

# Lace Up and Wind Down: Meeting Physical Activity Guidelines May Reduce Anxiety



Erin O’Loughlin<sup>1,2</sup>, Catherine Sabiston PhD<sup>2</sup>, Erika Dugas MSc<sup>1</sup>, Gisele Contreras MSc<sup>1</sup>, Nancy Low MD MSc<sup>2</sup>, Jennifer O’Loughlin PhD<sup>1</sup>

<sup>1</sup> Centre de recherche du Centre Hospitalier de l’Université de Montréal, <sup>2</sup> McGill University

## Context

- Anxiety is an unpleasant feeling or emotional state typically characterized by nervousness, uneasiness, and apprehension. It can evolve into an anxiety disorder, which may become severe and chronic
- Anxiety disorders affect 12% of Canadians
- Mental health problems, which include anxiety disorders, are a leading cause of disability among young Canadians aged 15-44 years
- Anxiety disorders can manifest in different forms including panic disorder, social phobia, generalized anxiety disorder (GAD) and agoraphobia
- 45% of persons with a mental disorder meet criteria for ≥2 disorders, with greater severity strongly related to comorbidity
- Exercise training and walking may reduce anxiety symptoms among those with anxiety

## Objectives

- To assess if meeting Canadian guidelines for moderate or vigorous physical activity (MVPA) (≥150 minutes/week) protects against any of panic disorder, social phobia, GAD, or agoraphobia in young adults
- To determine if frequent walkers (≥210 minutes/week) are at lower risk of anxiety disorders

## Methods

### Participants

- 875 persons aged 18-24 years participating in the NDIT (Nicotine Dependence in Teens) Study, a longitudinal investigation of the natural history of nicotine dependence
- Participants completed mailed self-report questionnaires in 2007-8, when they were aged 20.4 years on average

### Variables

- Physical activity was measured using the International Physical Activity Questionnaire (IPAQ)
- Anxiety symptoms were measured using the Composite International Diagnostic Interview (CIDI) screening questions
- Covariates: sex, age

### Analysis

- Meeting Canadian MVPA guidelines was investigated as an independent correlate of each of panic disorder, social phobia, GAD, and agoraphobia in logistic regression analyses

## Results

Table 1- Proportion of participants (n=875) who endorse anxiety symptoms (categories not mutually exclusive)

| Symptom Cluster     | %  |
|---------------------|----|
| Panic disorder      | 37 |
| Social phobia       | 48 |
| GAD                 | 39 |
| Agoraphobia         | 21 |
| ≥2 symptom clusters | 44 |

Table 2- Comparison of characteristics of participants with and without lifetime endorsement of anxiety symptoms

|                                    | Lifetime Endorsement of Anxiety Symptoms* |                   | p-value for difference |
|------------------------------------|---|-------------------|------------------------|
|                                    | No (n= 280)<br>%                          | Yes (n= 594)<br>% |                        |
| Male                               | 60  | 39                | 0.000                  |
| Employed                           | 76  | 78                | 0.625                  |
| Full-time student                  | 59  | 61                | 0.428                  |
| Lives alone                        | 11  | 13                | 0.479                  |
| At least some university education | 14  | 17                | 0.236                  |
| Annual household income, \$CAN     |   |                   |                        |
| <30,000                            | 40  | 41                | 0.040                  |
| 30,000-99,000                      | 30  | 37                |                        |
| >100,000                           | 30  | 22                |                        |
| Meets MVPA guidelines              | 53  | 45                | 0.022                  |
| Frequent walker                    | 34  | 38                | 0.228                  |

\*Includes any symptoms of panic disorder, social phobia, GAD, or agoraphobia

- The likelihood of endorsing GAD symptoms was substantially lower among participants who met MVPA guidelines (OR (95%CI) = 0.6 (0.47-0.85))
- Frequent walkers were less likely to endorse panic disorder symptoms (OR=0.7(0.53-0.97)) and agoraphobia symptoms (OR=0.66 (0.47-0.92))

## Reflections

- Meeting PA guidelines and frequent walking are inversely associated with anxiety symptoms and, more specifically with GAD, panic disorder and agoraphobia
- PA may reduce anxiety symptoms by relieving the physical components of anxiety (tension, being on edge). In addition, this physical relief can also reduce anxious cognitions/thoughts
- Strategies to increase physical activity may help reduce the burden of anxiety disorders in the population
- Walking is a simple strategy that can be incorporated into daily life and should be part of recommendations to reduce anxiety symptoms.
- MVPA should be emphasized as a recommended intensity in order to optimize benefits for persons with anxiety symptoms



CRCHUM

Centre de recherche du Centre hospitalier de l’Université de Montréal