Effects of COVID-19 induced restrictions on physical activity and dietary behaviours of middle-aged endurance athletes

Celina Earl, Elizabeth Cooper, Julia O. Totosy de Zepetnek
Faculty of Kinesiology and Health Studies, University of Regina, SK, CA

University of Regina
Kinesiology & Health Studies

Introduction and Gaps

- Adequate physical activity and nutrition are important for maintaining individual and community health, particularly during a pandemic
- Maintaining pre-pandemic physical activity and dietary behaviours is difficult with COVID-induced restrictions in place

- Previous literature has reported both increased and decreased physical activity levels among previously active persons in response to COVID-induced restrictions
- There is a lack of literature regarding dietary behaviours among previously active persons in response to COVID-19 restrictions

Objective

Investigate how the onset of public health measures to reduce the spread of COVID-19 [May to August 2020] affected physical activity and dietary behaviours of middle-aged [45-60 years] endurance athletes [8+ hrs/wk training] in Canada

Methods

- Open ended survey sent out electronically across Canada exploring if, how, and why COVID-induced public health measures changed physical activity and dietary behaviours
- Responses analyzed using descriptive statistics and qualitative thematic analyses
- Capability, opportunity, and motivation model of behaviour change (COM-B) was used to situate the thematic analysis

Results

- Forty-two athletes participated (n=25/17 M/F; age: 50±7y; exercise: 10.6±3.9 h/wk)
- n=29 reported a behaviour change (either positive or negative); of these, 31% (n=9) reported a change to physical activity levels only, 17% (n=5) to diet only, and 52% (n=15) to both physical activity and diet

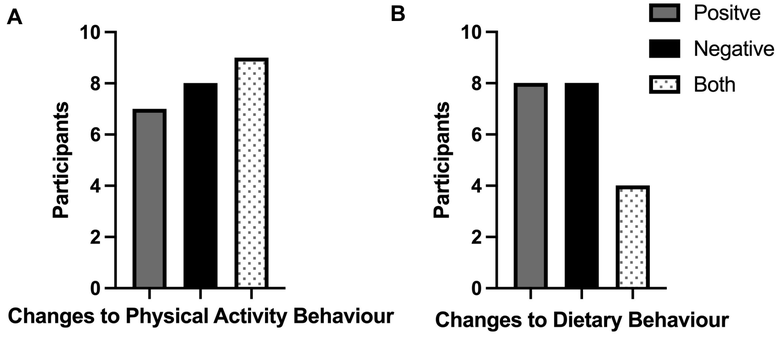

Figure 1: Participants (n=29) that experienced a positive and/or negative behaviour change in (A) physical activity (n=24) and (B) diet (n=20) in response to COVID-induced restrictions

Results and Discussion

- Physical opportunity reflected the greatest number of coded themes for both physical activity (n=40; 18 positive, 22 negative); and dietary (n=20; 13 positive, 7 negative) behaviour change

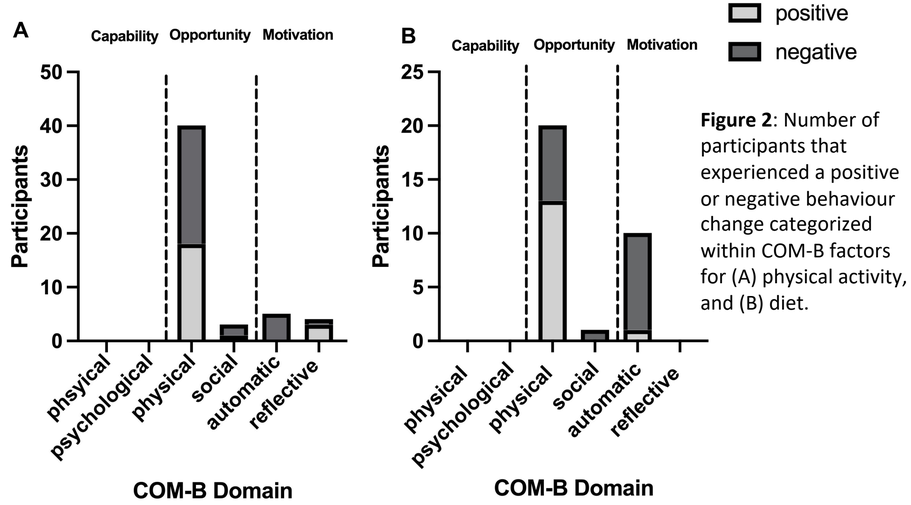

Figure 2: Number of participants that experienced a positive or negative behaviour change categorized within COM-B factors for (A) physical activity, and (B) diet.

- Four common themes emerged within the physical opportunity domain, and two within the automatic motivation domain of COM-B regarding **physical activity behaviour change** (Table 1)

Domain & Definition	Coded Theme	Quote Example
Physical opportunity: environmental factors that influence behaviour	Working from home increases time spent training	"more riding indoors which is really better training. Working from home now"
	Cancellation of events and competitions or group training sessions decreases time spent training	"decreased volume; with no events being scheduled this year, I have dropped back volume"
	Closure of recreational facilities either decreases training volume or influences the purchase of home gym equipment	"set up home gym; with gym closed decided to set up at home" "Since COVID...[I] have given up on swimming and triathlon for the short term; pools closed"
	Adapting to changes in work routine causes missed workouts	"somewhat decreased volume; the change in work schedule has caused missed workout days due to conflicts"
Automatic Motivation: emotions or impulses arising from associative learning or innate dispositions	Athletes are less motivated to exercise at home or by themselves because they do not enjoy it as much as training with a group or for an event	"I do less (exercise) at home than at the gym b/c I don't enjoy it as much as cardio; less motivated to do it by myself at home"
	The COVID-19 pandemic has induced stress which has influenced missed workouts and has decreased focus needed to stay on track with exercise plans	fewer group workouts, no sports such as soccer; increased stress has caused missed workout days because I decided to skip a workout and rest

Table 1: COM-B thematic analysis of survey responses regarding physical activity behaviour

- Three common themes emerged within the physical opportunity domain and one within the automatic motivation domain of COM-B regarding **dietary behaviour change** (Table 2)

Domain & Definition	Coded Theme	Quote Example
Physical opportunity: environmental factors that influence behaviour	Changes to work routine has influenced more time spent at home, which has led to more snacking throughout the day	"graze and eat more often; close to the kitchen and working from home"
	Working from home makes access to fresh food easier, influencing more ingestion of fresh, healthy foods and home cooked meals	"more home cooked meals with better variety; more time to cook meals from scratch"
	Closure of restaurants and other facilities has influenced less consumption of fast food and takeout food	"no cookies at morning coffee break; cafeteria near work isn't open"
Automatic Motivation: emotions or impulses arising from associative learning or innate dispositions	The COVID-19 pandemic and changes to work routine have induced stress and boredom which has influenced increased snacking on unhealthy foods	"eating more processed foods and consuming more wine; boredom"

Table 2: COM-B thematic analysis of survey responses regarding dietary behaviour

Conclusions

- The current cohort of middle-aged endurance athletes across Canada experienced a relatively equal distribution of positive and negative changes to lifestyle behaviours in response to COVID-19 public health measures, similar to the incongruous previous literature.
- Since facility closures and social distancing are public health measures used to limit the spread of COVID, implementing strategies to improve opportunities (in particular physical) and motivation (in particular automatic) for physical activity and good dietary intake may help facilitate healthy lifestyle behaviours in middle-aged endurance athletes during COVID-induced restrictions.

CAMEROlabs
CArdiovascular MEtabolic Research Opportunities
Research for Human Performance