Seasonality and Active Saskatoon Kids: Understanding Active Living in an Urban Environment

www.smartcitieshealthykids.com

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Background

- Emergence of Active Living Research
- Smart Cities, Healthy Kids: A focus on children
- What we know
- Seasonality and Active Saskatoon Kids
Methodology

Study design

Built environment:

*Neighbourhood Active Living potential*

*Irvine Minnesota Inventory*

Recruitment: neighbourhoods, schools and sample size

Children:

*In transition from preadolescence to adolescence*
Methodology

Capturing children’s perception of urban environment: *Custom built questionnaire*

Capturing active living: *Global Positioning system (GPS) equipped accelerometry*
Accelerometry

- Detect, measure and record body movement in digital counts

- Counts categorized into counts per minute values

- Counts per minute values converted to intensity outcomes
## Intensity Outcomes

<table>
<thead>
<tr>
<th>Intensity (minutes)</th>
<th>Active Energy Expenditure (kcal· kg⁻¹· min⁻¹)</th>
<th>Example</th>
<th>Actical Accelerometer counts per min</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sedentary (SED)</td>
<td>Less than 0.01</td>
<td>Car/bus travel, standing, reclining</td>
<td>Less than 100</td>
</tr>
<tr>
<td>Light</td>
<td>0.01 to less than 0.04</td>
<td>Walking less than 3.2 km/h, light play</td>
<td>100 to less than 1500</td>
</tr>
<tr>
<td>Moderate to Vigorous (MVPA)</td>
<td>0.04 to less than 0.10</td>
<td>Walking more than 3.2 km/h, aerobics</td>
<td>More than 1500</td>
</tr>
</tbody>
</table>
GPS Equipped Accelerometry

Deployment of GPS data loggers and accelerometers:
• Around the waist for 7 consecutive days
• 5 weekdays (school days) and 2 weekend days
• 24 hour deployment to minimize measurement bias
• Measurement bias in accelerometry: smart cities, healthy kids’ contribution to active living research

Data integration:
*Time stamped data from GPS data loggers and accelerometers*
Analytical Approach

Identification of urban spaces of interest based on existing evidence

Matching urban spaces of interest with activity intensities

Mapping urban spaces of active living

Identifying urban spaces of sedentary behaviour
Knowledge Translation

Schools

Parents and children

Urban planners

Cross-Canadian and international dissemination

Generating evidence to support the creation of active living communities
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References

References


