



Unravelling socio-environmental inequality at the street level: a refined typology of Brussels' urban fabrics

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Rising evidence underscores the positive influence of a high-quality urban environment on well-being and health. Simultaneously, socio-environmental inequality presents significant challenges within our societies, exposing the most vulnerable population groups to low-quality environments (Fairburn *et al.*, 2019; Schüle *et al.*, 2019). Our study addresses the multifaceted concept of urban liveability, an evolving paradigm that encompasses the complex interplay between urban environmental quality and quality of life (Pacione, 1990). Furthermore, the streetscape, defined as the physical design of streets, emerges as a significant contributor to urban liveability (Harvey and Aultman-Hall, 2016). With a focus on pedestrian perspectives and streets as the unit of observation, our research aims to uncover the relationship between Brussels' socio-economic characteristics and the urban streetscape. Brussels exhibits substantial socio-environmental disparities, evident in the concentration of marginalized populations in areas that are less aesthetically appealing, more densely populated, and deprived of green spaces (Haandrikman *et al.*, 2023). Expanding beyond the conventional knowledge, primarily studied at the neighbourhood or statistical sector level, our developed streetscape typology for Brussels (Guyot *et al.*, 2021) reveals finer-grained heterogeneity within the built environment, challenging aggregated assessments of inequality. If neighbourhoods are heterogeneous, does this modify the observed inequalities at the aggregated level? We will assess socio-economic profile similarities across this streetscape typology, considering factors such as age, education level, income, origin, gender, and household size. Our study insights will provide valuable perspectives for promoting sustainable urban development in Brussels, addressing socio-environmental inequalities at the street level.

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