Discussant: Stacey B. Scott, *Stony Brook University, Stony Brook, New York, United States*

Ambulatory methods (AM) improve the reliability and ecological validity of cognitive assessments, and help to elucidate psychological influences through concurrent reports of pain, stress, and other psychosocial outcomes. Ecological momentary assessment (EMA) involves sampling of daily experiences in natural settings, including completing cognitive assessments, and answering questions related to, for example, social interactions and sleep. The purpose of this symposium is to present innovative methods and results, exploring questions at the intersection of intensive longitudinal data collection, cognition, and psychosocial influences, using data from two EMA studies, the Einstein Aging Study (EAS) and the Effects of Stress on Cognitive Aging, Physiology, and Emotion (ESCAPE) Study. The EAS (ages >= 70) and ESCAPE (ages 25 - 65) protocols, ask participants to complete an annual 14-day EMA measurement burst. A unique value of these methods is the ability to explore effects from moment-to-moment (or day-to-day; within-person effects) as we will present. We will also contrast these with conventional analyses of between-person differences, typical of clinic and in-person studies. Dickens (using ESCAPE data) examines end-of-day perceived stress and anticipation of next-day stress in predicting sleep quality. Hyun and colleagues (using EAS data) discuss the effects of affectionate physical touch on mitigating pain and emotional distress. Using a model-based cluster analysis approach (with EAS data), Roque unpacks differences in psychosocial factors, as a function of cognitive status risk groups. Stacey Scott will discuss these papers in the context of using ambulatory methods to improve the characterization of risk status in older adults.

### MODEL-BASED CLUSTER ANALYSES OF COGNITION FOR UNPACKING SUBGROUP DIFFERENCES IN PSYCHOSOCIAL OUTCOMES

Nelson A. Roque,[1] and Martin J. Sliwinski[1], *1. Pennsylvania State University, Center for Healthy Aging, University Park, Pennsylvania, United States*

We forward a methodological approach, using model-based cluster analyses, and ambulatory assessments of cognition (2 indicators from each task), to derive subgroups of interest for tailored clinical follow-up in a longitudinal framework. Community dwelling adults were asked to complete 14 consecutive days of ecological momentary assessments (EMAs) using smartphones, including measures of cognitive performance, and self-reported physical and mental health outcomes (e.g., stress, memory complaints, depression, pain). A stable four-cluster solution emerged, labelled as: (1) a high-risk cognitive group (13%; most memory complaints, slowest performing, more memory errors); (2) subjective risk group (42%; highest levels of somatic and cognitive complaints); (3) normative aging (28%; intermediate cognitive performance -- speed/accuracy); (4) super-cognitive agers (17%; fastest speed, best memory). In conclusion, these findings highlight the potential of a cluster-based approach for risk classification, uncovering different profiles of poor performance that may represent different etiologies.

### AFFECTIONATE PHYSICAL TOUCH MITIGATES PAIN AND EMOTIONAL DISTRESS IN OLDER ADULTS

Jinshil Hyun,[1] Richard B. Lipton,[1] Ruixue E. Zhaoyang,[2] Jennifer E. Graham-Engeland,[2] Jelena M. Pavlovic,[3] and Martin J. Sliwinski[2], *1. Albert Einstein College of Medicine, Bronx, New York, United States, 2. The Pennsylvania State University, University Park, Pennsylvania, United States, 3. Albert Einstein College of Medicine, Bronx, New York, United States*

Although research suggests that social interactions can decrease pain and emotional distress, it is unclear what produces these salubrious effects. We examined whether older adults experienced lower pain and emotional distress after two types of social interactions (affectionate physical contact and non-physical pleasant interactions) using data from the Einstein Aging Study (N=193, age=70-92). Participants completed a 14-day ecological momentary assessment protocol via which they reported the quality of recent social interaction, types of physical touch, levels of current stress, negative affect, and pain intensity five times a day. Multilevel models indicated that, following affectionate physical contact, individuals reported low levels of current pain intensity, negative affect, and stress (ps<.05). Following a pleasant non-physical interaction, individuals reported low negative affect (p<.05); pleasant interactions did not predict current pain or stress. Results highlight the potential unique utility of affectionate physical contact versus mere pleasant social interactions in older adults' daily lives.

### DAILY EFFECTS OF PERCEIVED AND ANTICIPATED STRESS ON SUBJECTIVE SLEEP QUALITY

Chelsea N. Dickens,[1] and Martin J. Sliwinski[2], *1. Pennsylvania State University, University Park, Pennsylvania, United States, 2. Pennsylvania State University, Center for Healthy Aging, University Park, Pennsylvania, United States*

Prior studies of stress and sleep have postulated that anticipation of future stress may have a greater impact on sleep quality than stress experienced during the day. We examined this possibility using data collected over 14 consecutive days. Participants (Npersons=257, age=25-65) rated each evening how stressful the day was and how stressful they expected the next day would be. Each morning, participants rated their subjective sleep quality. After adjusting for the effect of the previous night's sleep, on days when individuals reported feeling more stressed, they also reported not sleeping as well that night. However, expectations of stress the next day did not have an effect on sleep quality, suggesting that stress experienced during the day impacts sleep quality more so than anticipation of future stress. Despite previous findings that older age is associated with sleep complaints, age did not act as a moderator in our analysis.

## SESSION 4090 (SYMPOSIUM)

### CLINICAL TRIALS IN GEROSCIENCE

Chair: Matt Kaeberlein, *University of Washington, Seattle, Washington, United States*
Discussant: Matt Kaeberlein, *University of Washington, Seattle, Washington, United States*

This session will focus on clinical trials in geroscience.



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