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Perceived environmental factors related to adults’ leisure-time physical activity: Findings from Europe, Australia and the USA

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Introduction: A growing body of evidence shows that objective and perceived built environment factors are positively associated with physical activity in adults. However, built environment correlates are behavior-specific and the factors associated with leisure-time physical activity are less understood than those associated with active transportation. Furthermore, most previous studies of associations of built environment attributes with physical activity have been conducted in single countries. Limited within-country variability in environmental attributes and physical activity levels can potentially contribute to an underestimation of the strength of the associations. Therefore, the purpose of this study was to examine the strength, direction and shape of the associations of neighborhood environmental perceptions with recreational walking and leisure-time moderate-to-vigorous physical activity, using pooled data from four study sites (Baltimore [USA], Seattle [USA], Adelaide [Australia] and Ghent [Belgium]) in culturally- and environmentally-diverse countries. Moreover, site- and gender-specificity of the associations were examined.

Methods: Data from the four study sites were pooled. In total, 6,014 adults (20–65 years, 55.7% women) were randomly recruited in high-/low-walkable and high-/low-income neighborhoods in the four sites. All participants completed the Neighborhood Environmental Walkability Scale (environmental perceptions) and the International Physical Activity Questionnaire. General additive mixed models were used to estimate the strength and shape of the associations between environmental perceptions and leisure-time activity (walking and moderate-to-vigorous physical activity).

Results: Perceived residential density, aesthetics and reporting few barriers to physical activity in the neighborhood were included in a ‘recreational walking-friendliness’ index. This index was linearly positively related to recreational walking in all study sites except Ghent. No gender-differences were observed. The ‘leisure-time activity friendliness’ index consisted of perceived residential density, proximity to recreation facilities, aesthetics and perceiving few barriers in the neighborhood. This index had a positive linear association with leisure-time moderate-to-vigorous physical activity that was significant in all sites but Ghent. Again, no gender-differences in the associations were found.

Discussion: Similar environmental attributes were related to both outcome measures in men and women, but the present findings were clearly site-specific, imposing possible challenges for built environment recommendations. In Europe, interventions to promote leisure-time activity may need to target promotion of existing opportunities rather than built environment improvements. In the USA and Australia, a focus on the factors identified in this study, may be of most relevance for promoting leisure-time physical activity.

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