Exploring Perceptions of Active Transportation Among Dalhousie University Employees Through Photovoice

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Introduction

Active Transportation (AT)→human powered transit such as walking or cycling.

- 7.6% of the population of Nova Scotia (NS) use AT. **There is a lack of evidence regarding the promotion of AT in NS.**

Workplace Commutes →The majority of employees in NS commute by car. **There is limited research on the influence of AT while commuting to and from work (Bopp et al., 2012).**

AT Barriers → time, lack of social support, traffic congestion, and safety (Belton et al., 2014; Götschi et al., 2015).

AT Facilitators→ parking, fitness, and reduced carbon footprint (Coghill & Cooper, 2009; Guell & Ogilvie, 2015). **Addressing these modifiable barriers and facilitators can promote AT.**

Research Questions

1. What are the modifiable barriers and facilitators associated with AT when one is commuting to and from work?

2. How might these modifiable barriers be overcome and how might these facilitators encourage higher rates of AT?

Methods

Inclusion Criteria → employed by Dalhousie University, live in the Halifax Reginal Municipality, commute to work by car, have a phone with a camera.

Data Collection

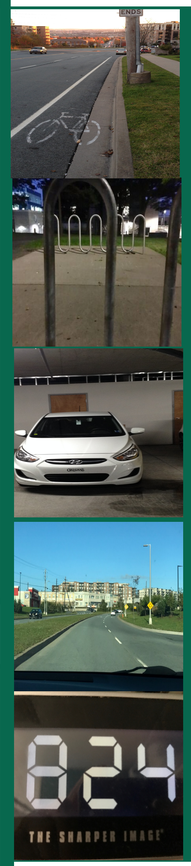
→Photovoice: 27 photographs of modifiable barriers/facilitators.

Photovoice and interviews elicit more information than interviews alone (Harper, 2002).

→5 semi-structured, on campus interviews

Data Analysis →Interviews were transcribed verbatim. NVivo, the socioecological model, and thematic analysis were used for coding.

Results and Discussion



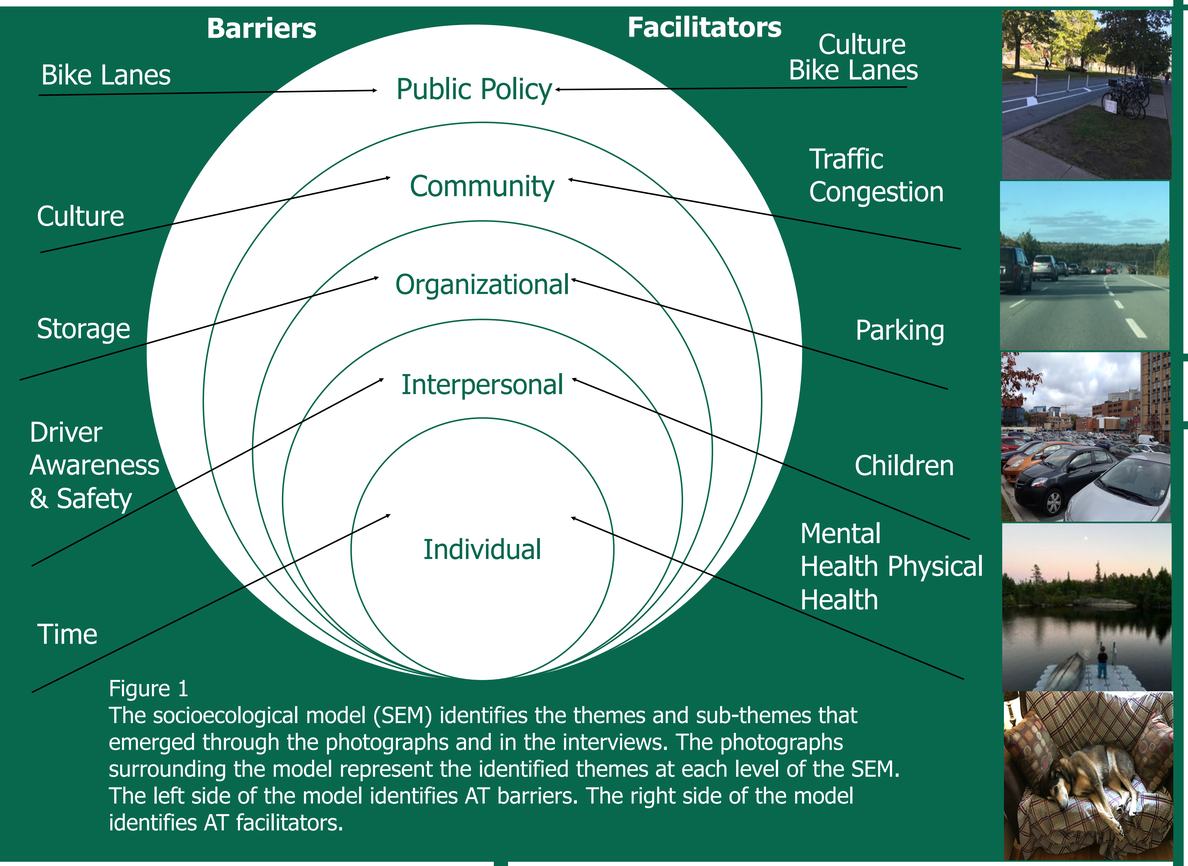


Figure 1
The socioecological model (SEM) identifies the themes and sub-themes that emerged through the photographs and in the interviews. The photographs surrounding the model represent the identified themes at each level of the SEM. The left side of the model identifies AT barriers. The right side of the model identifies AT facilitators.

Barriers

Public Policy: Bike lanes. 3 participants provided photographs of roads with insufficient bike lanes – no direct, safe, route.

Community: Culture. Cultural examples are situated within neighborhood settings. Empty bike racks indicate that Halifax is car-culture oriented.

Organizational: Storage. Building storage regulations hindered participants' ability to store and use a bicycle.

Interpersonal: Driver awareness & safety. 4 participants verbally stated how drivers are not appropriately educated nor trusted on traffic rules. "I follow the traffic rules; cars don't follow traffic rules when it comes to bikes…there is no common understanding of what the rules of the road are…".

Individual: Time. Participant 3 stated that time is the largest AT barrier. "… if I had the time I would figure out a safer way to get here… I could figure out a little route...". AT takes time away from the opportunity to participate in other forms of enjoyable physical activity.

Facilitators

Public Policy: Bike lanes & culture. 4 participants felt that protected bike lanes and policy facilitated AT.

Community: Traffic congestion. Sitting in traffic was described as a 'disaster'. AT offers a mode of transportation that avoids traffic.

Organizational: Parking. Two participants described how parking on campus is problematic and thus an AT facilitator.

Interpersonal: Children. One participant explained their relationship with their child. "I think about you know his future, the impact that we have on our environment…I want to bike for his future".

Individual: Mental & physical health. One participant stated how walking their dog helped them to refocus at work. Participants described feeling motivated by the physical benefits of AT. "Well you are killing 2 birds with 1 stone, you are getting exercise and you are getting to your destination. Those are the health benefits, the obvious ones...the list is just endless".

Discussion

The findings in this study are similar to current literature, however, the use of photovoice increases the **depth** of this study and encourages **self-reflection.** Photographs allowed participants to provide a visual and verbal representation of modifiable AT barriers and facilitators. Photographs also promoted self-reflection, as all participants reflected on their own AT behaviours and identified ways to overcome their barriers.

Implications

All identified barriers are modifiable.

- Protected bike lanes can increase safety.
- Traffic safety education is needed for the safety of all commuters.

Recommendation

- Parking lots in shopping centers are often vacant. A 'car pool' AT parking zone in community shopping centers would encourage active workplace commuting.

Future Considerations:

1. How can policy makers facilitate change and develop parking zones for active commuters?

2. Can NS learn from cultural practices in other countries and shift our current car-culture trends?

4. Are current education techniques regarding traffic safety effective? How can these educational programs increase feelings of safety for all commuters?

Future research is needed to answer these questions. Additional research can mitigate barriers and facilitate greater uptake of AT.

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