



# The Accessibility of Autism Services for Children in Northern Ontario: The Role of Spatial Factors and Children's Travel Behaviours

Julien Bonin

Supervisor: Dr. Urajnik

Interdisciplinary Health Program (MSc.)

School Kinesiology & Health Sciences

Laurentian University



# Autism Spectrum Disorder (ASD)

Neurodevelopmental disorder which results in some degree of impaired social behavior, communication, & language, accompanied by a narrow range of interests & activities that are both unique to the individual & carried out repetitively (WHO, 2014)

In Canada, prevalence rate for children 1 to 17 years of age is **1 in 50 (or 2 percent)**

[The 2019 Canadian Health Survey on Children and Youth (CHSCY)]



If you've met one individual with  
autism,  
You've met one individual with  
autism

Dr. Stephen Shore



# Autism Services

The new Ontario Autism Program launched in 2021 provides funding for **5 core services**:

1. Applied Behaviour Analysis (ABA)
2. Speech and Language Pathology Services (SLP)
3. Occupational Therapy (OT)
4. Mental health services (counselling delivered by regulated psychologist)
5. Technology, program materials and/or therapy equipment (Augmentative and Alternative Communication) at the recommendation of a BCBA or regulated professional (SLP/OT)

(Ministry of Children, Community and Social Services  
<https://www.ontario.ca/page/ontario-autism-program-core-clinical-services>)

# Study Area Northern Ontario

Extensive geographic area with low population density

Region accounts for 88.8 % of total area of the Province of Ontario

But only 6.3% of its total population

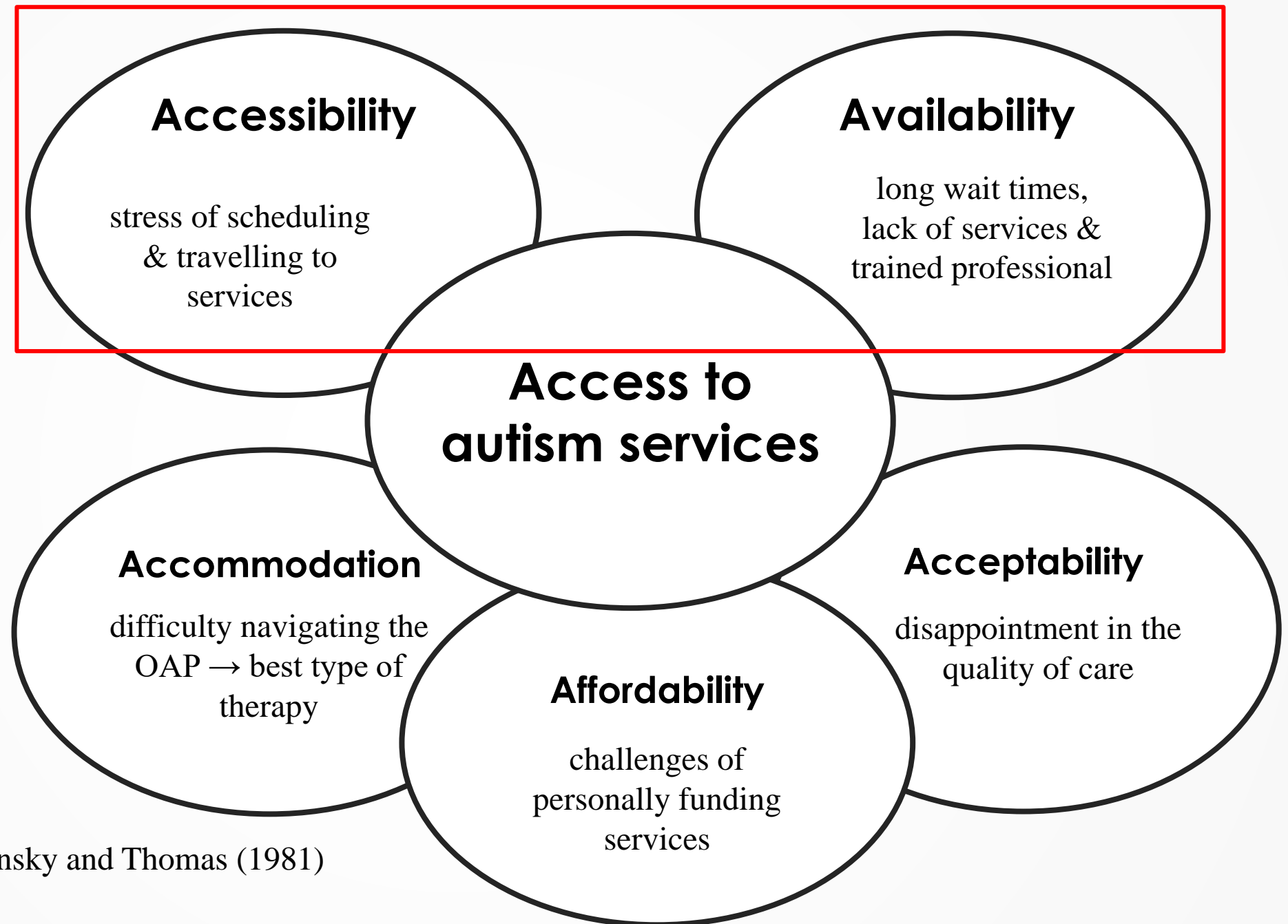
Long distances between communities & services, in particular for rural or remote communities

\*Northern, rural & remote areas - under-represented

McLaughlin et al (2019) & (2022) - Province wide



# 1. Spatial Factors



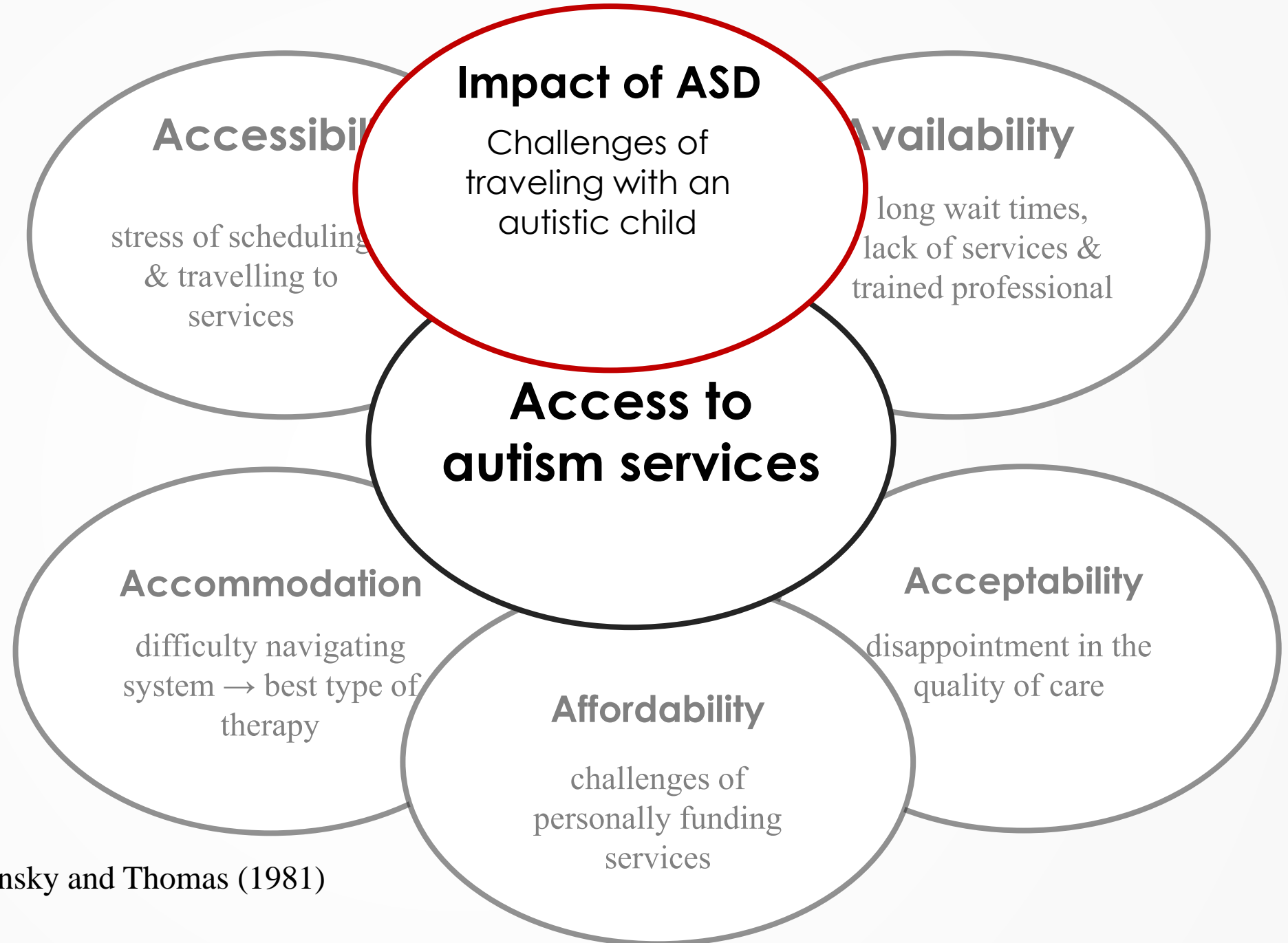
Source: Penchansky and Thomas (1981)

## 2. Personal Effort

There is limited research on the travel behaviour of ASD children & their families

Disruptive behaviour includes:

Aggression, opening windows or doors, resistance safety (seat) belts, etc.



Source: Penchansky and Thomas (1981)

# Research Goals & Questions

## Goals

1. To examine the spatial factors affecting parents' ability to access autism services for their child(ren)
2. To determine if the child's travel behaviour impacts their ability to access autism services

## Questions

1. How does the location of service providers and travel time affect access to autism services in Northern Ontario?
2. How do the travel-related behaviours of autistic children living in Northern Ontario impact their access to autism services?





# Methods

## Phase 1

### Spatial Analysis

Objective:

- Map the location of service providers
  - Providers → internet search
- Identify spatial gaps in service
- Estimate the travel time to access services

## Phase 2

### Parent Survey

Objective:

- Investigate travel behaviour of autistic children
  - Identify whether it influences the receipt of autism services
- Impact of 5 factors
  - Availability – service located in the community
  - Accessibility – travel time
  - Affordability

\*Compare the difference - urban & non-urban areas & survey participants

# Results

## Phase 1

- 46 providers offered services at 78 locations in 34 CSD

	# of service locations	ABA	SLP	OT
Total	78	45	54	27
Urban (7 CSD)	45	24	30	15
Non-Urban (281 CSD)	33	21	24	12

- Greater Sudbury – 20 locations
- Thunder Bay – 10 locations

## Phase 2

- Administered from September 2021 to April 2022

	Total	Urban	Non-Urban
# of Participants	128	74 (57.8%)	54 (41.4%)
Average age of child	9.21	8.81	9.76

### Eligibility

- Resided in Northern Ontario for at least the two years prior to completing the survey
- Have at least one child/youth, 17 years of age or younger, with a diagnosis of autism spectrum disorder

## Results – Spatial Analysis

Total of 75 dissemination areas (DA) had no all-season road access to a provider

≈ 5 percent of Northern Ontario children do not have year-round automobile access to an autism service

	<b>Total</b>	<b>Urban</b>	<b>Non-Urban</b>
Total # DA	1742	851	891
Accessible DA	1667	851	816

# Results –Travel Time

## Closest Provider

	Total	Urban	Non-Urban
Mean	22:16	5:41	39:33
Longest Time	8:45:48	40:17	8:45:48

## 2<sup>nd</sup> Closest Provider

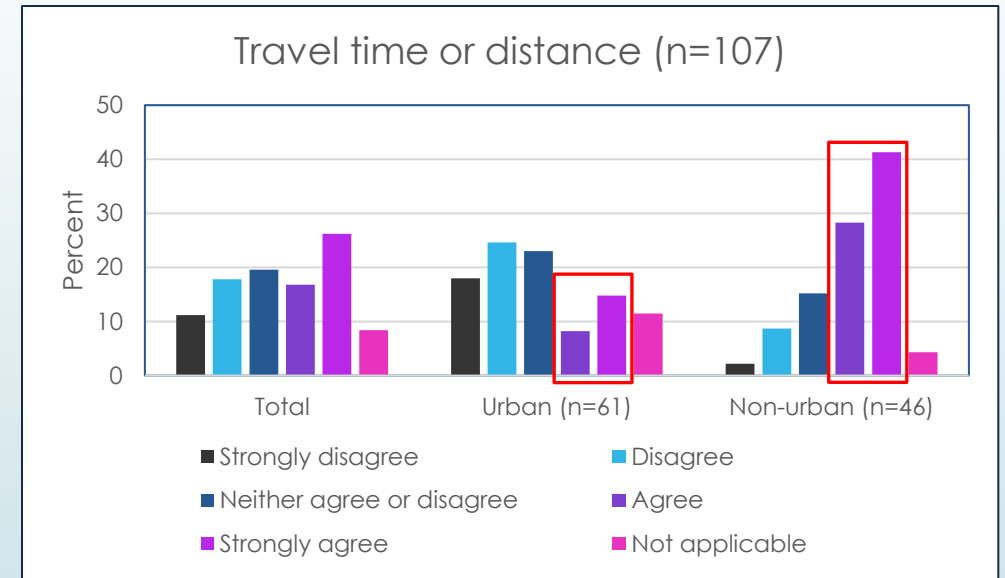
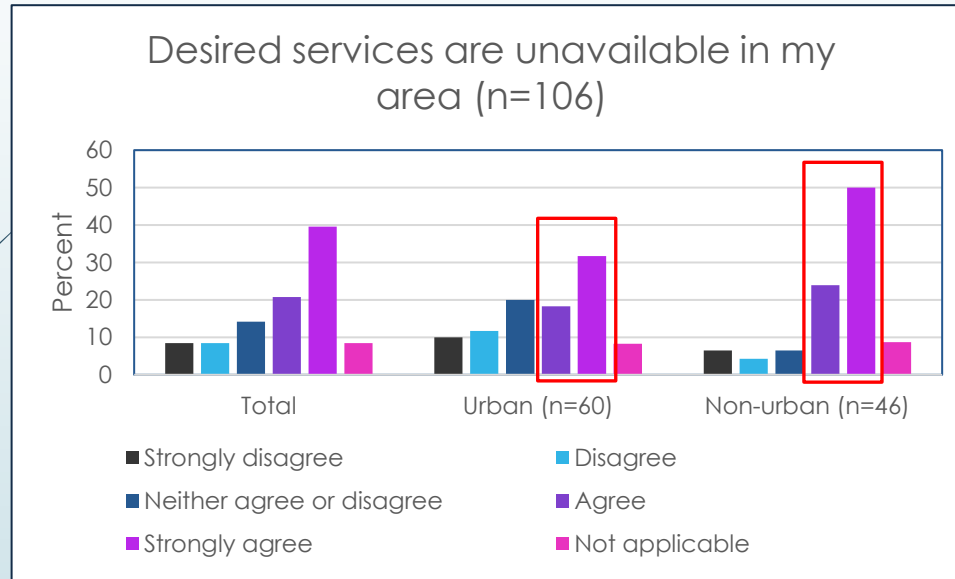
	Total	Urban	Non-Urban
Mean	35:54	10:52	1:02:00
Longest Time	9:56:41	1:47:10	9:56:10

## 3<sup>rd</sup> Closest Provider

	Total	Urban	Non-Urban
Mean	49:21	15:33	1:24:37
Longest Time	11:21:41	2:50:23	11:21:41

# Results

## Challenges to access services in Northern Ontario



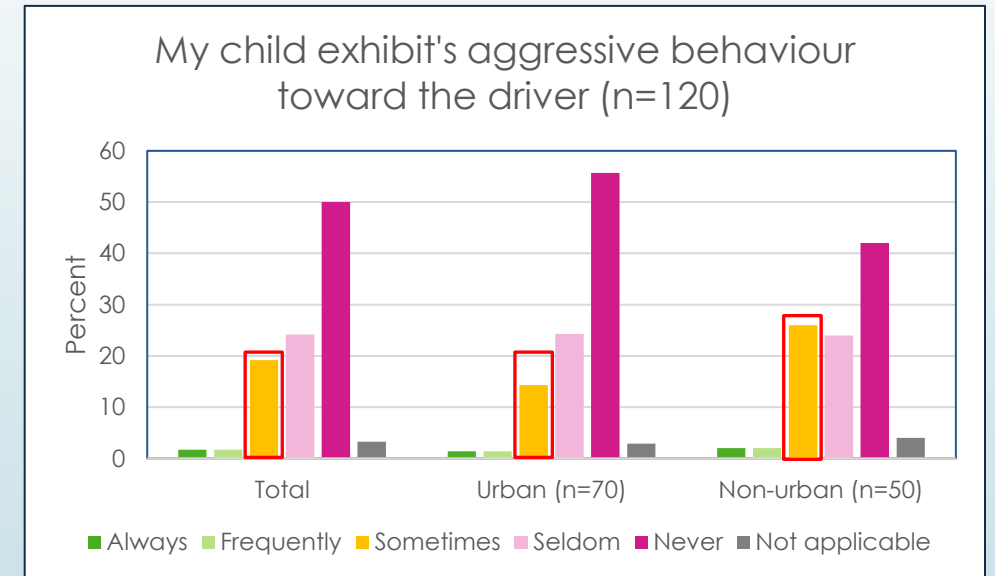
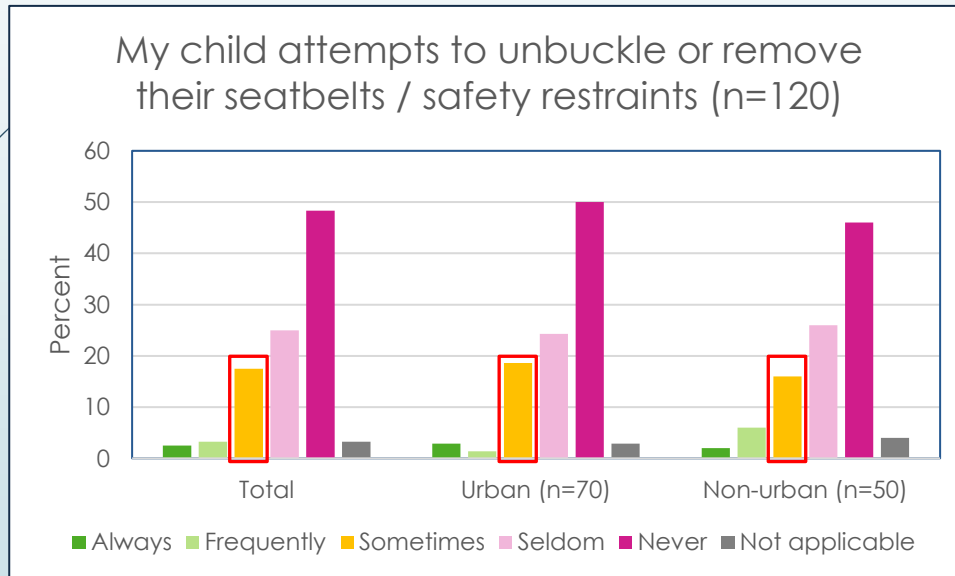
Accessing services in Northern Ontario is a significant problem

➔ Non-urban residents



# Results

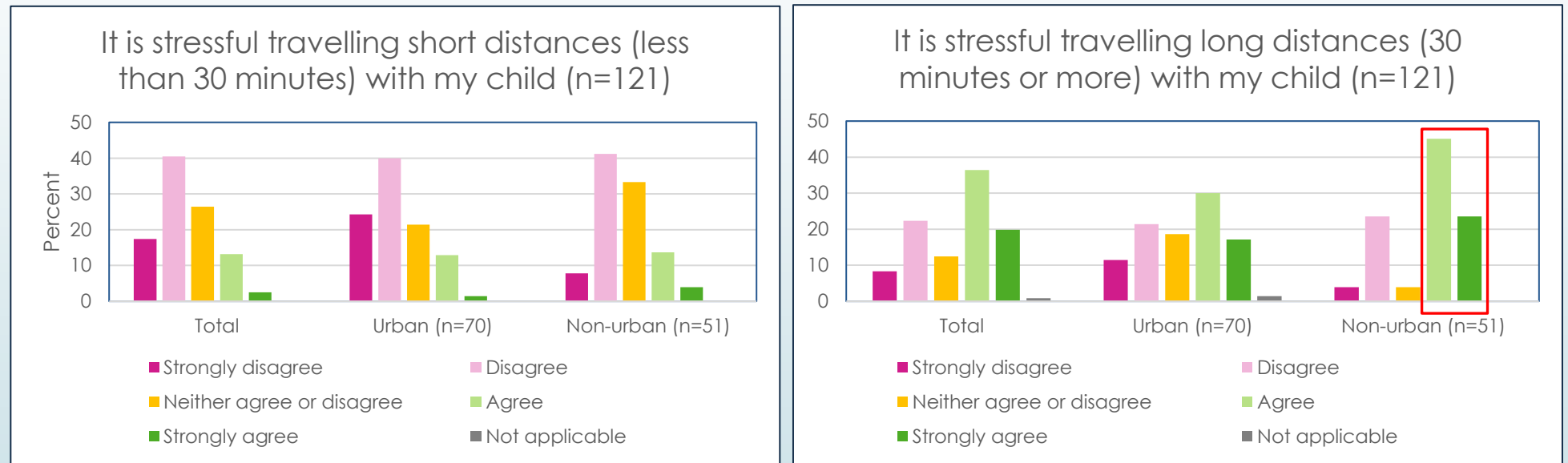
## Child's travel behaviour Urban/non-urban behaviours are similar



≈ 70 percent of caregivers stated that child's behaviours can be distracting for the driver

# Results

## Child's travel behaviour



**Duration of the trip increases caregiver stress**

# Results

## Common Themes

### Urban Caregivers

- lack of capacity or therapist  
→ waitlist

### Non-urban Caregivers

- lack of services in their community  
→ long travel time

- Over 96% of caregivers believed there is a lack of services in their area
- 70% of caregivers do not believe that their child has received all the possible supports to fulfill their potential in life
- Mental health was very or extremely affected by the lack of autism services

Urban Caregivers  
44.8%

Non-Urban Caregivers  
71.5%

# Conclusion

Northern Ontario residents face unique challenges due to its large geographic area & low population density

- ▶ Aim:
  - ▶ Identify areas of limited service
  - ▶ Estimate how long families must travel
- ▶ Address research gap
  - ▶ Personal effort of transporting an autistic child
- ▶ Can the travel times required to access services be tolerated by autistic children & caregivers?

# Thank you

## Acknowledgements

### Thesis committee Members

- Dr. Diana Urajnik – SKHS, Laurentian University & Centre For Rural and Northern Health Research
- Dr. Nicole Yantzi – Professor Emeritus, AODA coordinator with the City of Belleville
- Dr. Janet McLaughlin – Associate Professor, Wilfrid Laurier University

### Autism Ontario

### Advocacy Groups

- Ontario Autism Coalition
- Northern Ontario Autism Alliance

Contact: [jj\\_bonin@laurentian.ca](mailto:jj_bonin@laurentian.ca)



CBC.CA

Laurentian study seeking participants to share experiences in accessing autism services in northern Ontario | CBC News

#### Accès inégal

Recevoir un soutien financier est une chose, mais trouver des services adéquats proches de chez soi en est une autre, ajoute pour sa part Julien Bonin, étudiant à la maîtrise en santé interdisciplinaire à l'Université Laurentienne et parent de deux enfants autistes qui ont chacun des besoins très différents.

Il mène présentement une étude sur l'accès aux services d'autisme dans le Nord de l'Ontario. « C'est une grande région géographiquement avec peu de population donc beaucoup des petites villes n'ont pas de services. Et si on a besoin de voyager une heure pour y accéder, est-ce qu'on ajoute un niveau de stress sur l'enfant et la famille? »



ICI Toronto

Autisme : des familles se sentent encore abandonnées en Ontario