



Mid Atlantic Regional Chapter of the

American College of Sports Medicine

45th Annual Scientific Meeting, November 4th- 5th, 2022

Conference Proceedings

International Journal of Exercise Science, Issue 9, Volume 11



Examination of 24-hour movement behaviors in home vs. office work locations

Anthony J. Holmes¹, Christopher E. Kline¹, FACSM, Lee Stoner³, Kelliann Davis¹, FACSM, Joshua L. Paley¹, Bethany Barone Gibbs². ¹University of Pittsburgh, Pittsburgh, PA, ²University of North Carolina at Chapel Hill, Chapel Hill, NC, ³West Virginia University, Morgantown, WV

PURPOSE: Healthy 24-hour movement behaviors can positively impact health and quality of life. Despite recent increases in working from home and the implications that may have on daily movement and sleep patterns, little is known about the 24-hour movement behaviors of home-based workers compared to office-based workers. This study examined 24-hour movement behaviors across work locations. **METHODS:** This secondary analysis used baseline data from the RESET BP clinical trial which enrolled inactive, desk-based workers with elevated blood pressure (n=270, mean age: 45.3±11.6 years, BMI: 30.66±7.1 kg/m², 60.8% women). Participants wore an activPAL (thigh), Actigraph (waist) and Actiwatch (wrist) for 7 days to measure sedentary behavior (SB), physical activity (PA), and sleep. ActivPAL measured total SB, SB accumulated in bouts of ≥30 mins (SB30) and ≥60 mins (SB60) and standing time. Actigraph measured moderate-to-vigorous intensity PA (MVPA). Actiwatch measured sleep duration (n=170). We calculated light PA by subtracting total SB, standing time, and MVPA from total monitor wear time. Worksite location (home vs. in-office) was determined by self-report. Demographics were compared across work locations using independent t-tests. Linear regression compared 24-hour behaviors across work locations, adjusting for age, bmi, gender, and waking wear time where appropriate. **RESULTS:** Home and office workers did not differ on demographics or body mass index (p>0.05). Participants spent 71% of waking hours in SB, and this did not differ by worksite location (p=0.16). Home workers spent significantly more time in SB30 (37.1 ± 16.5 minutes/day, p=0.03) and SB60 (39.0 ± 15.3, p=0.01) than office workers. Sleep duration was significantly different between groups, with home workers accumulating 433.5 ± 45.4 sleep minutes/day, 15.8 minutes/day more than office workers (417.4 ± 45.8, p=0.02). **CONCLUSIONS:** Home workers have significant differences in prolonged SB and sleep behaviors when compared to office workers. Further research is needed to understand the drivers of these different behaviors as well as whether there are negative physical and psychological consequences associated with these different 24-hour behavior patterns.

Supported by the National Institutes of Health R01 HL134809 and UL1TR001857.

