Examining the Relationship between Motivation and the Physical Activity Behaviour of Canadian Youth with Physical Disabilities and Visual Impairments

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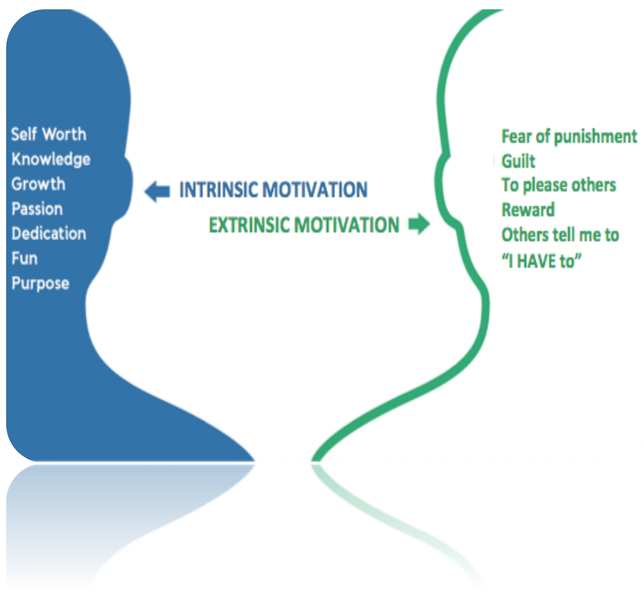
INTRODUCTION



- Youth with disabilities are less physically active than their typically developing peers[1], warranting the need to examine factors that influence their physical activity (PA) behaviour
- Self-Determination Theory (SDT) holds that behaviour is motivated by intrinsic and extrinsic factors[2,3]
- Currently, research suggests that autonomous forms of motivation are significant predictors of the PA behaviour of youth and adults without disabilities[4,5] and young adults with physical disabilities[6]
- Motivation and the role it may play in the PA behaviour of youth with physical disabilities and visual impairments remains unexplored

OBJECTIVE

- To examine the relationships between different types of motivation and moderate-to-vigorous PA (MVPA) in youth with physical disabilities and visual impairments

METHODOLOGY

- Participants (N = 34) were recruited from a larger ongoing national study examining the PA behaviour of Canadian youth (ages 12 to 21 years) with physical disabilities and visual impairments
- REB approval obtained from the University of Toronto and Bloorview Research Institute
- The following measures were examined for the purpose of this cross-sectional analysis:

Behavioural Regulations in Exercise Questionnaire 3 (BREQ-3)[7,8]

- Amotivation
- External
- Introjected
- Identified
- Integrated
- Intrinsic

Accelerometry[9]

- ActiGraph GT3X
- Worn for 7 days on non-dominant wrist[10]

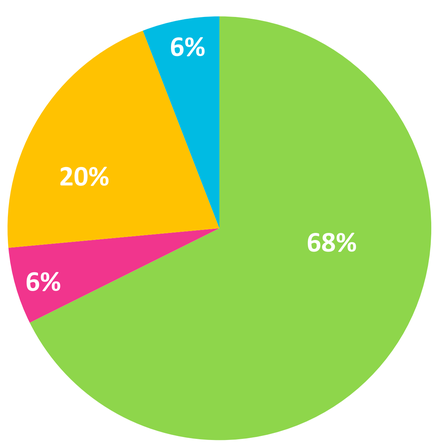
- **Data Analysis:** Pearson correlation analyses were conducted to examine the relationships between each subscale of the BREQ-3 and MVPA. The strength of these associations were interpreted based on Cohen's guidelines[11,12] such that rs of .10, .30 and .50 represent small, medium, and large effect sizes, respectively. ActiLife 6 was used to analyze accelerometer data, and Evenson's[13] cut points were used to calculate average daily minutes of MVPA.

RESULTS

Table 1. Sample Characteristics

***N*=34**	
Age in years (mean ± SD)	17.15 ± 2.39
Gender (% female)	61.8
Body Mass Index [BMI] (mean kg/m^2 ± SD)	21.87 ± 5.04
Type of Disability (*n*)	
Physical Disability	**27**
Cerebral Palsy	11
Spinal Cord Injury	5
Other	11
Visual Impairment	**7**
Use a Mobility Device (n [%])	22 (64.71)

Figure 1. Location in Canada



RESULTS (cont'd)

Table 2. Mean Scores and Pearson Correlations (*r*)

	M ± SD[+]	1	2	3	4	5	6	7
1. Amotivation	1.85 ± 3.17	--	--	--	--	--	--	--
2. External	6.38 ± 4.38	.17	--	--	--	--	--	--
3. Introjected	7.76 ± 4.54	-.47**	.12	--	--	--	--	--
4. Identified	11.91 ± 3.30	-.63**	-.24	.54**	--	--	--	--
5. Integrated	9.26 ± 4.83	-.52**	-.22	.44**	.66**	--	--	--
6. Intrinsic	10.32 ± 4.56	-.55**	-.38*	.36*	.64**	.73**	--	--
7. MVPA	54.92 ± 36.79	**-.24**	.01	-.05	.15	**.26**	**.22**	--

[+] Scores are on a scale of 0-16, with higher scores indicating greater use of that type of regulation
* $p < .05$, ** $p < .01$

- Non-significant, small-sized correlations were found between MVPA and all six forms of regulation
- The strongest relationships found were between MVPA and amotivation (r = -.24, p = .25), and integrated (r = .26, p = .21) and intrinsic regulation (r = .22, p = .29)

DISCUSSION

- This is the first study to examine the relationship between motivation and PA in youth with physical disabilities and visual impairments
- Contrary to previous research,[5,6] the six forms of motivation measured using the BREQ-3 were not significant correlates of MVPA in this sample
  - Other factors not included within the SDT-based motivations may be more relevant to the PA participation of youth with physical disabilities and visual impairments (e.g., self-efficacy, social support[14])
- The use of the term "exercise" in the BREQ-3 may not have fully captured participants' motivations to engage in PA (e.g., play, walking to school), which has a broader focus than exercise (i.e., structured, planned activity)
- The MVPA cut points used for this analysis were not developed specifically for youth with disabilities, thus there may be discrepancies in the measured and actual levels of MVPA
- Further examination of the relationship between motivation and MVPA behaviour are warranted in a larger sample to provide insight on whether SDT-based motivations are relevant to the PA behaviour of this population. Such work will have implications on the development and delivery of PA interventions within this population.

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ACKNOWLEDGEMENTS

Research from the Canadian Disability Participation Project was supported by the Social Sciences and Humanities Research Council of Canada. Grant #895-2013-1021.

We extend our gratitude to the study participants.

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