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Greener neighbourhoods, healthier lives? Evidence from Britain

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Abstract

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Greener neighbourhoods, healthier lives? Evidence from Britain

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Introduction: If physical activity (PA) is an important mechanism linking exposure to green space with better mental and physical health, the well-known decline in PA across the lifecourse would suggest that the association between green space and health weakens with age. Few studies, however, have examined this hypothesis. This study examined the interaction between green space, physical activity, and mental health across the lifecourse.

Methods: Multilevel models were used to analyse males and females over 15 years old, resident within urban neighbourhoods for a minimum of 12 months, in the British Household Panel Survey bi-annually between 1998 and 2004 (person-years: male = 13,896, female = 16,786). The outcome variable was the General Health Questionnaire, and green space was measured as the percentage total land-cover of green and natural environment within neighbourhoods. Leisure time PA was self-reported as 'at least once a week', or 'infrequent/never'. Other explanatory variables included age, economic activity, household tenure, marital status, qualifications, income, smoking status, social support, and neighbourhood satisfaction.

Results: Compared to males in the least green neighbourhoods (0–33%), those in the greenest areas (66–100%) reported significantly better mental health consistently across the lifecourse (coefficient (β): -0.33 (95% confidence interval (95% CI): -0.62, -0.04)). While no main effect for green space on mental health was observed for females, there was a significant interaction between green space and age. Females in the greenest and least green neighbourhoods reported similar levels of mental health across the lifecourse. In contrast, females in neighbourhoods with a moderate level of green space (34–66%) had increasingly better mental health from age 50 onwards. Regular leisure time PA was associated with better mental health for males (β = -1.02, 95% -1.19, -0.85) and females (β = 0.86, 95% CI = -1.03, -0.69). Males, though not females, were significantly more likely to participate in PA at least once a week if they lived in a greener neighbourhood (Odds Ratio = 1.13, 95% CI = 1.01, 1.27). PA among males and females declined by age, regardless of green space. Controlling for PA led to a significant attenuation in the association between green space and mental health across the lifecourse for males in the greenest neighbourhoods only.

Discussion: At a time when the provision of local green space is increasingly promoted as a potential lever for better health, this study suggests that the relationship with mental health varies by gender, is not consistent across the lifecourse, and is not always beneficial.