AUTHORS: Georita M. Frierson¹, Merly Mathew², Tiffany Gearhart², James R. Morrow, Jr.³. ¹Southern Methodist University, Dallas, TX. ²The Cooper Institute, Dallas, TX. ³University North Texas, Denton, TX. (Sponsor: James R Morrow, Jr., PhD, FACSM)
Email: frierson@smu.edu

BACKGROUND: Physical activity (PA) can be assessed indirectly through self reports (SR) or directly through observation, accelerometry, pedometers, and doubly labeled water. In large epidemiological studies due to economical constraints, pedometers and SRPA are common methods to estimate amount of PA. The Walk4Life MVP pedometer measures steps, distance, total PA time, and MVPA time based on user defined steps per minute (SPM) as a lower limit for MVPA.

PURPOSE: To examine the relationship between two similar but different pedometers (Walk4Life and Accusplit Eagle 120 XL;AE) and SRPA data during a 7-day period in women being observed for musculoskeletal injuries in a prospective observational study.

METHODS: Thirty females attended two sessions, 7 days apart. Following session 1, women wore the Walk4Life MVP and AE pedometers (different hips) continuously for 1 week. At session 2, women returned to the orientation site 1 week later and responded to BRFSS PA questions on a secure website as they had been doing for at least the previous 24 weeks. Participants reported days and min per day of moderate and vigorous (separately) PA as well as BRFSS physical activity questions about walking, strengthening activities, and typical work PA.

RESULTS: The AE and Walk4Life pedometers were highly correlated (.90; p < .001). The average difference between pedometers steps was 175±9,600 (AE = 45,251 ±21,834; MVP = 45,426 ±20,993) across an average of 45,000 steps. SR MVPA and Walk4Life MVP recorded MVPA MET-mins per week correlated .41 (p< .03).

CONCLUSIONS: The Walk4Life MVP pedometer appears to validly record steps and MVPA minutes when used at the group level. Careful pedometer placement and confirmation of steps should be monitored if individual results are to be utilized as is the case in all pedometer use. The Walk4Life MVP pedometer appears to be an inexpensive, valid alternative to more expensive accelerometers and pedometers.

Sponsored by NIH Grant R01 AR052459-04