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### Associations of Workplace Design with Workday Sedentary Behaviour and Sit-to-Stand Transitions

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**PURPOSE:** Sedentary behaviour (SB) is common in desk-based work and recent research has highlighted associations between prolonged periods of SB and negative health outcomes. This study intended to explore associations between social and physical aspects of interior office design with SB during working hours in desk-based workers. **METHODS:** This study was a secondary analysis of baseline data from the RESET BP clinical trial. RESET BP is currently testing the effects of a SB intervention to reduce blood pressure and cardiovascular risk among inactive, desk-based workers ( $n=194$ , mean age:  $45.01 \pm 11.92$  years, BMI:  $30.21 \pm 6.91$  kg/m<sup>2</sup>, 62.37% women). At baseline, participants completed the Office Environment and Sitting Scale (OFFESS), a validated instrument that measured office design elements in physical environment (local connectivity, proximity of co-workers) and social environment (visibility of co-workers, overall connectedness) subscales. Workday SB was objectively measured using an activPAL and a time-use diary for 7 days. Workday SB was operationalized as total time and time spent in prolonged bouts of  $\geq 30$  minutes (SB30) and  $\geq 60$  minutes (SB60). Linear regression analysis assessed relationships between the OFFESS subscales and SB, SB30, SB60 and sit-to-stand transitions. Each analysis was adjusted by age, gender, BMI and work wear time. **RESULTS:** Participants accumulated SB, SB30, and SB60 that accounted for  $76.7 \pm 12.6\%$ ,  $45 \pm 19.5\%$ , and  $22.8 \pm 17.2\%$  of the working day, respectively. Participants averaged  $26.6 \pm 11.1$  sit-to-stand transitions per working day. Regarding physical environment, a higher subscale score in local connectivity and in proximity of coworkers was significantly associated with lower SB30 and SB60 (ranging from -28.0 to -25.8 minutes/day, all  $p < 0.05$ ) and greater sit-to-stand transitions (+2.2 to 2.8,  $p = 0.04$ ). Regarding social environment, higher overall connectedness score was associated with reduced time spent in SB60 (-3.5 minutes/day,  $p = 0.04$ ), but was not associated with total SB, SB30, or sit-to-stand transitions. Visibility of co-workers was not associated with any SB (all  $p > 0.05$ ). **CONCLUSION:** Increasing physical and social connectedness and proximity of coworkers is a potential workplace design strategy to improve workday SB patterns in desk workers.