CREATING RIGHT GREENWAY IN THE HIGH-DENSITY INNER CITY TO PROMOTE RESIDENTS' MENTAL HEALTH AND WELLBEING: EVIDENCE FROM A MEGA-CITY IN CHINA

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Greenway in the high-density inner city is an emerging prototype of public space. Inner-city residents are more likely to reap mental health benefits from nearby landscapes they like and perceive to be safe, restorative, and relaxing—places enabling them to escape the stresses of busy, compact, high-stress urban life (Kuo, Bacaicoa, & Sullivan, 1998; Kuo & Sullivan, 2001; Kweon, Sullivan, & Wiley, 1998; Taylor, Kuo, & Sullivan, 2002). Without a clear understanding of user perceptions, designers lack scientific evidence to create greenways that promote residents' mental health and well-being. To help fill this knowledge gap, researchers conducted a photo-questionnaire regarding greenways in the central urban districts of ShenZhen, a highly dense mega-city in China.

We asked two main research questions: To what extent, what citizens' mental responses to the scenes of urban greenways can predict their place preference? To what extent, what environmental characteristics of urban greenways can predict those mental responses? Three experts selected 60 out of 200 photos that can adequately represent five main greenways in two main residential districts in ShenZhen. 1053 of 1212 recruited residents completed the survey. Each participant answered 24 different questions covering measures of environmental attributes, mental responses, and place preference (7-point Likert Scale questions). Each question was for one randomly assigned photo out of all 60 photos.

We found the place preference is positively associated with four mental responses: Being Away from Urban Environment, Sense of Legibility, Relaxation, and Being Away from Daily Life. Significant predictive environmental characteristics for Being Away from Urban Environment include Coherence of landscape elements (+), Naturalness (+), Tree canopy coverage (+). Significant predictive characteristics for Sense of Legibility include: View Blocking (-), Overall environment quality (+), and Naturalness (-); Significant predictive characteristics for Relaxation include: Coherence of Landscape Elements (+), Tree canopy coverage (+), View Blocking (-), Naturalness (-); Significant predictive characteristics for Being Away from the daily life include: Naturalness (+), Complexity of paving patterns (-), and Overall environment quality (+). These findings provide clear evidence to direct greenway design in the high-density urban environment. To promote inner-city residents'

mental health and wellbeing, designers should focus on specific perceptual pathways and environmental attributes.

Note: "+" means positive association and " – " means negative association (p< .05). Naturalness indicates to what extent a landscape grows spontaneously, without a clear hint of artificial management or pruning (Zheng, Zhang, & Chen, 2011). View Blocking indicates to what extent visitor's vision in situ is obscured by plants or vertical features in the greenway.

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