**Associations between occupational sedentary time with adiposity markers, and the influence of moderate to vigorous physical activity: does domain matter?**

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**Background:**  Associations between daily sedentary time and health-related outcomes are known to be attenuated by physical activity; however, there is limited evidence on the role that domain-specific sedentary time contributes to these. The primary aim of this study was to examine the variable effects of occupational sedentary time on two measures of adiposity (waist circumference (WC) and body mass index (BMI)); a secondary aim was to determine the role that moderate to vigorous physical activity (MVPA) has on any variable associations.

**Methods:** The Health Survey for England 2008 (an annual survey that monitors the health of the nation) provided data on both adiposity markers and physical behaviours. The ActiGraph GT1M accelerometer was worn by a sub-sample of adult participants for seven days: physical behaviours (sedentary time and average daily time in MVPA) were computed using count data from the vertical axis. Time in occupational sedentary behaviour was calculated using the commonly used cut-point of <100 cpm, and MVPA was calculated using Freedson cut-points. Quantile regression models were used to examine the variable effects of occupational sedentary time on WC and BMI; models were adjusted for age, gender, accelerometer wear-time, lifestyle variables, non-work sedentary time and average time per day in MVPA.

**Results:** Of the 2356 adults with accelerometer data, 911 were in full-time employment. Occupational sedentary time was not found to be associated with either adiposity marker, after the quantile regression models were adjusted for MVPA; however, MVPA was a significant predictor in change in adiposity markers. For each one minute increase per day in MVPA, there were significant associations with both reduced WC and BMI, and these effects varied with increasing quantiles respectively (WC: β coefficients for the 25th, 50th, 75th quantiles were -0.045, -0.065, -0.101; BMI: β coefficients for the 25th, 50th, 75th quantiles were -0.011, -0.021, -0.021).

**Conclusions:** In contrast to studies that have found associations with total sedentary time and health-related outcomes, in this study, there was no evidence that occupational sedentary time is associated with health-related outcomes in the same way. Significant variable effects of daily MVPA were observed for both WC and BMI.