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Associations Between Physical Activity, Sedentary Behaviour And The Environment: A Cross Sectional Study Of UK Adults

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PURPOSE: To investigate the association between physical activity (PA) and sedentary behaviour (SB) and opportunities for PA in the environment.

METHODS: Cross sectional study, September 2013 to August 2014. Participants were adults (16 years +) data on PA n=16245 and SB n=13041. PA and SB data was obtained using the short IPAQ. PA was classified as meeting the PA guidelines using a threshold of 7.5 MET-h.wk⁻¹. SB was classified as sitting for ≥ 5 hours/day. The PA environment was characterised using the Ordnance Survey Points of Interest (POI) data. PA opportunities within the study area were grouped into four categories, 'green space', 'specialised facilities', 'general PA facilities' and 'all POI combined'. Neighbourhoods were characterised using Lower Super Output Area of residence. Index of multiple deprivation, age, gender and population density were included as covariates within a causal framework. Random intercept models estimated associations between PA opportunities and PA and SB in separate models.

RESULTS: 67% of participants achieved current PA recommendations, while 56% were classified as sedentary. Compared to those living in the least deprived areas (IMD Q1), those living in the most deprived areas (IMD Q4) were less likely to meet the PA recommendations (OR=0.74 95%CI=0.67 to 0.83) but also less likely to be sedentary (OR=0.89 95%CI=0.80 to 1.00). One third (n=5633) of respondents and LSOAs (n=144) had no access to any PA opportunities. Only 30% (n=4799) of respondents and 11% of LSOA (n=50) had access to green space. The most deprived quintile had the lowest count of PA facilities across all categories. Individuals with access to 2+ opportunities for PA were slightly more likely to achieve the PA recommendations (OR=1.11 95%CI=1.01 to 1.22). There was no evidence of an association between PA opportunities (all POI combined) and SB nor between PA and SB, with green space specifically as the exposure.

CONCLUSIONS: There is little evidence to suggest that access to opportunities for PA, including green space, substantially either increases PA or reduces SB, any associations observed were relatively small and unlikely to influence policy. The evidence is not well placed to support policy interventions.