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## Green space quantity and mental health: evidence on gender differences in relationships and use of work status as a proxy of exposure

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**Background/Aim:** Many studies have investigated links between amount of green space in the environment and mental health, but only a small number have reported on gender differences in relationships.

**Methods:** Male/female differences in relationships between green space quantity (GSQ) and two self-reported measures of mental health – *perceived stress* (PSS) and *mental wellbeing* (SWEMWBS) – were examined using cross-sectional data from three disadvantaged urban communities in Scotland. GSQ was defined as the proportion of green space in a 300 m radius buffer around the home (28.3 ha), including private gardens. A series of hierarchical multiple linear regression analyses were undertaken by gender for three groups: (i) the study sample (n=305); (ii) a subgroup of individuals not in full time work (n=222); (iii) a further subgroup of individuals considered most likely to spend a greater proportion of time at home based on work status (n=93).

**Results:** Better mental health was consistently positively associated with GSQ for males, but for females inverse and positive relationships were observed. Relationships were stronger for males, and for the males the relationship between PSS and GSQ increased in strength across analysis groups. Discriminant analyses by gender indicated that gender differences in (i) stress experience and management; (ii) level of social contact when using green space; and (iii) green space typology, were potential factors underlying the observed differences in relationships. There were no differences in perceived safety or quality of green space by gender, or in frequency of use.

**Conclusions:** Relationships between amount of green space in residential environment and mental health differ by gender. Effect sizes based on whole study populations may substantially underestimate for gender and other subgroups. In the absence of accurate data on exposure, work status may serve as a useful, albeit crude proxy of exposure to green space in the local neighbourhood environment.