

S18-2: How Does Perceived Walkability Change From Summer to Autumn in Two Streets in Leuven?

Valentina Kroker^{1,2}, Siegfried Dewitte¹, Carlos Canas³, Filip Boen²

¹ Behavioural Economics and Engineering, KU Leuven, Leuven, Belgium

² Department of Movement Sciences, KU Leuven, Leuven, Belgium

³ Walk21, Cheltenham, United Kingdom

Purpose: Walking is both one of the most accessible ways to meet physical activity goals, while also being a very sustainable urban mobility form. Whether or not people walk is closely tied to the perceived quality of the walking environment, commonly referred to as walkability. While previous research has identified various key determinants of perceived walkability, including security, traffic safety, infrastructure, and environmental features, the role of seasonal variation remains underexplored. This study aims to fill this gap by exploring perceived walkability changes from summer to autumn.

Methods: During the summer and autumn (2024), we interviewed 229 pedestrians in two streets in Leuven using the participatory tool 'Walkability App' (Walk21). The reported experiences were allocated into pre-existing categories of walking experiences within the Walkability App and were allocated into positive and negative clusters. To assess the changes between the seasons, we compared the differences between the experiences collected in summer and in autumn on the key dimensions mentioned above.

Results: First, using ordinal logistic regression, we compared the differences in perceived security between the seasons. We uncovered a significant decline in the main effect of perceived security during autumn compared to summer (odds ratio (OR) = 0.277; 95% confidence interval (CI) [0.101, 0.710]) as well as a significant interaction between season and time of the day (OR = 0.195; 95% CI [0.049, 0.795]), indicating the lack of safety specifically during the evening in autumn. Second, we found a significant interaction between season and time of the day for the item 'missing lighting, seating, or ramps', showing an increased endorsement of this item during the evening in autumn (OR= 4.816; 95% CI [1.282, 21.161]). Third, contrary to our expectations, we found no significant change in pedestrian volume (i.e. people walking) between the seasons using the Quasi-Poisson Regression analysis ($p > .05$). Finally, walking enjoyment significantly declined in autumn compared to summer ($p = 0.047$).

Conclusion: The study emphasises the need to take into account seasonal variations. For practitioners and policymakers specifically, the results highlight opportunities to design more adaptive, seasonally responsive streets, particularly through improving lighting and the perceived safety, to also support walking in darker seasons.

