

# The Impact of COVID-19 on Eating Habits and Behaviours in Canadian Undergraduate Students: A Proposal

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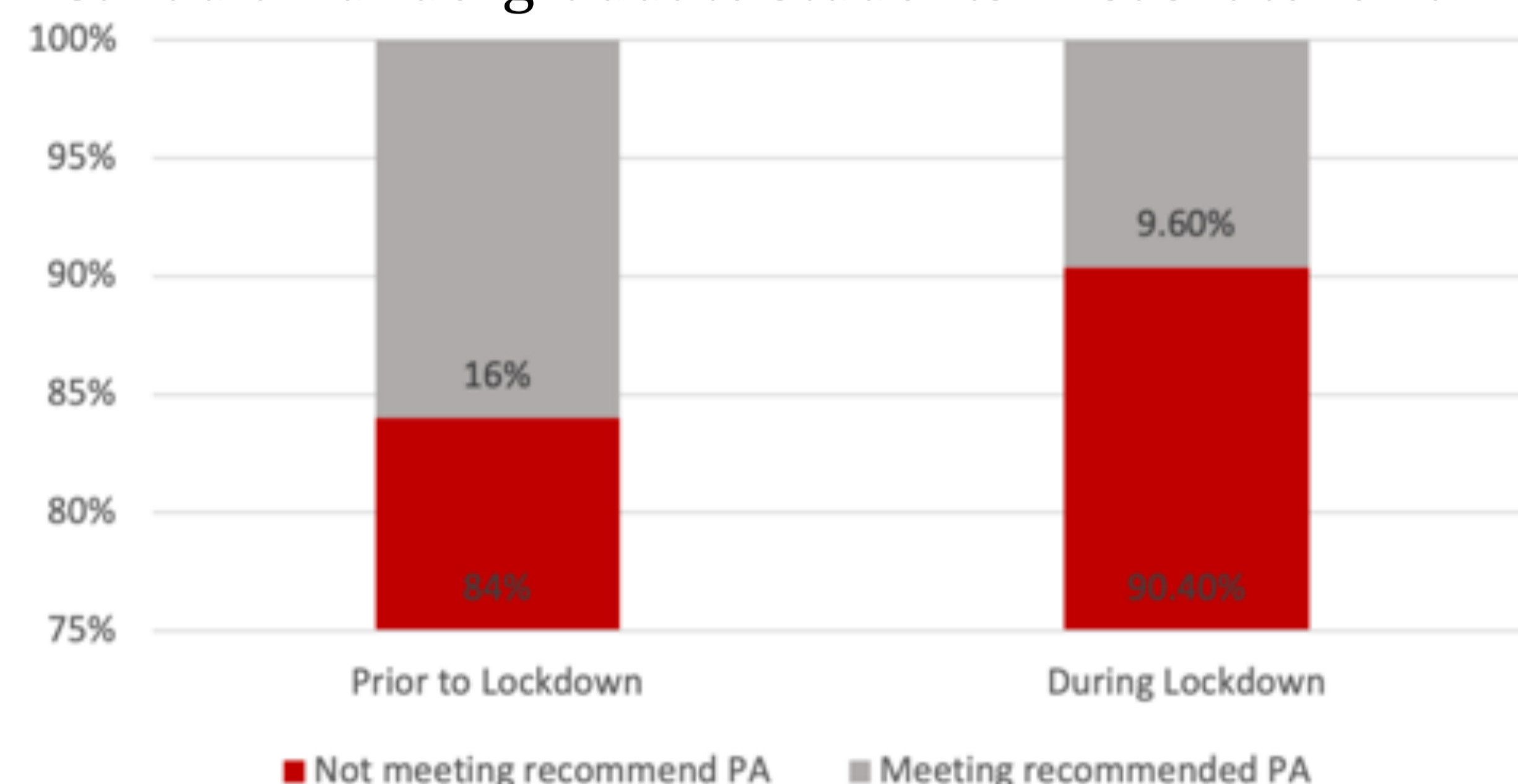
## 1. INTRODUCTION

- March 11, 2020, WHO declared COVID-19 a global pandemic<sup>1</sup>.
- Most of the population was forced to live in home-confinement for weeks, ↑ the risk of ↓ their physical activity (PA) and of adopting sedentary behaviors.
- To date no nation-wide studies have examined the Canadian undergraduate student population and the impact of COVID-19 on their eating habits and behaviours.

### 1a. PHYSICAL ACTIVITY

- Canada's PA guidelines recommend 150 minutes of moderate to vigorous intensity
- Prior to lockdowns, the university student population was shown to already not meet PA guidelines<sup>2</sup>.
- Past studies<sup>2</sup> have shown that during COVID-19 lockdowns PA ↓

**Figure 1.** Bertrand et al (2021), physical activity levels in Canadian undergraduate students in Saskatchewan



### 1b. EATING HABITS & BEHAVIOURS

- lifestyle habits adopted in university, are often carried into adulthood<sup>3</sup>
- a sudden imbalance in people's daily routines may be a stressor that could lead to poor eating behaviours
- ↑ anxiety due to COVID-19 associated with more severe eating disorder pathology<sup>3</sup>
- individuals with pre-existing eating disorders might be particularly vulnerable<sup>3</sup>

## 1c. ENERGY INTAKE

- Students often lack experience in meal planning/preparation
- Studies examining diet during the pandemic showed most countries ↓ diet quality & ↑ caloric intake = weight gain

**Table 1.** COVID-19 diet studies in student populations

Ammar et al., 2020	↑ unhealthy foods ↑ snacks between meals
Bertrand et al., 2021	↓ macro- and micronutrients ↓ diet quality (↓ grains, fruits & veg, dairy) ↑ alcohol consumption ↓ consumption of nutrient dense foods ↑ snacking
Gallè et al., 2020	↑ caloric intake ↑ snacking
Rodríguez-Pérez et al., 2020	↑ consumption of fruit, vegetables & legumes ↓ intake of red meat, and fried/sweet foods ↓ alcohol

## 2. HYPOTHESIS / OBJECTIVES

**Purpose:** examine whether there are changes in physical activity (PA), dietary intake, diet quality and dietary habits during the pandemic, and whether these changes vary based on sex or relate to changes in body mass index (BMI).

### Primary Hypothesis:

- Pandemic isolation = negative  $\Delta$  in PA, dietary intake, diet quality and eating behaviours/habits
- $\Delta$  different based on sex
- characterized by:
  - ↓ in overall PA
  - ↑ reliance on fast food and
  - ↓ fresh fruit & vegetable intake
  - ↑ in energy intake
  - ↓ in vitamin & mineral intake

### Primary Objectives:

- Examine PA  $\Delta$  due to the pandemic; sex differences
- Examine dietary intake & quality  $\Delta$  in university students throughout the pandemic;  $\Delta$  related to sex & PA
- Determine  $\Delta$  in PA & diet to  $\Delta$  in BMI; differences in males versus females

## 3. METHODS

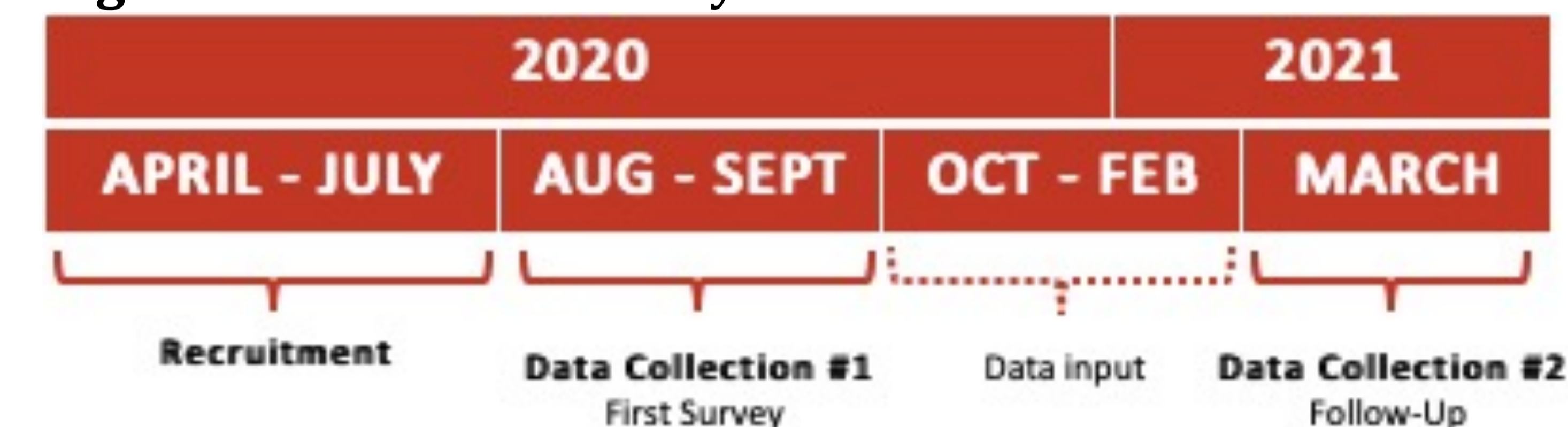
### Design

- Online anonymous survey
- Nation wide distribution to Universities across Canada
- 2 collection points examining a 1-year period

### Survey Components:

- Demographics & Physical Activity
  - Anthropometrics (height, weight, age, sex, etc.)
  - Living arrangements
  - Physical Activity / Energy output
- Eating Habits & Behaviours
  - Validated questionnaire
  - Good / poor eating decisions
- Food Frequency Questionnaire
  - Energy Intake (Macro & micro-nutrients)

**Figure 2.** Timeline of survey distribution & collection



## 4. FUTURE DIRECTIONS

- Longitudinal studies (5 - 10 year impact)
- Examining impact on various populations/groups

## REFERENCES

1. World Health Organization, (2020)
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3. Scharmer et al., (2020) doi: <https://doi.org/10.1002/eat.23395>
4. Ammar et al., (2020) doi: <https://doi.org/10.3390/nu12061583>
5. Gallè et al., (2020) doi: <https://doi.org/10.3390/ijerph17103481>
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## ACKNOWLEDGEMENTS

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