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## INTRODUCTION

- Youth with disabilities are often reported to be less physically active than their typically developing peers,<sup>[1,2]</sup> spending more time engaged in passive recreational activities.<sup>[3,4]</sup>
- Despite these claims, no valid Canadian data exist on physical activity and sedentary behaviours in youth with disabilities to fully understand the scope of the problem.
- In the Spring 2016, the Canadian 24-Hour Movement Guidelines for Children and Youth were released. These guidelines recommend that children and youth (aged 5 – 17 years) achieve high levels of physical activity (60 minutes of moderate-to-vigorous intensity plus several hours of structured or unstructured light physical activities), low levels of sedentary behaviour ( $\leq 2$  hours of recreational screen time), and sufficient sleep (9-11 for those aged 5-13 years; 8-10 hours for those aged 14 – 17 years) each day for optimal health.<sup>[5]</sup>
- How these guidelines may apply to Canadian youth with disabilities remains unknown.

## OBJECTIVE

- To examine the 24-hour movement behaviours of Canadian youth (ages 12 to 21 years) with physical or sensory disabilities.

## METHODOLOGY

### Participants (N = 50)

- Recruited across Canada from services and/or programs for youth with disabilities (e.g., Easter Seals, Canadian National Institute for the Blind)
- Inclusion criteria included: (1) between the ages of 12 to 21 years; (2) have a mobility or visual impairment; (3) able to understand and speak in English; and (4) able to participate in two, 30 to 45 minute telephone interviews
- Exclusion criteria included: (1) self-reported cognitive impairment or memory loss; and (2) hearing loss
- REB approval obtained from the University of Toronto and Bloorview Research Institute

### Protocol and Measures:

- Participants completed two, 30-45 minute telephone interviews over a 4-week period with a trained research assistant
- Multimedia Activity Recall for Children and Adolescents (MARCA)**
  - Self-report measure that was administered by a research assistant to assess 24-hour use-of-time (in intervals of at least 5 min) in all types of activity (i.e., organized and non-organized physical activity, sedentary activity, incidental activity) in a variety of settings (e.g., at school, home, in the community).<sup>[6]</sup>
  - Has demonstrated test-retest reliability and validated against accelerometry in typically developing youth.<sup>[6,7]</sup>
- Data Analysis:** Participant 24-hour activity profiles (.txt files) were generated and automatically checked for data quality by the MARCA software. Descriptive statistics (means and frequencies) were then used to explore the three movement behaviour categories.

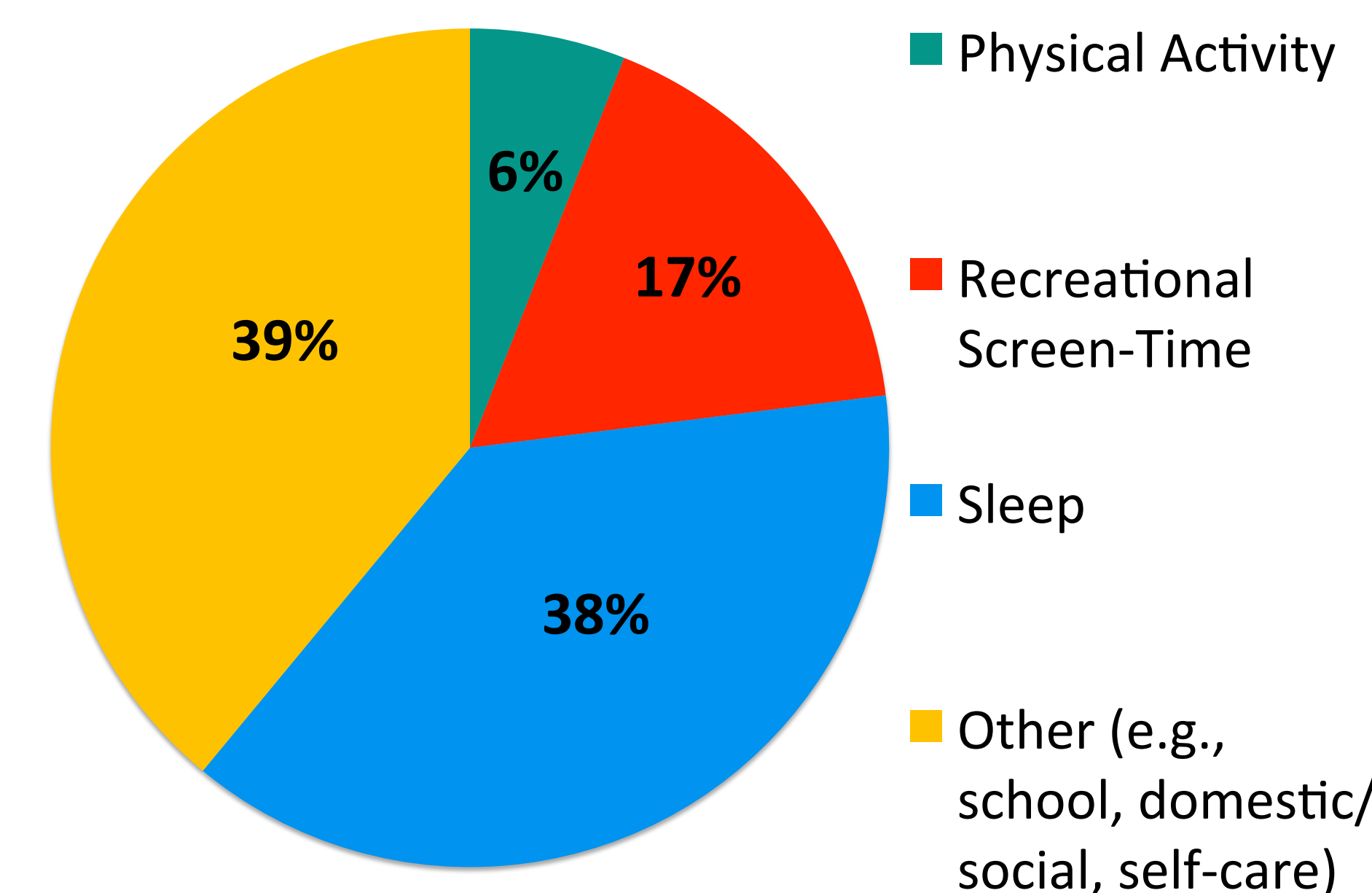
## Sample Characteristics

Age in years (mean $\pm$ SD)	17.10 $\pm$ 2.65	Use a Mobility Device (n [%])	33 (66%)
Gender (n [%] female)	31 (62%)	# of in years living with disability (mean $\pm$ SD)	12.5 $\pm$ 6.5
Body Mass Index [BMI] (mean kg/m <sup>2</sup> $\pm$ SD)	22.65 $\pm$ 5.22	Location in Canada (n [%])	
Type of Disability (n [%])		Ontario	36 (72%)
Physical Disability (any type)	38 (76%)	Western Canada	7 (14%)
Cerebral Palsy	13 (26%)	Central Canada	3 (6%)
Spinal Cord Injury	8 (16%)	Eastern Canada	2 (4%)
Other (e.g., amputation, arthritis)	17 (34%)		
Visual Impairment	12 (24%)		

## RESULTS

- Physical Activity Behaviour: Mean = 89.2  $\pm$  86.6 mins/day**
  - 72% of the time spent in active travel, 27% in sports, and 1% in active play
- Recreational Screen-Time Behaviour: Mean = 248.7  $\pm$  153.7 mins/day**
  - 40% of this time being spent watching television, 31% on the computer, 24% texting/on the phone, and 5% playing passive video games
- Sleeping Behaviour: Mean 9.03 hours/day**

Figure 2. % of Time Spent in Each Activity over the 24-Hour Period



## DISCUSSION

- This is the first study to examine the 24-hour movement behaviours in the context of disability .
- Youth with physical disabilities and visual impairments spent, on average, 90 min/day in any type of physical activity and over 4 hours/day in screen-time activities.
- Together, these data suggest that this sample falls far short of the recently established Canadian 24-Hour Movement Guidelines for Children and Youth.<sup>[5]</sup> However, this sample is quite active in comparison to previous research on youth with disabilities, which may be reflective of our recruitment sources.<sup>[1,3,4,8]</sup>
- This project demonstrated the feasibility of a protocol for addressing the absence of valid Canadian data on physical activity and sedentary behaviours in children and youth with disabilities.
  - Need to expand upon this pilot study to a population-based sample of Canadian school-aged children and youth with all types of disabilities
- This work was designed with a vision to contribute to the evidence-base to support the formulation of Canadian policies to improve physical activity opportunities for all Canadians with disabilities.

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