy, cellular changes, cytokine production, disruption of the matrix, and cellular senescence. The associated SASP leads to the progressive cascade of degenerative changes. Understanding how to mitigate these affects provides a framework for a longer health span. Obesity, and its adipokines exacerbate the inflammation, and compound weigh bearing stress. Promotion of longevity pathways, stimulate repair via Sirt, AMPK, FOXO and decreased stimulation of MTor, and FOXO4- P53 coupling. The resulting changes can alter the nature of the accelerated nature of progressive knee OA. Joint conservation, unregulated IL-4, IL-10, IRAP, and down regulation of NF-kB, and the ensuing cascade of HMGB1, and DAMP. Hippocrates wrote walking is man’s best medicine, however, with knee OA this may need amendment, to encourage proper medical guidance for appropriate exercise and diet. It is time to merge knee OA and aging models to work in harmony for prolonged health span.

STABILIZING ROLE OF HCN CHANNELS ON POST-CAMP MECHANISMS OF DETRUSOR MYOCYTE CONTROL
Ramarakshmi Ramasamy1, Alya AlObaidi2, and Phillip Smith1, 1. UConn Health, Farmington, Connecticut, United States, 2. U Hart, Hartfort, Connecticut, United States

Aging is associated with an increased incidence of co-morbidities, including detrusor underactivity (DU). DU is defined as the failure to create sufficient and durable expulsive force to adequately empty the urinary bladder during a normal voiding timespans. DU is prevalent in older adults, as evidenced by its prevalence in nearly two-thirds of nursing home residents. Current treatments are mostly palliative or come with many side effects. β-adrenoceptor-mediated relaxation is the primary mechanism of detrusor relaxation, and Hyperpolarization-activated Cyclic Nucleotide-gated (HCN) channels have previously been identified by us and others as a very important mediator of this relaxation, however the role of HCN in detrusor relaxation has not been elucidated. Hence, we seek to characterize its role in adrenergic relaxation mechanisms and spontaneous myocyte activity. Male and female 10–12-month-old C57Bl/6 mice were used for this study. Pharmacomyography studies were performed to assess the effect of different drugs that act at various steps along the adrenergic relaxation pathway, +/- CsCl, an HCN blockade at [5mM]. As expected, we saw that increasing HCN opening probability by isoproterenol or forskolin (adenylyl cyclase/cAMP-agonist) or lamotrigine (HCN-activator) resulted in decreases in tonic tension, but were diminished in the presence of CsCl. Mechanisms modulated by H89 (PKA-inhibitor) and NS1619 (BK-channel-agonist) show no change in tonic tension, however spontaneous phasic activity significantly increases. These data support increased cAMP, not hyperpolarization, as the key inductor of HCN in adrenergic relaxation.

THE ROLE OF PLATELET ENERGY METABOLISM IN PAIN AFTER WALKING IN BLACK ADULTS WITH KNEE OSTEOARTHRITIS
Jennifer Klinedinst1, Weiliang Huang2, Maureen Kane3, Gary Fiskum4, Apruva Borcar5, Parisa Rangghran6, and Susan Dorsey7, 1. University of Maryland School of Nursing, Baltimore, Maryland, United States, 2. School of Pharmacy, Baltimore, Maryland, United States, 3. University of Maryland Baltimore, Baltimore, Maryland, United States, 4. University of Maryland School of Medicine, Baltimore, Maryland, United States, 5. University Of Maryland School of Nursing, Baltimore, Maryland, United States

Nearly 30% of adults aged 60 or older suffer from knee osteoarthritis (KOA) that causes significant pain and disability. Walking is considered a “gold standard” treatment option for reducing KOA pain and maintaining joint mobility. However, pragmatic trials have shown that walking increases pain for some and relieves pain for others. The mechanism by which walking is helpful for KOA pain is unclear. The purpose of this study was to gain a better understanding of the mechanisms underlying walking for knee pain. We conducted a pre-test/post-test study using quantitative sensory testing to measure pressure pain sensitivity at the knee and examined protein signatures and measured energy metabolism in platelets in six adults with KOA before and after six weeks of walking three days/week at 100 steps/minute. All participants identified as Black/African American, five were female, average age 57±5.8. Pressure pain sensitivity increased for three participants and decreased for three participants. Protein signatures among KOA participants indicated differences in immune and energy metabolism pathways. Proteins in the energy metabolism pathways were significantly downregulated after walking in participants whose pain decreased compared to participants whose pain decreased. Platelet energy metabolism was also lower among participants whose pain increased as compared to participants whose pain decreased. One goal of developing individualized interventions for KOA pain is to elucidate the mechanisms by which self-management interventions impact pain. The addition of therapies that target cellular energy metabolism may lower pain with walking among Black adults with KOA.

COMMON NONCARDIOVASCULAR MULTIMORBIDITY PATTERNS AND OUTCOMES IN OLDER ADULTS WITH MAJOR CARDIOVASCULAR DISEASE
Stephanie Denise Sison1, Joshua K Lin2, Mehdi Najafzadeh3, Elisabetta Patornino4, Lily G Bessette4, Heidi Zakou1, and Dae Kim1, 1. Beth Israel Deaconess Medical Center, Brookline, Massachusetts, United States, 2. Brigham and Women’s Hospital, Boston, Massachusetts, United States, 3. Brigham and Women’s Hospital, Harvard Medical School, Boston, Massachusetts, United States, 4. Department of Medicine, Boston, Massachusetts, United States, 5. Hebrew SeniorLife, Boston, Massachusetts, United States