

The Influence of the Neighbourhood Built Environment on Leisure and Transportation Physical Activity among Canadian-born, Recent and Established Immigrants to Canada



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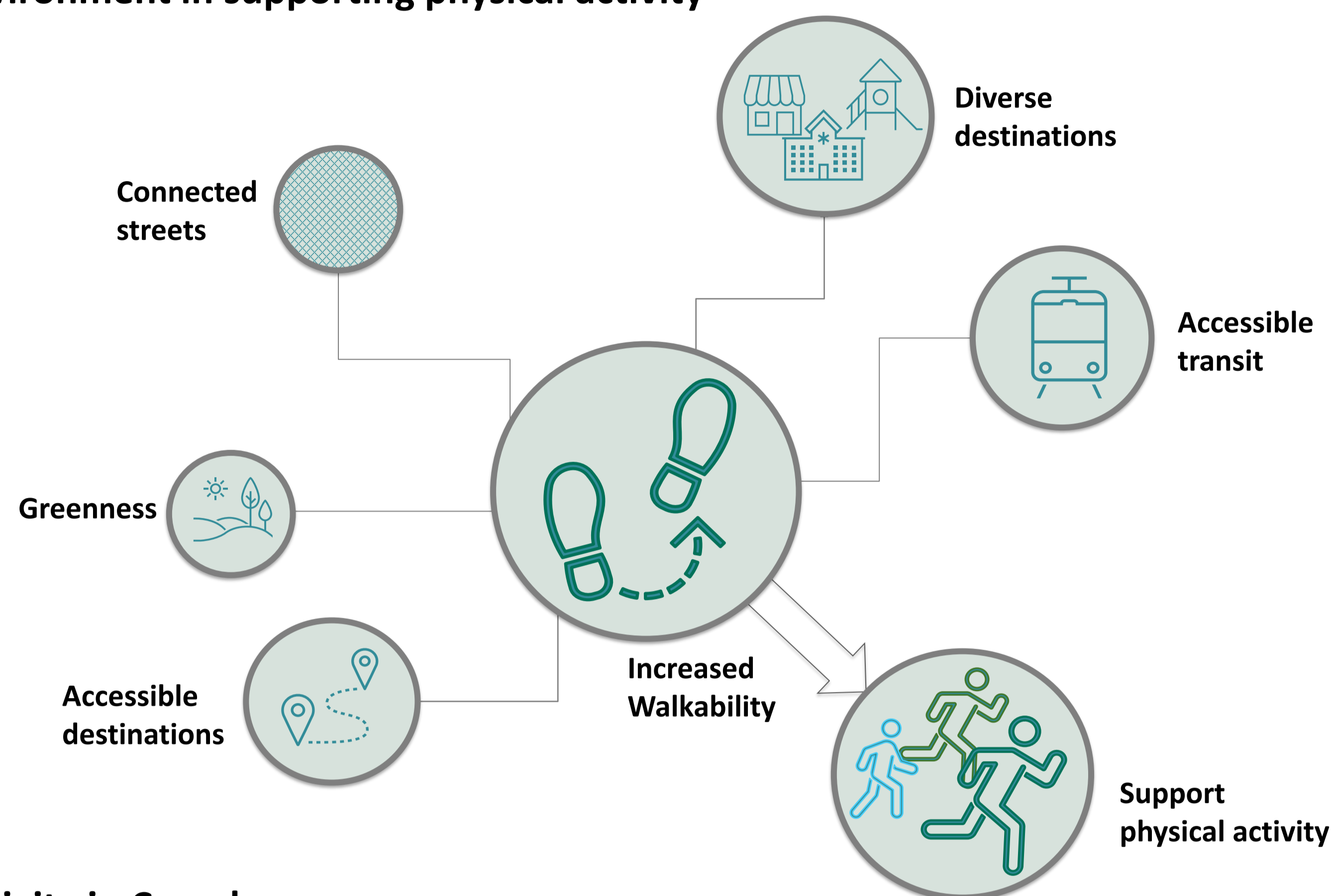
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Background

- Widely recognized physical and mental health benefits for physical activity.
- **Built environment in supporting physical activity¹**



Physical activity in Canada

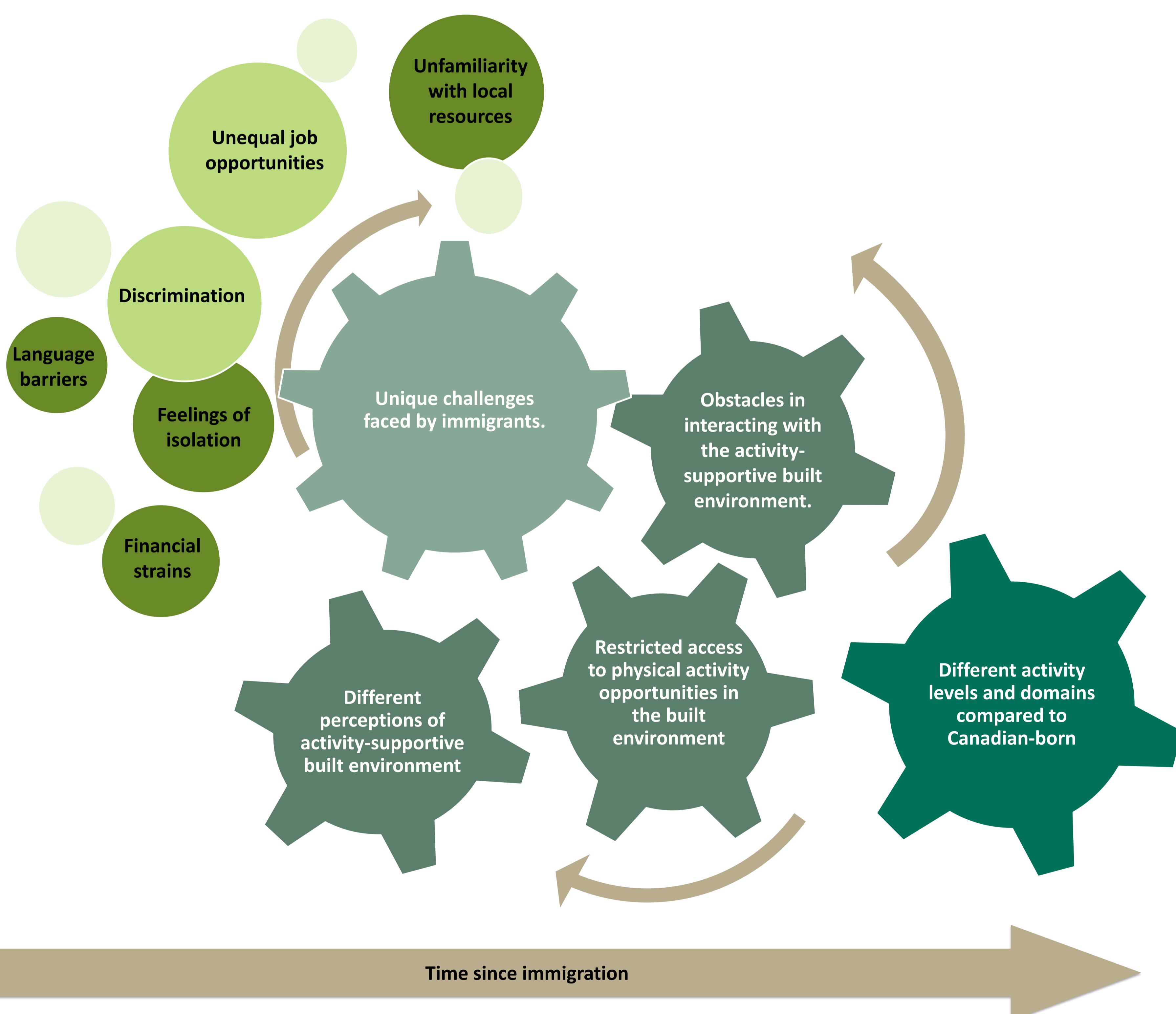
- Almost half of adults in Canada (47%) fail to adhere to recommended physical activity levels², with the situation being even worse for immigrants at 60% being inactive³.
- Immigrants' primary form of physical activity is active commuting, with less engagement in sports and recreational activities.

Canada's diverse landscape⁴

- Immigrants 1/4 of Canada's population in 2021
- Over 400,000 new immigrants in 2021: highest since early 1900s
- Approximately 1 million new immigrants in 2024-2025

Immigrants' experience⁵⁻⁶

- First 10 years in a new country considered a critical settlement period



Literature Gap

- Insufficient evidence on domain-specific physical activity differences between Canadian-born adults and immigrants considering their time since immigration
- No evidence on the role of the built environment in physical activity and its domains in immigrants, especially during early resettlement

Proposed study Objectives

- 1) To estimate the differences in participation and duration of leisure and transportation physical activity between Canadian-born, recent, and established immigrant adults in Canada.
- 2) To estimate the associations between the neighbourhood built environment and leisure and transportation physical activity in Canadian-born, recent immigrant, and established immigrant adults in Canada.

Proposed Methods

- Informed by socioecological model
- Quantitative, Cross-sectional
- Using Canadian Community Health Survey (CCHS 2017-2018) merged with Canadian Active Living (Can-ALE) dataset
- sample restricted to the adult population, residing in urban areas

Exposure: Can-ALE Index

- A single continuous score estimated from four built attributes (for 1 km circular buffers around dissemination areas), representing the active living friendliness (walkability) of neighbourhoods
- Higher Can-ALE index scores, higher neighbourhood walkability
- Linked with CCHS using 6-digit postal codes

Outcome: Physical activity

- Participation and duration of leisure and transportation physical activity

Immigration status

- Categorized based on country of birth and time since immigration as Canadian-born, recent immigrants (<10 years since arrival), and established immigrants (>10 years since arrival)

Statistical analysis plan

- Survey sampling weights and bootstrapped standard errors, provided by Statistics Canada
- Descriptive Statistics
- Covariate-adjusted Generalized linear model:
 - Physical activity participation (<10 mins vs ≥ 10 mins): Binomial distribution with a logit link function
 - Physical activity duration (≥ 10 mins): gamma distribution with identity link function
- Models run for leisure and transportation physical activity separately
- Follow-up with sex-stratified Analysis
- Odds ratios, beta coefficients, 95% CI, and p-values will be estimated

Significance and Implications

- In line with the World Health Organization's Global physical Activity Action Plan
- In line with the Canadian Government recognizing the importance of promoting immigrant health through active transportation
- Provide novel evidence about health-supportive built environment for immigrants in Canada
- Highlight the need for targeted health promotion initiatives in high-immigrant, low walkable neighbourhoods
- Inform urban planning, transportation initiatives, and community development strategies about the unique needs of immigrants

References

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