Numerous studies have shown that dual-task demands involving exercise lead to a decline in performance on one or both tasks, but the direct effects of exercise intensity and type are less known.

**PURPOSE:** To examine the dual-task performance of reaction time while standing or walking or fast-paced walking on a treadmill while completing tasks of varying complexities.

**METHODS:** Using within-subject and a repeated measures design a total of 32 participants (Mage=21.03±2.79; Female=17) performed six different conditions involving Go/No-Go (NGN) movement tasks while treadmill standing/walking/fast-paced walking (2 task – congruent/incongruent × 3 intensities). Dual-task reaction time was measured during NGN movement task required subjects to strike virtual stimulus that is green while avoiding the red target. The directions were then reversed to create an incongruent condition. All participants performed 3 minutes of each exercise condition on a Motek-instrumented V-gait treadmill integrated with a 180° virtual reality projection screen which created the environment of NGN task.

**RESULTS:** A repeated measures ANOVA with a Greenhouse-Geisser correction showed that mean reaction time differed significantly between exercise conditions, F(3.425, 106.177) = 14.157, p<.01. Post hoc tests using the Bonferroni correction revealed that Go-task while walking condition was faster than Go-task while standing an average of .039 (p<.01), NoGo-task while standing an average of .074 (p<.01), NoGo-task while fast-paced walking an average of .031 (p<.01). There were no significant differences between Go-task while walking, fast-paced walking and NoGo-task while walking.

**CONCLUSIONS:** This novel research methodology suggests that walking-induced physiological arousal may lead to improved dual-task performance over a standing position (Schafer et al., 2010). Further study with group comparison is warranted.