

## **Accelerometer-Determined Physical Activity and Sedentary Behavior among Majority-Minority Sample of Adults: The Houston TRAIN Study**

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### **ABSTRACT**

Based on self-reported data, minority populations are often found to be less active compared to whites, which may contribute to overall health disparities. The Houston Travel Related Activity in Neighborhoods (TRAIN) Study provides an opportunity to examine differences in accelerometer-determined physical activity levels among a majority-minority sample of adults. **PURPOSE:** To describe and examine differences in accelerometer-determined physical activity and sedentary behavior among TRAIN participants at baseline, by race/ethnic groups and sex. **METHODS:** Study participants were part of an ongoing natural experiment of transportation-related physical activity. At baseline, a group of participants self-selected to wear an ActiGraph wGT3X-BT monitor for 7 consecutive days during waking hours. Participants with  $\geq 4$  days with  $\geq 10$  hours/day were included in analysis. Freedson cut-points were used to quantify time spent sedentary (min/d) and in light- and moderate and vigorous-intensity physical activity (MVPA) (min/d). Vector magnitude (VM) estimates are also reported. Kruskal-Wallis tests were used to compare accelerometer based estimates by 1) race/ethnicity, and 2) sex and race/ethnicity groups. **RESULTS:** 365 TRAIN participants had valid accelerometer data, 62.1% were female and 28.7% and 37.8% were black and Hispanic, respectively. There was a significant difference in VM (counts/min/day) across race/ethnicity groups with blacks and Hispanics having the highest and lowest median values, respectively ( $p < 0.05$ ). There were also differences for intensity-specific estimates. Median sedentary time (min/d) was highest in whites (591.0) and lowest in blacks (533.3), light intensity physical activity (min/d) was highest in blacks (256.2) and lowest in Hispanics (211.4), and MVPA (min/d) was highest in whites (17.9) and lowest in Hispanics (10.8) ( $p < 0.05$ ). Race/ethnicity differences were further stratified by sex. Among Hispanics, VM estimates were higher among men (461.5) than women (390.9) ( $p < 0.05$ ), which was also reflected in MVPA (min/d). In blacks, MVPA was higher among men (21.3) than women (11.3) ( $p < 0.05$ ). No other significant differences were noted. **CONCLUSION:** For blacks, findings conflict with results typically found with self-reported data. Yet, findings for Hispanics align with existing literature, with the majority of disparity shown in women.