well – older adults engaged in the arts experience lower rates of loneliness, depression and isolation, and improve subjective well-being and quality of life. Benefits that this can reduce loneliness, depression and isolation, and older adults benefit from active engagement in the arts, and there is strong evidence for this. A growing body of research indicates that engaging in the arts can improve cognitive function and reduce psychological distress.

### Community-Based Musical Theater and Development and Production of An Musical

**Panel:** Mean-Making in Later Life

This presentation will situate the impact of participating in arts performance and argue for promoting performance among older adults. Justine McGovern, University of North Carolina, Chapel Hill, United States, will present an original musical about life in a senior community. The development of each song will include: deciding which song topics the community would deem acceptable and unacceptable to address in the production; accommodating the physiological limits of the cast (e.g., reduced vocal ranges with age) and audience (e.g., hearing don'ts of living in a retirement community); "The Ladies of Lavender Lane" (about groups of widows who have banded together to cope with the loss of a partner); "The Don'ts of Living in a Retirement Community" (about early dementia). The development of each song will be summarized, including the process by which the song went from idea to production, and a video of the song during the community (CCRC) conceptualized, wrote, produced, and presented a video presentation by the 83-year-old CCRC resident who organized and coordinated the process, video clips of the community (CCRC) conceptualized, wrote, produced, and presented a video presentation by the 83-year-old CCRC resident who organized and coordinated the process, video clips of the production, and interviews with performers. Sponsored by the Humanities, Arts, and Cultural Gerontology Advisory Panel, this presentation will illustrate that the community deals with the high frequency of residents with memory loss and balance issues, heart disease and other health challenges than peers not actively engaged with the arts or passively receiving arts. Participation in performance arts can also improve communication across generations and support processing of loss. Senior centers and community-based analysis of posture and physical capacity battery. Roy Tzemah-Shahar will discuss the relationships between physical capacity metrics and rate of aging. Professor Agmon will give an overview of newly developed behavioral markers that replicate the model in other settings. Merav Asher will explain the accelerated aging of midlife Muslims. Dr. Tatem will discuss accelerated aging in mid-life: behavioral, emotional, and biological pathways. The aging process starts at midlife and is multifactorial, particularly the contributions of behavioral, emotional, and biological pathways. Most studies to date have focused on either older ages, when involvement of behavioral, emotional, and biological pathways start to play a role. This proposed symposium aims to fill this gap by highlighting particularly the contributions of behavioral, emotional, and biological pathways.

### Physical Capacity as Marker for Rate of Aging in Mid Life

**Chair:** Maayan Agmon

Roy Tzemah-Shahar, and Maayan Agmon, 1. University of Haifa, Ramat-Gan, HaZafon, Israel, 2. University of Haifa, Haifa, HaZafon, Israel

Biological age captures the heterogeneity of aging by providing an estimation for rate of aging. As an alternative to the widely investigated laboratory biomarkers of aging, biological age captures the heterogeneity of aging by providing an estimation for rate of aging.
behavioral functional markers of physical capacity may offer a feasible alternative for identifying individuals at risk for negative aging trajectory. We aimed to examine the associations of different functional tests both together and as a composite score of physical capacity with rate of aging. We conducted a cross-sectional study, with midlife adults (age ~45) reporting being able to perform leisure physical exercise. Biological age was estimated using the Klemera-Doubl method and a set of physiological biomarkers; rate of aging, ΔAge, was defined as the difference between age and estimated biological age. Physical capacity was measured using a testing battery of 15 functional tests linked with six physical capacity domains. 116 participants completed the testing battery. For women, better results in terms of strength, flexibility, cardiorespiratory fitness, and balance tests were negatively correlated with ΔAge (r=0.38-0.29, p<0.05); for men, beyond these tests, agility was also negatively correlated with ΔAge (r=0.27-0.59, p<0.05). A sex-standardized composite score of physical capacity was negatively associated with ΔAge after controlling for chronological age, smoking, and education (r=-0.437, p=0.007; r=-0.491, p<0.001 for women and men respectively). The suggested physical capacity battery offers a functional assessment for ΔAge. Higher physical capacity metrics correlate with smaller ΔAge, corresponding with younger biological age. Measuring physical capacity may help to assess aging trajectory and offer a suitable behavioral intervention goal.